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WILDLIFE TRUST
South and West Wales
De a Gorllewin Cymru

# Annual Report 2021

## Wardens' Report

### Introduction to the Skokholm Island Annual Report 2021

Navigating a season on Dream Island during the second year of a global pandemic has been an interesting journey, logistically tricky and at times frustrating, but hugely rewarding nonetheless. We returned to the Island whilst the UK was still in lockdown, indeed it was not until May that COVID-19 restrictions began to ease and some normality returned to Skokholm. Following much thought and planning, and by running at a reduced capacity, we were excited to be able to welcome guests again from June, these the first to step foot on the Island since September 2019. Being at the peak of the seabird season and with more birds breeding than ever before, there could have been no better month in which to begin sharing Dream Island with guests again. The Island and its wildlife continued to surprise and delight and it was yet another year like no other. We stumbled across Stone Age and Bronze Age relics, hosted Chris Packham and Megan McCubbin, made plans for major Lighthouse renovations and welcomed back researchers who were able to resume their studies following the Island closure. The weather was spectacular and the birding was fantastic, with **Red-flanked Bluetail** an overdue addition to the Island list. A fine assortment of Skokholm scarcities and rarities included **Eider**, **Goosander**, **Alpine Swift**, **Dotterel**, **Iceland Gull**, **Glaucous Gull**, **Great White**

**Egret**, **Cetti's Warbler**, **Western Bonelli's Warbler**, **Blyth's Reed Warbler**, both **Western** and **Eastern Subalpine Warbler**, **Rose-coloured Starling**, **Nightingale**, **Richard's Pipit** and **Common Rosefinch**. Observations of the non-avian taxa continued to produce surprises, the highlight of which was probably Skokholm's first record of **Vagrant Emperor**. It is thus with great excitement that we bring to you our ninth Annual Report, detailing these events and more.

This report follows the same format as used in the previous eight years. It provides a full account of the 2021 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 2021 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 2021 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

Following the COVID-19 dictated Island closure observed last year, government enforced lockdowns continued over the winter and restrictions remained tight into the early months of 2021. The roll-out of the COVID-19 vaccination programme from the end of 2020 contributed to a significant drop in Welsh case rates, however the pace at which restrictions were eased was understandably slow. From 20th February, in Wales, four people from two separate households were permitted to meet outdoors for the purpose of exercise only. Travel restrictions were lifted within Wales on 27th March and self-contained tourist accommodation reopened, however the boat crossing and Skokholm's hostel-style accommodation could not provide an adequate level of social distancing. Restrictions eased further in April and from the 24th up to six people were permitted to meet outdoors, however it was not until 17th May that this was approved for an indoor setting. This latter change meant that we could open the Island to a restricted number of guests from no more than two households; thus on 7th June we welcomed our first five guests since 2019. Each household was allocated bedrooms, a

toilet and a common room specific to them, whilst the Kitchen was divided into two colour-coded areas, each with a standalone set of crockery, cooking equipment, utensils, oven, wash basin and dish rack. Only one group were allowed to use the Kitchen and Wheelhouse at a time. The staff and volunteers, now acting as one household, all lived at the Lighthouse and there was no public Birdlog or guided walks. Face masks were mandatory indoors and alcohol hand sanitiser was made available anywhere with handles. The same restrictions remained in place throughout the rest of the year. The vaccination program started with the most vulnerable and worked down through the age groups, with two doses required for it to be effective. The Skokholm staff and volunteers were called up for their vaccinations during the seabird season, with special boats organised on 27th May and 30th June to take three nurses from the Hywel Dda University Health Board's vaccination team and the Skokholm team to Skomer; staff and volunteers from both islands were immunised in the Skomer North Haven Library.

## The 2021 Season and Weather Summary

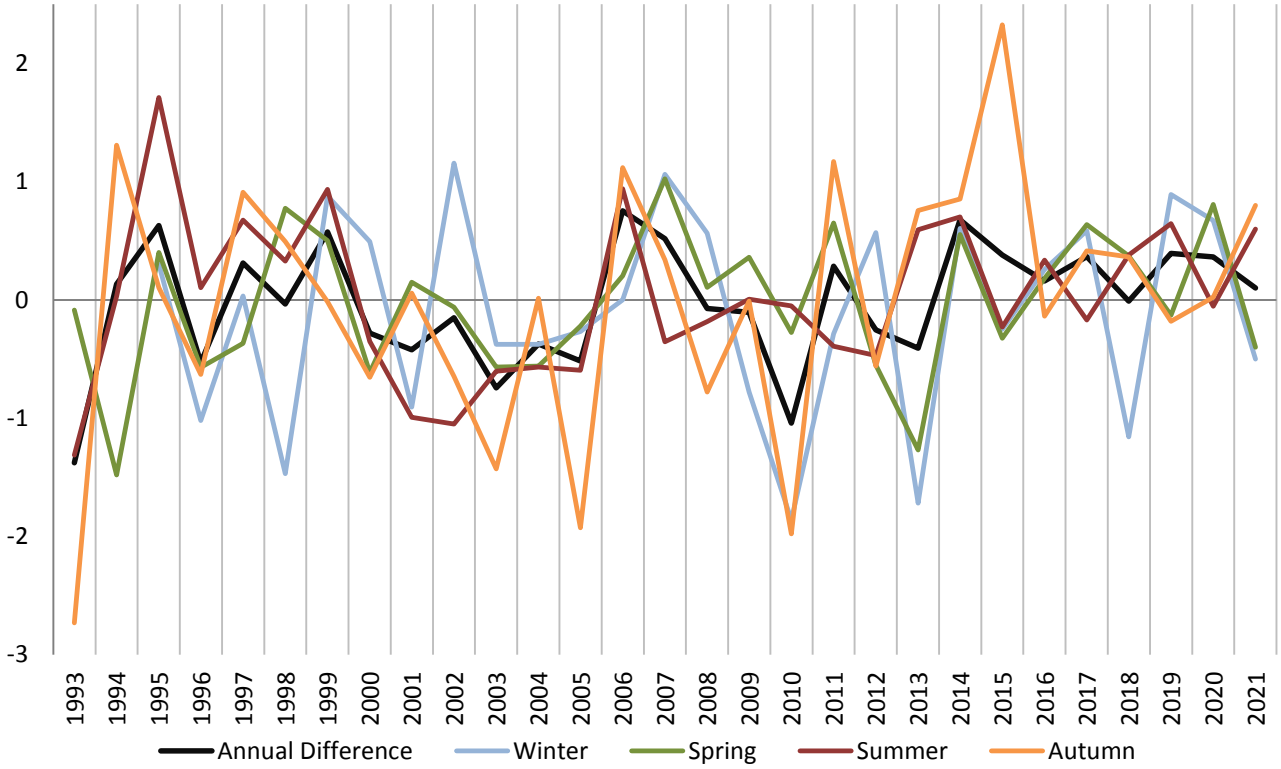
The season ran from 26th February to 5th December and we welcomed paying guests from 7th June to 6th October. A late February sailing window and clement early December weather meant that the Island was occupied for 283 days (including the arrival and departure dates); this was the longest period of continuous occupation for over a decade, with staff present for 16 days more than last year and for 18 days more than the 2013-2020 mean (265.3 ±sd 10.5).

The following weather summary is compiled using observations noted during the daily Birdlog, 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, owned by Milford Haven Port Authority and referred to as 'the Beacon' from this point onwards).

Following our departure from Skokholm in December 2020, three named storms hit the United Kingdom. Storm Bella brought heavy overnight rain and violent winds between the 26th and 27th December, with the strongest winds hitting the coastline of Wales, southwest and southern England; gusts of 106mph were registered on the Isle of Wight, whilst speeds of 83mph were measured in Aberdaron, North Wales (Met Office, 2022). Storm Christoph brought exceptionally wet weather from the Atlantic between the 18th and 20th January, whilst an easterly airflow from continental Europe resulted in Storm Darcy between the 7th and 13th February. Although the heavy snow produced by the latter primarily impacted the east of the UK, sub-zero temperatures were

widespread and it was a bitterly cold week across Wales; the Weather Station logged an average temperature of -1.6°C on the 7th (a day during which the average hourly temperature did not rise above -0.1°C), whilst the minimum temperature was below -2.0°C on the 7th, 8th, 10th and 11th.

**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 2021.**




The staff arrived to the Island on a gloriously sunny 26th February, but the following day was one of fog which shrouded the plateau and for the most part erased the mainland. A switch to northeasterlies on the 28th cleared the air, although the horizon remained hazy. March was settled at first, with easterly winds dominating for a week, this resulting in colder than average temperatures and a light ground frost on the 8th which saw a thin crust of ice form across the ponds (this an event rarely witnessed on Skokholm). A gale force southwester on the evening of the 9th brought overnight rain, this escalating to storm force the following day. The early hours of the 11th saw sustained wind speeds of 50mph, whilst the Weather Station registered a gust of 89mph at 0420hrs; the resulting rough sea regularly hit the 16m upper limit at the Beacon. By morning the swell had dropped to a mean height of 10m and wind speeds began to slow, although a 75mph gust was logged on the evening of the 12th and a westnorthwesterly increased in strength during the early hours of the 13th, bringing gusts of up to 85mph; the sea state was consistently very rough. The wind was in the northwest for the next two days, losing strength and veering to a gentle northerly on the 18th, this producing sunny days with temperatures on the warm side of average. A gentle northeaster between the 20th and 22nd veered to the southwest before an unsettled week. The month ended with a strong blow between the 26th and 29th, with gusts of 61mph on the 26th, 55mph on the 27th and 60mph on the 28th. March was a relatively dry month, with precipitation logged on only 12 dates, including brief hail showers on the 11th and 26th. April was drier still, with precipitation logged on only six days which fell as brief, light drizzle on three (a heavy hail shower fell for ten minutes on the 11th). April was a largely settled month, with the wind only exceeding force five on the 6th, 23rd and 24th. For 12 of the first 14 days, winds blew from the northerly quarter, skies were in the most part clear and temperatures remained cool. There followed 11 days of easterlies from the 15th, before a return to northerlies for the last days of the month.

May saw the end of the calm, dry spring weather, with a storm force southwester on the afternoon of the 3rd accompanied by heavy rain; at 1400hrs the Weather Station registered a gust of 75mph and an average wind speed of 57mph. The sea was rough, with regular 10m and occasional 13m waves at the Beacon. It remained rough for the next two days, with winds veering to the northwest and hail showers on the 4th (below photo). The brief calm period that followed provided little time for the sea to flatten, with prolonged heavy overnight rain on the 7th giving way to a southeasterly gale on the 8th. Winds veered to the south on the 9th, producing regular 7m and occasional 10m waves. Conditions began to settle late on the 11th and eight days of comparatively calm weather followed; precipitation was logged on six of these, rain mostly falling as brief showers between spectacular skyscapes and sunny periods. A glorious calm and sunny 19th deteriorated into something abysmal; lashing rain on the 20th joined a constant deluge of sea spray, water whipped up by 52mph southeasterlies and gusts which reached 79mph at 1620hrs. The resulting very rough sea, with a mean swell height of 11m and regular 16m waves, was too high for some of the breeding Herring Gulls, with several nests being washed away. The North Coast auk cliffs were, for a second consecutive year, adversely impacted by an unseasonable May storm; numerous eggs were again lost from the more exposed ledges. Rough conditions lingered until late on the 22nd, after which the remaining days of May were sunny and warm; overnight temperatures averaged 14°C on the 29th and a high of 19°C was registered on the 31st. June was a mostly settled month, with light easterlies dominating for the first week. Southerlies from the 9th brought two days of wet mist and drizzle, but conditions cleared as winds veered to the southwest and then the northwest on the 12th. A light breeze toured the compass for four days, but settled in the northerly quarter on the 17th, where it stayed for the remainder of the month. Precipitation was logged on a further 11 dates, though this fell mostly as light showers and by the 28th the North Pond water level was significantly reduced.

July was a month of two halves, the first being regularly wet. Thick fog shrouded the Island on the 1st, there was rain and fog on the 3rd, rain showers on the 4th and late evening rain on the 5th, 6th and 7th. A dry 8th was followed by light showers on the 9th, brief rain on the 10th, heavy persistent rain on the 11th and overnight rain on the 12th. Winds were extremely light, temperatures typical and sea conditions calm. Northwesters from 12th July veered to the northeast on the 15th, from where the wind remained until the 21st, barely exceeding force one and producing a week of cloudless, hot days with a flat, mirror-like sea. Temperatures increased during this week, becoming particularly hot between the 17th and 23rd and peaking at 27°C on the 22nd (the daily maxima did not drop below 22°C during this period). Despite the earlier rains, North Pond had reduced to a small puddle by the 20th. A brief light shower on the afternoon of the 23rd failed to clear the air and thunder that evening

was not accompanied by rain. North Pond was dry by the 27th and it remained so until October. Calm days continued until the 28th, when conditions became unsettled in the lead up to the arrival of Storm Evert (this the first named July storm). During the early hours of the 30th, heavy rain accompanied a gale force northwester, with storm force gusts peaking at 59mph at 0640hrs, however by the end of the 31st conditions had ameliorated to a moderate breeze. It was a typical August, with temperatures averaging 15°C and the daily maxima averaging 17°C. Rain or light drizzle was experienced on over a third of August days, this a month which is typically unsettled. Gale force winds toured the compass between the 5th and 8th, with gusts of 51mph registered on the 5th, 57mph on the 6th, 53mph on the 7th and 51mph on the 8th. A very rough sea resulted, although this was quickly dampened by two days of calm southwesterlies. A near gale southwester on the 12th and a near gale southerly on the evening of the 14th were the only other notable blows during the month. Gentle north or northeasterly winds blew for the last nine days of August, bringing cloudless and warm days; the peak August temperature of 19°C was logged on the 23rd.

In Wales, it was the third warmest September on record, with mean temperatures 2.0°C above average (Met Office, 2022b). Gentle northeasterlies made for a pleasant start to the month, whilst a shift to southeasters on the 5th brought some unseasonably hot weather from the Continent. The Weather Station logged an average temperature of 17°C and a maximum of 20°C on the 6th, an average of 22°C and maximum of 26°C on the 7th and an average of 18°C and maximum of 22°C on the 8th; the averages for these three dates in 2020 were 8°C, 7°C and 8°C, whilst maximums of 16°C were logged each day. Heavy showers on the evening of the 8th were at times torrential, whilst rain and drizzle over the next two days resulted in warm, humid conditions. It remained on the warm side of average for the rest of the month. Winds were generally calm, freshening to a force five northwester on the 18th and 19th, whilst the last five days of the month were more turbulent; a force six southeasterly produced gale force gusts on the 26th, a force eight southwesterly produced strong gale force gusts on the 27th, a force six northwester was logged on the 29th and a force eight southeaster with 55mph gusts ended the month. It was a relatively dry September, with precipitation logged on only 43% of days, this mostly falling as occasional showers or light drizzle, whilst heavy showers were noted on the 8th, 9th, 12th, 18th, 27th and 28th. The rougher weather continued into October, with a stiff westerly producing gusts of up to 55mph on the 1st. Winds backed to southerly the following day, with a calm evening seeing persistent rain. The sea remained rough throughout. A gale force southwesterly on the 3rd produced gusts of 56mph (above photograph), this veering to a gale force northwester on the 5th when gusts reached 55mph.

North Pond finally began to hold standing water on 5th October. Three days of moderate to calm southeasterlies from the 7th and four days of gentle northerlies from the 10th provided some respite, flattening the sea and bringing warmer temperatures. The amount of standing water at North Pond had reduced by the 12th and conditions were relatively settled until the 19th when a near gale southwesterly arrived (above photograph). By the 21st this had developed into a gale force northwester, with gusts of up to 61mph. Five days of turbulent weather ensued and heavy showers were experienced on the 24th and 25th, these two of 18 dates on which precipitation was logged. A storm force southwesterly developed late on the 27th and into the 28th, resulting in a rough sea and bringing heavy, persistent rain which fell through the night and quickly filled the three ponds (the photographs below show North Pond on the 27th and 29th October). Regular heavy showers fell on the 30th, filling the ponds to capacity. A storm force southwesterly on the 31st produced gusts of up to 83mph and resulted in a very rough sea. Temperatures on the whole felt warm for the time of year; across Wales the mean October temperature was 1.6°C above average (Met Office, 2022b).

Mild temperatures continued into November, which was for the most part a calm and pleasant month. Fresh winds yo-yoed between the north and southwest for the first week, with a

Pembrokeshire Dangler sat stubbornly over the county on the 3rd and 4th, this resulting in low cloud and heavy showers. Extremely light northerlies on the 10th produced a hazy day of unseasonably warm temperatures. A rough sea caused by a near gale southerly on the 11th was quickly dampened by a gentle northwesterly on the 13th, this followed by two days of light southeasterlies. Light to fresh winds blew from the westerly quarter until the 21st, resulting in grey days and regular rainfall. Northerlies then dominated and the passage of Storm Arwen on the 26th and 27th caused the only notable winds of the month. A powerful storm from the North, Arwen brought severe winds to Britain, with significant damage caused to parts of the northeast of England. Gusts of up to 82mph were logged at the Weather Station on the 26th and, as the storm intensified, several 90mph gusts were registered between 0200hrs and 0600hrs on the 27th, these peaking at 91mph at 0540hrs. Lashing hail hammered the Island but, sheltered from northerlies by Skomer and the Marloes Peninsula, the waters around Skokholm were relatively flat, becoming a spectacular carpet of white topped wavelets by mid-morning. December began with a northwesterly gale, which produced gusts of up to 66mph and overnight showers which turned icy by morning. Gentle northerlies on the 3rd dampened the sea, though a swell remained which was churned up considerably on the 4th when winds strengthened to gale force. In the early hours of the 5th, northwesterly winds were gusting at speeds of up to 63mph; whilst this seemed far from ideal for a boat, the northerlies decreased in strength through the morning, the sea calm enough by late afternoon to allow the staff to depart.

## Spring Work Party and Barge

The spectacular April weather would have been perfect for the usual Spring Work Party. However continuing COVID-19 restrictions meant that we had to delay the works until May, a month which was frustratingly unsettled. Although we had three weeks set aside for two weeks of Work Party, regular stormy weather restricted our efforts to just seven days. Shirley Matthews, Nick Ainger, John Walmsley, Phil Blatcher, Howard Driver, Jenni Hood and Jeff Thomas arrived on the afternoon of the 12th, during a narrow weather window sandwiched between a three metre swell and low water. Five dumper loads of materials, food and belongings were quickly offloaded in a race against the falling tide. When the water became too low to offload from the bow, the Dale Nelson, skilfully manoeuvred by Dale Sailing's John Reynolds, had to be reversed towards the lower slabs of the jetty so that a chest fridge, several gas bottles and a ton of floor tiles could be offloaded from the stern.

Despite the new norm of social distancing and the uncooperative weather, we were still able to tackle a huge amount of maintenance work and make some fantastic improvements. There was a complete sand down and repaint of much of the exterior glosswork at the Farm, improvements were made to the drainage on the damp west side of the Cottage, a new window was fitted in the west gable of the Ringing Room (crafted off Island by Skokholm regular Barry Bealey) and three floors were tiled (Ringing Room, Sail Room and Skipper). The latter job is providing a smart and durable covering to cement floors which previously required almost annual painting and which had a finish easily scratched and prone to peeling in wet weather. Although we had been expecting a second team to help with a week of exterior lime-washing at the Farm, the Spring Work Party ended on the 18th before the arrival of more wild weather; this left the rooves and exterior walls, for a second consecutive year, without their much-needed maintenance. Happily, Howard, Phil and Jenni stayed on to help finish the decorating, to continue with maintenance work and to prepare the Island for the arrival of our first guests since 2019.

On 2nd July Dale Sailing's barge 'Kitcat' arrived, carrying a hefty cargo: a new Mecalac dumper truck (with a bespoke bucket designed for optimum baggage transfer on guest changeovers), a new John Deere Gator and several pallets of building supplies. Steve and Anna Sutcliffe, on their boat 'Kingfisher', brought a consignment of volunteers; Rose, Renate, John, Rob, Kate and Louis were transferred onto the barge, where they joined Nick and Richard, the team then coming ashore to help offload and store the cargo. It was a logistical ballet which culminated in loading the old Gator and Thwaites dumper truck, along with a significant amount of scrap metal, onto the barge.

## Long-term Volunteers

Between 2013 and 2019 we welcomed a minimum of four Long-term Volunteers to Skokholm each year; two covered the period from April until the end of June and two took over until the end of September, whilst a summer Storm Petrel Volunteer regularly joined the staffing team. Although we had interviewed and selected four excellent people, the 2020 Island closure meant that we could not accommodate Long-term Volunteers. This was a huge disappointment for everyone; thus, with COVID-19 restrictions continuing and uncertainty as to what the 2021 season would hold, we decided not to advertise these placements this year. We instead offered Jodie Mae Henderson the opportunity to join us for the whole season. Jodie was part of our 2019 team, arriving in June as our Storm Petrel Volunteer. We needed someone who was passionate about Skokholm, who already knew the Island ropes and who would be able to adapt to the uncertainty of an ongoing pandemic; Jodie was the perfect fit. Jodie arrived on 3rd April (along with a new chest freezer and cooker) to begin her quarantine; she went on to be the ultimate assistant, getting stuck in with everything from painting walls to monitoring seabirds, from scrubbing floors to furtling for Wheatear chicks, from changeover day cleaning to mist netting migrants and from moth trapping to negotiating complex Storm Petrel crevices (indeed Jodie reached more Storm Petrel chicks than anyone who has gone before). For one person to do the work usually shared by two or three would be a challenge, so we invited Jenni Hood, who arrived with the Spring Work Party, to stay for the remainder of the season. Jenni is also a Skokholm old hand, having supported the Island for several years before joining the team as Spring Long-term Volunteer in 2019. Jenni assisted with a plethora of practical tasks, helped with the seabird monitoring, was responsible for cleaning the Wheelhouse and Kitchen on changeover days, trudged the Island counting migrant birds and ran the moth trap. With their great knowledge and joint passion for the Island, Jodie and Jenni made an excellent team, allowing a logistically complicated year to run remarkably smoothly.

## Spring Migration Highlights

A **Great Tit** on 15th March was the first spring bird since 2011, as was a **Blue Tit** which sat on the roof of the Lighthouse Tower six days later. A **Grey Plover** on the 15th was the first of three 2021 singles and only the tenth March record. An **Iceland Gull** on 22nd March was the seventh for Skokholm (but the third in four years), whilst a drake **Pintail** present on the 24th and 25th took the 21st century bird-days total to 11. An **Alpine Swift** which lingered on the afternoon of 1st April was the third Island record and a **Siskin** on the same date was the first in a record spring for this species. A **Wryneck** present in Winter Pond Gully on the 6th and 7th April was a tenth spring record. **Little Ringed Plover** on the 11th and 12th, the 28th and on 14th May took the all-time spring birds total to 14. A **Hooded Crow** on 13th April made this the fifth consecutive year with a sighting. The first of four spring **Ring**

**Ouzel** arrived on the 18th and a **Lapland Bunting** on the 21st was just the sixth spring record for Skokholm. A **Hobby** on the 25th was the third April record and a **Ruff** present between the 27th and 29th was the second April sighting since 1995. A **Nightingale** on 30th April was the first since 2015 and the eighth in spring. There were 28 **Merlin** bird-days logged in April, this the third highest tally to date; the annual bird-days total would go on to be the second highest.

A total of 16 **Ringed Plover** on 1st May was a new spring daycount record, up on the 14 of 22nd May 2014. A male **Cuckoo** on 8th May was the only spring sighting and a **Lesser Whitethroat** on the 13th was the only 2021 sighting. A stunning male **Common Rosefinch** on 29th May was possibly the first red bird to be seen on Skokholm and made this the tenth spring with a record. A first-summer female **Eastern Subalpine Warbler** on 31st May was the fifth Island record, a **Turtle Dove** the same day was the only spring bird and two **Little Egret** were the first of a record-equalling ten 2021 birds.

An uncharacteristically showy **Quail** on 1st June was the first since 2019. A **Western Bonelli's Warbler** the following day was the third Western and fourth Bonelli's Warbler for Skokholm, but the

first to be seen in spring. A female **Yellow Wagtail** on 6th June was probably a *M. f. flava* and was one of only seven spring bird-days. A **Barnacle Goose** between the 15th and 17th June was an eighth spring record. A **Black Redstart** at the Lighthouse on the 22nd and 23rd took the all-time June bird-days total to 17.

## The Breeding Season

A trail camera revealed that **Water Rail** were breeding for just the fourth time on record; they went on to fledge at least four young. Five pairs of **Moorhen** was a new record, as was a remarkable 76 **Oystercatcher** territories. A five-figure **Puffin** count was the highest since 1934, whilst exceptional **Storm Petrel** productivity was perhaps linked to the dry weather prevalent when small chicks were left unincubated. The Wreck Cove **Buzzard** pair continue to do better since the change in nest site, however a single pair of **Peregrine** failed for a fourth consecutive year. Four **Chough** pairs was a Skokholm record. **Stonechat** bred for just the third time following pairs in 1928 and 1932, whilst **Dunnock** bred for the second time since 2012. **Shag**, **Short-eared Owl**, **Reed Warbler** and **Whitethroat** did not breed.

**A summary of the status of seabirds breeding on Skokholm in 2021.**
**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 (2020-2016 in parenthesis) | Productivity (2020-2016 in parenthesis) |
|---|---|---|---|
| **Great Black-backed Gull** | | **Whole Island population:** not to drop below the 2016-2020 mean of 90 | |
| Population | Productivity | **Productivity:** 3 in any 5 consecutive years with less than 1.10 chicks per breeding pair | |
| | | 80 nests (83, 86, 93, 93, 93) | 1.51 (1.40, 1.43, 1.40, 1.54, 1.38) |
| **Herring Gull** | | **Whole Island population:** not to drop below the 2016-2020 mean of 309 | |
| Population | Productivity | **Productivity:** 3 in any 5 consecutive years with less than 0.70 chicks per breeding pair | |
| | | 305 nests (301, 301, 320, 302, 322) | 0.84 (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 | |
| | | 935 aia (880, 1028, 1069, 1123, 1397) | 0.89 (0.12, 0.27, 0.63, 0.38, 0.23) |

| | | | |
|---|---|---|---|
| **Guillemot** | | **Whole Island population:** not to drop below the 2016-2020 mean of 4412 | |
| Population | Not set | **Productivity:** not monitored on Skokholm | |
| | | 5065 aol (5101, 4654, 4316, 4038, 3949) | - (0.55-0.61 in 2013) |
| **Razorbill** | | **Whole Island population:** not to drop below the 2016-2020 mean of 2718 | |
| Population | Productivity | **Productivity:** 3 in any 5 consecutive years with less than 0.80 chicks per breeding pair | |
| | | 3356 aol (3517, 2755, 2585, 2491, 2242) | 0.47 (0.56, 0.63, 0.69, 0.40, 0.39) |
| **Puffin** | | **Whole Island population:** not to drop below the 2016-2020 mean of 7847 | |
| Population | Productivity | **Productivity:** 3 in any 5 consecutive years with less than 0.74 chicks per breeding pair | |
| | | 11,245 adults (8534, 7447, 8762, 7800, 6692) | 0.80 (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 | |
| | | 87 transect responses (No census, 89, 83, 89, 76) | 0.80 (0.45, 0.74, 0.55, 0.50, 0.58) |
| **Fulmar** | | **Whole Island population:** not to drop below the 2016-2020 mean of 206 | |
| Population | Productivity | **Productivity:** 3 in any 5 consecutive years with less than 0.50 chicks per breeding pair | |
| | | 225 aos (207, 198, 217, 213, 194) | 0.51 (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 | |
| | | 670 sites in 8000m$^2$ (730, 655, 739, 584, 588) | 0.79 (0.68, 0.72, 0.70, 0.80, 0.68) |

**A summary of breeding birds on Skokholm in 2021. Productivity is the average number of fledglings produced by each breeding pair ('-' indicates insufficient data).**

| | Total (2020-2016 in parenthesis) | Productivity (2020-2016 in parenthesis) |
|---|---|---|
| Canada Goose | 3 pairs (3, 2, 4, 7, 7) | 0 (0, 0, 0, 0, 0) |
| Shelduck | 0 pairs produced ducklings (0, 3, 1, 2, 2) | 0 (0, 0, 0, -, 0) |
| Shoveler | 0 pairs produced ducklings (0, 0, 1, 1, 0) | 0 (0, 0, 0, 0, 0) |
| Mallard | 5 pairs produced ducklings (1, 5, 6, 4, 3) | 0 (0, 0, 0, 0, 0) |
| Water Rail | 1 territory (0, 0, 1, 0, 0) | 4 (0, 0, 0, 0, 0) |
| Moorhen | 5 pairs (3, 3, 2, 3, 3) | 2.80 (3.33, 2.00, 3.50, 2.67, 2.67) |
| Oystercatcher | 76 pairs (54, 53, 52, 61, 54) | 1.24 (0.70, 0.47, 1.62, 0.57, 0.82) |
| Buzzard | 1 pair (1, 1, 1, 1, 1) | 2 (2, 3, 1, 1, 1) |
| Short-eared Owl | 0 pairs (0, 0, 0, 1, 0) | 0 (0, 0, 0, 2+, 0) |
| Peregrine | 1 pair (1, 1, 1, 2, 2) | 0 (0, 0, 0, 0.5, 0.5) |
| Chough | 4 pairs (3, 2, 2, 2, 2) | 1.75 (2.00, 2.50, 1.00, 4.00, 2.50) |
| Jackdaw | 26 pairs (25, 22, 22, 20, 20) | - (-, -, -, -, -) |
| Crow | 11 pairs (9, 10, 10, 9, 9) | 2.27 (1.33, 0.70, 0.60, 1.11, 1.78) |
| Raven | 2 pairs (2, 2, 2, 2, 2) | 4.00 (2.50, 2.50, 4.00, 4.00, 3.00) |
| Skylark | 16 territorial males (14, 14, 19, 21, 16) | - (-, -, -, -, -) |
| Swallow | 5 pairs (5, 5, 4, 4, 4) | 4.00 (2.40, 3.20, 4.00, 3.25, 5.75) |
| Chiffchaff | 1 territorial male (1, 0, 2, 1, 0) | 0 (0, 0, 0, 0, 0) |
| Sedge Warbler | 14 territorial males (15, 15, 15, 13, 11) | - (-, -, -, -, -) |
| Reed Warbler | 0 territorial males (0, 0, 0, 1, 1) | 0 (0, 0, 0, 0, 3) |
| Whitethroat | 0 pairs (0, 1, 0, 0, 0) | 0 (0, 2, 0, 0, 0) |
| Wren | 71 territorial males (72, 69, 63, 58, 60) | - (-, -, -, -, -) |
| Blackbird | 9 pairs (7, 6, 6, 6, 7) | 2.44 (3.57, 3.67, 3.33, 2.83, 2.29) |
| Stonechat | 1 pair (0, 0, 0, 0, 0) | 9.00 (0, 0, 0, 0, 0) |
| Wheatear | 29 pairs (23, 23, 18, 25, 20) | 2.90 (1.96, 3.70, 3.89, 2.12, 2.65) |
| Dunnock | 2 breeding females (1, 0, 0, 0, 0) | 2.00 (3, 0, 0, 0, 0) |
| Pied Wagtail | 7 pairs (7, 5, 5, 5, 4) | 2.29 (1.71, 5.20, 3.60, 3.60, 5.25) |
| Meadow Pipit | 43 territorial males (38, 33, 40, 40, 50) | - (-, -, -, -, -) |
| Rock Pipit | 45 territorial males (49, 49, 41, 61, 53) | - (-, -, -, -, -) |
| Reed Bunting | 4 pairs (5, 3, 4, 7, 7) | 0.00 (0.60, 0.67, 2.50, 1.86, 1.43) |

## Autumn Migration Highlights

A **Turtle Dove** on 8th July was the first to be seen in this month since 1999. If accepted as such by the British Birds Rarities Committee, a first-summer female **Western Subalpine Warbler** ringed on 18th July will be the second for Skokholm following one on 8th May last year. A **Pied Flycatcher** on 22nd July was just the second to be seen in this month and the first of 31 autumn bird-days, this a total which matched that of last year as the highest since 1976. A juvenile **Marsh Harrier** on the 24th was the first of three 2021 sightings. An adult male **Rose-coloured Starling** between the 5th and 7th August becomes the seventh for Skokholm. A **Sooty Shearwater** on the 8th was the only sighting this year, whilst two **Balearic Shearwater** on the same date were the first of five autumn bird-days. A southbound **Osprey** on the 27th was the second August record for Skokholm, the third being logged four days later. A **Wryneck** on 28th August was the first in an unprecedented autumn for records of this species; there would be 43 bird-days recorded by 4th October, this taking the all-time total to 264. Four **Wryneck** on the 2nd and 5th September doubled the previous daycount record, whilst 12 **Tree Pipit** on the former date matched the daycount record. A **Red Kite** on 3rd September was the earliest to be seen in autumn and the first of a record six autumn bird-days, whilst a **Hobby** on the same date was the first autumn sighting since 2012 and a **Great Spotted Woodpecker** was the first of three birds (there had only been five prior to this year). A **Wood Warbler** ringed on 6th September was perhaps that seen on the 10th, this becoming the 25th year with a sighting. A juvenile **Dotterel** present from the 9th to 11th September was different to two juveniles present between the 13th and 15th; three autumn individuals was a new high. The first **Knot** of the year was found on the 10th, this becoming the 42nd year with a record. A juvenile **Common Rosefinch** on the 17th and 18th September took the all-time bird-days total to 68 (30 of which have been in the last 11 years).

A **Richard's Pipit** on 1st October made this the 19th autumn with a sighting and a **Snow Bunting** on the 8th was the first of seven bird-days. A first-winter **Blyth's Reed Warbler** on 9th October was the second for Skokholm. A **Cetti's Warbler** on the 10th was a fourth Island record and a daycount of 452 **Linnet** was an all-time high. A first-winter **Red-flanked Bluetail** on the 11th was a much anticipated addition to the Skokholm list, a **Great White Egret** the same day was the third Island record and four **House Sparrow** matched the highest ever daycount. Three **Siberian Chiffchaff** on 13th October was a new daycount record in what proved a good autumn for sightings of this distinctive subspecies, whilst a **Yellow-browed Warbler** on the Crab Bay cliffs the following day was the only sighting this year of what remains a scarce species here (there have nevertheless been records in each of the last nine years). A minimum of 5204 **Starling** on 4th November was the second highest daycount to date. A **Red-breasted Merganser** on 10th November was the 16th Island record. A **Lapland Bunting** on the 13th was the only autumn encounter. Two **Goosander** off the Lighthouse on 22nd November was the

third Skokholm record and the first **Little Gull** of the year was in Broad Sound. Different first-winter male **Eider** on the 23rd and 24th made this the tenth year with a sighting. A minimum of 444 **Mediterranean Gull** in Broad Sound on 1st December was a new daycount maximum and a **Glaucous Gull** the following day was a seventh Island record.

## The Skokholm List and Historical Totals

A British Birds Rarities Committee digitisation project encountered photographs of a bird present between the 24th and 26th September 1997 which had previously been accepted as the only Isabelline Wheatear for Skokholm. Unfortunately the photographs clearly showed the head pattern and dark covert centres typical of a **Wheatear**; Isabelline Wheatear is thus removed from the Skokholm list, the 2020 **Citrine Wagtail** becoming the 300th species for the Island. If accepted as such by the Welsh Birds Rarities Committee, the autumn 2021 **Red-flanked Bluetail** will take the Skokholm list back to 301 species. If all of the 2021 British Birds Rarities Committee and Welsh Birds Rarities Committee descriptions are found to be acceptable, the species list for the year will stand at 155; the same total was logged in 1968, 1991 and 2019, whilst there have been five higher tallies including peaks of 158 in 1988, 166 in 2017 and 165 last year.

Those with exceptionally good memories or with reference material to hand will notice that some figures given in this report differ to those used previously. These changes are almost certainly due to the detection of a small number of errors made during the process of digitising the paper logs (errors confirmed by checking both the original logs and the relevant Bird Observatory reports). A full review of the birds assessed by the Welsh Birds Rarities Committee (and its various earlier guises) was performed during the creation of the new 'The Birds of Wales / Adar Cymru' book (Pritchard *et al*., 2021); this flagged a small number of scarcities which were seemingly not assessed at a national level and which cannot currently be included in the Welsh and Skokholm totals (some may be accepted in the future, as was the case with the juvenile **Rose-coloured Starling** included in this year's Systematic List). Additionally a full review of the 1928-1976 ringing totals by Richard Dobbins has allowed the figures given at the top of each species entry in the Systematic List of Birds to be revised; the ringing totals now show the first and last years in which each species was ringed and are corrected for previous omissions and accidental additions. The figures given here should be taken as the most accurate to date.

## Autumn Work Party

The first Autumn Work Party since 2019 commenced on 6th September. Howard Driver, Jeff Thomas, Rob Smith and Mick Brown, fuelled by fantastic food prepared by Sam O'Shea, achieved nothing short of a miracle. Following a series of generous donations which enabled the purchase of the materials required, the September challenge was to tile as many floors as possible. In just one week (a period which included some inclement weather), veteran tiler Jeff and team scraped, tiled and grouted Bullhouse, Starboard, Crow's Nest, Carpenter's Mate, Smoke Room, Gunner and the three toilets. The finished floors look amazing, this a much more hardwearing and hygienic system which will see the end of the time-consuming and environmentally harmful scraping and repainting regime. It is hoped that all of the painted cement floors will be covered in the next few years, leaving the original character floors in the Wheelhouse and Cottage Porch as they are. Quite incredibly, the team still found the time and energy to secure the ridge tiles on the roof of the Central Block and, through a display of ultimate teamwork and the genius of Jeff, resurrect the exceedingly heavy Neck Hide which had blown over during the previous winter. The achievements did not end there, with Sam managing to find a first for Skokholm when a Vagrant Emperor dragonfly flew into her bedroom on the night of the 9th.

## Lighthouse Works

The Lighthouse has leaked since WTSWW acquired it in 2012, this perhaps no surprise given that it has borne the brunt of the Atlantic weather since 1916. Rainwater quickly finds its way into the building, either through the windows or via a series of cracks and fissures hidden beneath layers of exterior paint (the latter due at least in part to movement in the building's foundations). The staff and Work Parties have worked hard each year in an attempt to remedy the problems, however progress has been slow and water ingress in some areas has worsened considerably in recent years. Following visits by local builder Chris Ward and his team (including a structural engineer) on the 14th and 29th May, it was decided that immediate and major works were required in order to preserve the stability of the building. The works, which will be undertaken by professional contractors, will

remove the old paint systems covering the exterior walls and roof, repair the cracks and re-cover the exterior with new water-tight and flexible products, whilst also replacing all of the non-original windows. Fortunately excess money raised during the original Skokholm Lighthouse Appeal should cover the cost of the project which is due to begin in spring 2022. Chris Ward and his team returned to measure windows on 2nd July and spent two nights from 24th August when they weather-proofed the Lighthouse for the winter; this involved fixing temporary acrylic sheeting over the leaking windows and patching up major cracks in the south facing masonry. Chris also kindly sourced some second-hand kitchen units which he donated and delivered on 18th September; Howard installed these as a new cleaning cupboard in the Bridge Toilet, replacing the old rusting metal cabinet.

## Project Erebus

In Greek mythology Erebus personifies darkness; this may be all too true for Pembrokeshire's seabirds. Blue Gem Wind (a partnership between Simply Blue Energy and TotalEnergies) is behind 'Project Erebus' which is the proposed construction of six to ten 'floating' wind turbines in an area of the Celtic Sea approximately 35km southwest of the Pembrokeshire mainland and directly adjoining the 'Skomer, Skokholm and the Seas off Pembrokeshire Special Protection Area'. The proposed farm is a demonstration project which plans to be operational by 2027 and which will potentially cover an area of approximately 43.5km$^2$, with a 49km export cable intended to make landfall at West Angle Bay; many in the industry see this as the first in a large number of similar but much larger projects proposed for this region. The area earmarked for development is of significant importance to the seabirds that breed on the Pembrokeshire islands; limited GPS tracking of breeding Manx Shearwaters has shown birds to be passing through the proposed site, whilst more than half of the World population passes close to or through these waters during their annual migration. Obtaining energy from renewable sources is clearly essential for the future of the Planet, however there are serious concerns over the impacts a wind farm could have in such a sensitive area of the Celtic Deep. On 15th June, two consultants day-tripped to take photographs of the southwest horizon from Skokholm, this part of an assessment of the visual impact the proposed installation will have on the view from the Island. However aesthetics are the least of our concerns. What follows is a summary of the Wildlife Trust's response to the proposal:

'The Wildlife Trust movement supports the UK's current targets to reduce greenhouse gas emissions and the Welsh Government's ambition to tackle climate change and increase the proportion of overall energy derived from alternative sources. However, we do not believe this should be at the expense of the environment and firmly believe that it needs to be 'right technology, right place'. We do not support any further FLOW projects in the South West Approaches Region until a robust dataset of evidence exists to rule out any negative impacts and to test mitigation measures for any negative interactions observed.' WTSWW's full response is available by request.

## Archaeological Finds

We regularly encounter evidence of Skokholm's past inhabitants. Often this takes the form of discarded glass bottles that once contained ink, cod liver oil or fizzy drinks, or clay pots that once contained jams or meat pastes from the late 19th and early 20th centuries. Occasionally we stumble across Mesolithic 'debitage', the waste rock shards produced when working nuggets of flint or chert into tools. On 9th March this year, as we made a hasty return to the Lighthouse ahead of a storm, we took a shortcut over the wall extending from the Knoll towards the Central Block. A stone, which lay on top of some freshly excavated soil outside of a Rabbit burrow, drew our attention; it looked very different to the rock fragments we normally encounter on Skokholm (below left photograph). We immediately took photos of the stone and sent them to Dr Toby Driver (of the Royal Commission on the Ancient and Historical Monuments of Wales and Senior Investigator with the CHERISH project). He got in touch with Dr Andrew David, expert in such things, who replied with the following:

'*The photos are clearly of a late Mesolithic '**Bevelled Pebble**'. These are common and distinctive finds amongst flint scatters of this age, found on coastal sites all the way from north France up to western Scotland, and also on some northern English coasts. They are very well known in Cornwall and Pembrokeshire - for example we found 55 at The Nab Head. Despite being so familiar, their function remains tantalizingly mysterious - most people favour their use in skin or hide preparation, and I've wondered if they might have been involved in the manufacture of skin-clad watercraft (cf. curraghs). The present-day link of find-spots with seal colonies may be no coincidence. To find an example on Skokholm is exciting, although no surprise given the above context. What it would seem to confirm though, and quite emphatically, is that there was a presence on the island in the late Mesolithic (c. 7000-4000 cal. BC), and this adds valuable evidence for island occupation at this time (as on Ramsey, as we know). It supports the suggestion that at least some of the flints from Skokholm are also of this age. The find-spot is likely to be part of an actual site (i.e. temporary camp or stop-over) and the likelihood is that there will be further artefacts thereabouts - so I do hope that Giselle and Rich can continue to keep their eyes peeled and let us know of any further finds.*'

And that we did, with a further check of the same site revealing a piece of pottery (centre and right photographs below). This was described as a 'large fragment from a thick-walled pot, decorated with incised lines around the top' by Jody Deacon, Curator of Prehistoric Archaeology at the National Museum Wales. Jodie further commented thus:

'[I] *would estimate the rim diameter to be around 300mm. The clear bevel on the internal surface of the neck and the curvature of the neck suggest to me that this is an **Early Bronze Age Vase Urn**, which are usually associated with cremation burials. These are common in Ireland and seem to turn up more frequently in the western areas of Wales, and occasionally along the southern coast, which fits nicely with your location. There are not a huge amount of radiocarbon dates available for this type of vessel, but they appear to be in use in Wales between 2100 and 1750 BC.*'

Dr Toby Driver of the Royal Commission on the Ancient and Historical Monuments of Wales added:

'[this is the] *first Bronze Age burial urn fragment from the west Pembrokeshire islands. The prehistory of Skokholm has changed completely in only a few days!*'

Dr Driver has also theorised that the area near the Knoll could be an Early Bronze Age burial mound built over a Middle Stone Age hunter gatherer site. It is rather mind-blowing that for millennia people have returned to this same area, some of them perhaps working at seal skins, perhaps building skin boats, others burying their dead. The news of the finds was featured by the Guardian, the story soon reaching a global audience; it was used by the Norwegian Broadcasting Corporation,

requested for the German TV Show "Wer weiss denn sowas?" (international title: "Who knew?") and became a printed article in the National Geographic Kids Magazine.

## 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, behaviour 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 an eighth year; whilst the period between 2014 and 2019 saw us targeting both breeding adults and their fledglings, COVID-19 restrictions (which at first removed visiting ringers, later limited their numbers and impacted staff time throughout) meant that for the last two years only fledglings were marked (a total of 392 birds have now been fitted with red darvic rings inscribed with unique white alpha-numeric codes). A project monitoring adult Herring Gull survival which began in 2017 has also been impacted by COVID-19 restrictions as a team of ringers is required when operating the Home Meadow Gull Trap; only four adults were trapped this year, these fitted with uniquely numbered red darvic rings before attempts were made to locate their nest sites.

The fascinating long-term Wheatear study, designed and implemented by visiting ringer Ian Beggs in 2017, continued for a fourth year (this following a COVID-19 enforced hiatus in 2020); it is now a Masters project with the University of South Wales. Breeding adults and their offspring were colour ringed in order to determine survival rates, pairings and movements (without the need to trap returning birds). Comparing the findings with those made by previous Wardens Peter Conder (between 1947 and 1952), work which was published as part of his seminal monograph 'The Wheatear' (1989), and Dr Michael Brooke (in 1979 and 1980) is just one aspect of the project. Study birds are fitted with a green darvic ring, inscribed with a unique white alpha-numeric code. A total of 34 breeding adults and 84 of their offspring were colour ringed this year, taking the colour ringing total to 91 adults and 249 offspring.

Whilst handling birds for ringing, we sometimes observe parasitic Flat Flies. This year we joined a UK wide Flat Fly mapping project begun by UK Hippoboscidae recorder Denise Wawman; this involved the collection and preservation of these parasites for subsequent identification. Further information, including the 2021 results, can be found in the Invertebrates section of this report.

**Visiting Ringers**

Skokholm Bird Observatory continues to attract visiting ringers who assist with our monitoring work and provide additional coverage on the Island between April and September. 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 we were keen to continue and between 2013 and 2019 we welcomed a total of 298 visiting ringers to Skokholm. Following the COVID-19 dictated Island closure in 2020, we were pleased to be able to accommodate a total of 27 ringers this year, this despite reduced visitor capacity. This takes the 2013-2021 visiting ringer total to 325. Aside from the thrill of ringing at a Bird Observatory during spring and autumn migration, two of the big draws for ringers are our long-term studies targeting Manx Shearwater and Storm Petrel; these are species which we are particularly interested in monitoring and ones which most ringers rarely have the privilege of encountering on their own patch. The Manx Shearwater Transect again proved popular, with a total of 1306 handled (of which 1077 were new); this was up on the 368 of 2020 (a year of reduced ringing effort), whilst the 2013-2020 mean is 1548. From mid-July, nocturnal efforts focussed on ringing Storm Petrel in South Haven, resulting in a total of 1284 birds trapped (of which 1010 were new); this was up on the 468 of 2020 and a 2013-2020 mean of 694.

**Birds Ringed in 2021**

A total of 7476 birds of 68 species were caught and processed or resighted this season; this was 68% up on last year and 15% up on the 2013-2020 mean (6521.00 ±sd 1575.78). Seabirds comprised 52% of new birds ringed (the 2013-2020 mean is 51%, with a high of 60% in 2013 and a low of 39% last year) and Manx Shearwater accounted for 56% of these and 29% of the overall total (the 2013-2020 mean is 33%, with a high of 45% in 2013 and a low of 23% last year). Seabirds made up 51% of the retrap total (birds caught or resighted which had previously been ringed on Skokholm) and Manx Shearwater accounted for 38% of seabird retraps and 20% of retraps overall (the 2013-2020 mean is 44%, with a high of 57% in 2014 and a low of 33% in 2013). It was the best of the last nine years for the number of controls (birds caught or resighted which had been ringed elsewhere) with 37 more than last year and 30 more than the eight year mean (45.00 ±sd 10.34). Seabirds contributed 81% of the total number of controls, whilst Storm Petrel were responsible for 89% of these and 72% overall.

**The total number of New Birds, Retraps and Controls processed between 2012 and 2021, along with the number of different species handled.**

| | Total Birds Processed | New Birds (full grown) | New Birds (pullus) | Retraps | Controls | Species processed |
|---|---|---|---|---|---|---|
| **2021** | 7476 | 5379 | 340 | 1682 | 75 | 68 |
| **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** | **60,341** | **43,244** | **2643** | **14,018** | **436** | **113** |

There were 12 passerines encountered wearing rings from elsewhere, this up on a 2013-2020 mean of 10.1 (there were six in 2013, seven in 2014, ten in 2015, 14 in 2016, ten in 2017, 14 in 2018 and ten in 2019 and 2020). Although we received fewer visiting ringers than in a normal year, resulting in a slightly reduced ringing effort, a fantastic diversity of species was once again handled; a total of 68

species matched the third highest of the last nine years (a high of 71 was recorded in 2018) and was up on the 2013-2020 mean (64.4 ±sd 5.3). A **Red-flanked Bluetail**, a first for Skokholm and an addition to the Island ringing list, took the total number of species ringed since 2012 to 113.

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 1928 and 1976 and between 2010 and 2021.

**Catching Methods**

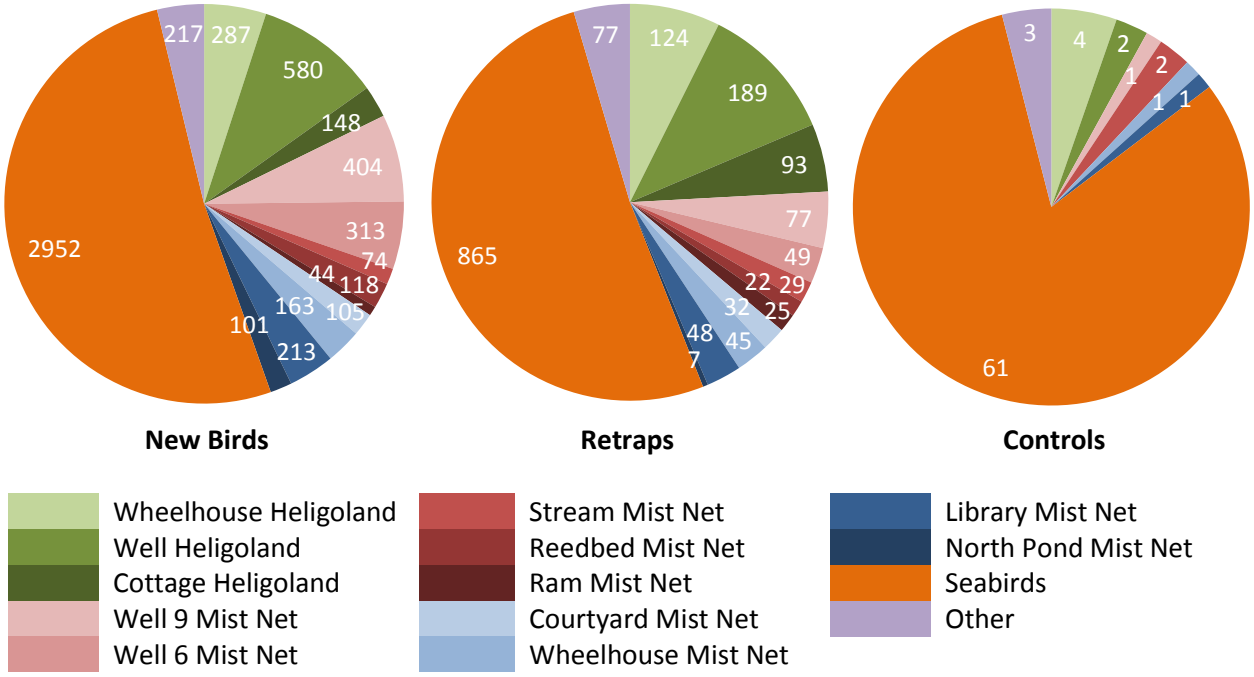
There are three Heligoland Traps on Skokholm (at the Well, in the Cottage Garden and alongside the Wheelhouse), two of which are constructed on the footprints of those originally erected by Ronald Lockley in 1933 and 1935. These provide an invaluable method of trapping birds when blustery weather prohibits 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 in the vicinity of 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 six metre 'Ram Net' (a new site in autumn 2020 situated just above the hydraulic ram in Billy's Dyke). The nine metre 'Reedbed Net' (a new site in 2018) is strictly an autumn net only erected when the Sedge Warblers have finished breeding. There are a further four permanent nets around the Farm: 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 in autumn 2020 and again 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 Heligoland Traps produced 1015 new birds, this 37% of the new non-seabird total; an average of 1022 new birds were taken from Heligolands in each year between 2013 and 2020 (with a high of 1426 in 2014 and a low of 741 last year), which accounted for between 29% (in 2018) and 70% (in 2013) of the new non-seabird total (averaging 46%). There were 407 retraps, this up on the 2013-2020 mean of 356 (there was a high of 501 in 2018 and a low of 239 last year) and five controls, this

matching the 2013-2020 mean (there was a high of seven in 2016 and 2018 and a low of one in 2015). The Well, for a ninth consecutive season, proved the most productive of the three Heligolands for new birds, providing 57% of the total (it provided a high of 57% in 2013, a low of 42% in 2017 and 2019 and a 2013-2020 mean of 48%). The Cottage Heligoland once again caught the fewest, contributing 15% of the new birds total (it provided a high of 27% in 2019, a low of 11% in 2014 and a 2013-2020 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 maturing 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 in the Heligolands, with 407 new birds from the three traps (there was a high of 616 in 2014 and a low of 181 in 2013, whilst the 2013-2020 mean is 324). **Chiffchaff** was the second most regularly trapped, with 142 new birds (there was a high of 234 in 2014 and a low of 85 in 2020, whilst the 2013-2020 mean is 173) and **Blackcap** the third, with 99 new birds (there was a high of 171 in 2015 and a low of 65 in 2013, whilst the 2013-2020 mean is 115). These have been the three most common species in the Heligoland Traps since 2013, the order of abundance only changing in 2020 when Blackcap outnumbered Chiffchaff.

Highlights from the Well Heligoland included four **Water Rail**, a **Western Bonelli's Warbler**, five **Reed Warbler**, two **Grasshopper Warbler**, a **Garden Warbler**, an **Eastern Subalpine Warbler**, three **Redwing**, 14 **Spotted Flycatcher**, a **Whinchat**, three **Stonechat** and a **Tree Pipit**. Highlights from the Wheelhouse Heligoland included a **Sparrowhawk**, a **Great Tit**, a **Lesser Whitethroat**, four **Starling**, a **Redwing**, five **Spotted Flycatcher**, a **Pied Flycatcher**, a **Nightingale**, two **Black Redstart**, two **Stonechat** and two **House Sparrow**. The Cottage Heligoland produced a **Carrion Crow**, a **Blue Tit**, a **Fieldfare**, nine **Redwing**, four **Spotted Flycatcher**, two **Pied Flycatcher**, a **Redstart**, a **Wheatear** and a **Tree Pipit**.

**The number of new birds, retraps and controls trapped during 2021 and the proportion made up of seabirds, birds trapped in each Heligoland and birds from each permanent mist netting site.**




On 1st August 2019 we began recording the amount of effort put into pushing the Heligoland Traps, a record which continued this year. 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 5027 Heligoland Trap pushes was recorded this season (there were 4173 in 2020), with one push yielding an average of 0.28 birds (0.24 in 2020).

**The number of Heligoland Trap pushes recorded during each month of 2021, the total number of new and retrap birds taken during these pushes and the average number trapped per push.**

| | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Total Pushes** | 15 | 356 | 663 | 812 | 601 | 384 | 560 | 688 | 563 | 354 | 31 |
| **New Birds** | 0 | 42 | 166 | 88 | 45 | 195 | 185 | 107 | 76 | 101 | 10 |
| **Retrap/Control Birds** | 2 | 20 | 32 | 41 | 49 | 45 | 57 | 64 | 82 | 18 | 2 |
| **Avg. No. of Birds per Push** | 0.13 | 0.17 | 0.30 | 0.16 | 0.16 | 0.63 | 0.43 | 0.25 | 0.28 | 0.34 | 0.39 |

The permanent mist nets produced 1535 new birds (the 2013-2020 mean is 1247.0, with a high of 1925 in 2018 and a low of 556 in 2013), 334 retraps (the 2013-2020 mean is 334.4, with a high of 489 in 2018 and a low of 155 in 2013) and five controls (the 2013-2020 mean is 5.3, 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 six years, the nets around the Well provided the majority of birds, with the Well 9 and Well 6 nets catching 47% of new birds (the 2013-2020 mean contribution made by these three nets is 52%, with a high of 88% in 2013 and a low of 33% in 2019). Whilst the Library Net proved the single most productive site in 2019 and 2020, this year it was the Well 9 Net (which caught 26% of new birds). The least fruitful was the Ram Net, catching just 3% (the Stream Net caught the fewest birds in 2020 (3%), whilst in 2019 it was the Courtyard Net (6%)); the poor Ram Net total was likely due to it being opened less frequently, this due in part to its tendency to catch an easterly breeze and in part to a lack of cover which quickly leaves it in full sun on bright days (thus making it more visible to birds). **Willow Warbler** was the most commonly trapped species in the Well nets, with 372 new birds, whilst **Blackcap** and **Chiffchaff** were the second and third most abundant, with 108 and 104 respectively. **Willow Warbler** was also the most commonly netted species around the Farm, with 119 new birds. **Meadow Pipit** and **Swallow**, often attracted through the use of a tape lure, were the second and third most frequently encountered, with 78 and 51 respectively.

Highlights from the Well mist nets included three **Great Spotted Woodpecker**, a **Merlin**, a **Cetti's Warbler**, two **Siberian Chiffchaff**, seven **Reed Warbler**, two **Grasshopper Warbler**, a **Garden Warbler**, five **Starling**, a **Ring Ouzel**, 22 **Spotted Flycatcher**, a **Pied Flycatcher**, a **Redstart**, 13 **Stonechat**, a **Wheatear**, two **Tree Pipit**, three **Linnet** and a **Common Rosefinch**. Around the Farm the mist nets produced two **Wryneck**, a **Wood Warbler**, three **Reed Warbler**, a **Blyth's Reed Warbler**, a

**Garden Warbler**, a **Western Subalpine Warbler**, 28 **Redwing**, eight **Spotted Flycatcher**, three **Pied Flycatcher**, a **Red-flanked Bluetail**, two **Black Redstart**, a **Wheatear**, a **Grey Wagtail**, a **Tree Pipit**, a **Greenfinch**, a **Siskin** and a **Common Rosefinch**.

**Arrival and Departure Dates**

The first arrival and latest departure dates of 2021 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 the same number as last year but down on a 2013-2020 mean of 4.6. This year they were of a **Barnacle Goose** on 17th June (the previous latest were on 2nd June 2018), a **Great Spotted Woodpecker** on 3rd September (the previous earliest was on 20th September 2011) and a **Sedge Warbler** on 31st March (the previous earliest were on 6th April in 1961 and 2005).

A **Spotted Flycatcher** on 23rd October matched birds in 1968 and 2001 as the latest to date. The following species were recorded close to their Skokholm limits: a **Green Sandpiper** on 11th October (latest on 21st October 1967), a **Wryneck** on 6th April (earliest on 3rd April 1995), a **Hobby** on 25th April (earliest on 23rd April 2019), **Sand Martin** on 18th March and 16th October (earliest on 8th March 2000 and latest on 25th October 1971 and 1997), a **Wood Warbler** on 10th September (latest on 20th September 1991), a **Reed Warbler** on 22nd April (earliest on 17th April 2015), a **Pied Flycatcher** on 11th October (latest on 17th October 1988) and a **Wheatear** on 4th March (earliest on 2nd March 2003).

**2020 Rarity Decisions and DNA Results**

An **Upland Sandpiper** on 31st October was accepted by the British Birds Rarities Committee as the fourth for Wales and second for Skokholm following one on 18th October 1960. A DNA confirmed female **Western Subalpine Warbler** on 8th May was accepted as the first for Skokholm, whilst the British Birds Rarities Committee also accepted a male **Eastern Subalpine Warbler** found in Crab Bay on 9th May as the fourth for Skokholm. Different **Pectoral Sandpiper** on 31st May and 15th September were accepted as such by the Welsh Birds Rarities Committee; there have now been at least 24 individuals on Skokholm, including nine since 2011. A **Greenish Warbler** on 23rd June was accepted as the eighth Island record and the second in two years, whilst different **Melodious Warbler** on the 2nd and from the 10th to 19th September were also accepted as such. A female **Rose-coloured Starling** present on 21st June becomes the fifth accepted Skokholm record. A stunning first-summer male Red-spotted *L. s. svecica* **Bluethroat** ringed on 20th May was accepted by the Welsh Birds Rarities Committee as the 14th Skokholm record (and sixth spring sighting). A first-winter **Citrine Wagtail** which frequented Winter Pond on 27th August was accepted as the first for Skokholm and second for Pembrokeshire. A **Little Bunting** ringed on 29th September was accepted as the third Island record. A **Siberian Chiffchaff** ringed on 11th April was confirmed as such using mitochondrial DNA analysis; this was the second spring *P. c. tristis* to be identified in this way following one present between the 28th and 31st May 2017. There were thus 165 species in 2020, a tally only down on the 166 of 2017. The acceptance of **Western Subalpine Warbler** and **Citrine Wagtail** by the relevant rarities committees took the Skokholm list to 301 species (although see 'The Skokholm List' above).

**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 introductions to the Annual Report 2019 and Annual Report 2020 for further information). COVID-19 restrictions prevented several visits in 2020, however we were pleased to be able to welcome the team in the spring, summer and autumn of this year. Sadly the spring visit was the last field trip of Eveliina Hanski's PhD, however the project continued to develop through the year with the addition of post-doctoral researchers. In September Alex Figueiredo used the same study system to begin assays researching whether (and if so, how) variations in the gut microbiome influence animal behaviour. Research elsewhere has shown that the gut microbiome of mice can have a powerful impact on their activities (Davidson *et al*., 2020).

**Drone Flight**

Although we monitor the vegetation on Skokholm using 100 fixed point quadrats, the distribution of the various plant communities has not been fully mapped at a whole-Island scale for several decades.

This year the Friends of Skokholm and Skomer very generously purchased a drone flight for the Island; this took place on 26th May. The drone was incredibly silent in flight as it worked a pre-programmed grid (inset photograph above right) across the entire Island at a height of 100m. High definition imagery obtained during the flight was ground-truthed by Mike Alexander and then used by Mike to meticulously create digital maps of the major plant communities. This exceptionally detailed snapshot of Skokholm's vegetation in 2021 can be compared with the various vegetation maps produced over the years and will provide an unequivocal record for future researchers.

**Bird Observatory Fundraising, Donations and Media Events**

**The Ticks Jar**

The Ticks Jar is a Bird Observatory tradition which we brought to Skokholm in 2013; birders and ringers are encouraged to make a small donation if they see or ring a new species during their stay. A remarkable £2121.94 was raised between 2013 and 2019, however the 2020 Island closure meant that the jar remained empty for the first time. The reopening of the Island this year, albeit to a much reduced number of guests, resulted in a 2021 Ticks Jar total of £93.00, taking the 2013-2021 total to £2214.94. We were blown away by the donations, particularly given how few guests were able to stay this year. The takings from the Ticks Jar have funded a wide range of items over the years, including the Storm Petrel sound system, an eco-fan for the wood burning stove, two-way radios, gardening equipment, bat detector accessories, local artwork and interior furnishings. This year's monies will fund the printing and framing of further photographs for the guest accommodation.

**Bird Observatory Merchandise**

We have been selling quality Skokholm Bird Observatory merchandise on the Island since 2013, with 100% of the profits contributing towards the work of the Observatory. Whilst we began selling only polo shirts, the range has expanded over the years to include hoodies, fleeces, gilets, headwear, bumbags and mugs. The proceeds reside in the Skokholm Bird Observatory account and are used to purchase equipment such as nets and rings (the cost of just the latter was roughly £1717 in 2021). This year the Bird Observatory also funded a water pipe running from the Farm to North Pond.

**Chris and Meg's Wild Summer**

On 22nd June we were joined by wildlife presenters Chris Packham and Megan McCubbin who visited to spend some time with the Crab Bay Puffins as part of a 2021 BBC series 'Chris and Meg's Wild Summer'. The Skokholm episode aired on BBC2 on 29th August.

Many Puffins had been absent in the lead-up to their visit; it was thus a relief to see the return of the mischievous non-breeders to the Crab Bay plateau where Chris and Megan were filmed pondering life and nature. It was a privilege and a pleasure to spend the day with two enthusiastic, professional and extremely knowledgeable presenters.

## Acknowledgements and Thanks

This section gets lengthier every year, testament to the ever increasing generosity bestowed upon both the Island and ourselves each season. First and foremost, we would like to thank our Long-term Volunteers Jodie Mae Henderson and Jenni Hood; ongoing COVID-19 restrictions meant that it was always going to be a tricky year to traverse, but having two assistants who already knew and loved the Island made for an extremely enjoyable season which went incredibly smoothly. Their enthusiasm and endless energy facilitated the completion of all of our core seabird monitoring work and allowed for a successful year at the Bird Observatory. Volunteer carpenter Howard Driver stayed for five weeks in the spring and four weeks in the autumn; during these periods he undertook a huge number of skilled jobs, these including the preparation and painting of the Red Hut, the replacement of the North Pond Hide and Ringing Hut rooves, the construction of new exterior doors to replace rotten ones, the adjustment of old doors to accommodate newly tiled floors and the replacement of plywood water tank lids, battery boxes and solar panel array housing with recycled plastic sheeting.

We would like to thank the skilled short-term volunteers who visited with a specific task in mind. Professor Chris and Mary Perrins again assisted with the annual Manx Shearwater playback surveys. Mike Alexander surveyed sample areas of the Island's vegetation to check against the aerial imagery produced by the drone flight. Alan Wilkins and Nick Davison of the Wildlife Sound Recording Society continued to work on their project to recognise individual Manx Shearwater and Storm Petrel by their calls. Chris Payne continued to develop the Petrel Station camera system; we were able to witness some fascinating behaviour in Box 11, including scrape creation, mating and chick feeding. Steve and Anna Sutcliffe provided their boat and assistance with sea-based seabird counts.

Our gratitude goes to Richard Dobbins and Wendy James, members of the Skokholm Bird Observatory Committee, for their regular visits to assist with the daily census and ringing of migrants. Richard and Wendy have supported the Bird Observatory throughout its second incarnation, offering both mainland support and physical assistance on the Island. Additionally they bring out groups of ringers, introducing more and more people from across Wales and beyond to Bird Observatory life and the importance of ringing species such as Storm Petrel, Manx Shearwater and Puffin. Richard again stayed on at the end of the season to provide additional coverage and

Wendy continued to organise the purchase and delivery of Skokholm Bird Observatory merchandise. Ian Beggs continued to support the work of the Bird Observatory through his Wheatear project, allowing visiting ringers to assist him with the trapping and colour ringing of his study species, whilst he also helped in the Ringing Hut on big fall days. Although we could not accommodate as many ringers as in a normal year, those that could visit continued to contribute significantly to our ongoing research, providing a fascinating and educational experience for other guests and helping to create that special Bird Observatory atmosphere. We would particularly like to thank Kenny Cramer, Helen Franklin and the Northants Ringing Group who supported Skokholm for an eighth year; they provided excellent ringing support during a busy seabird period, donated some great items to the Island and the Ringing Hut and brought much merriment. A good proportion of the work carried out at the Observatory relies on researchers, birders and ringers, from all over Europe, northwest Africa and the east coast of South America, who observe and submit sightings of Skokholm ringed birds; we are hugely appreciative.

We were once again extremely grateful for all of the support received from the Friends of Skokholm and Skomer and the Work Party volunteers; they continue to give a huge amount of time and hard graft. That the buildings and Island infrastructure are in such good condition is thanks to the continuing attention they get from these dedicated people. Thank you Nick, John, Jeff, Phil, Howard, Jenni, Rob and Mick and a huge thanks to our amazing volunteer chefs Shirley Matthews and Sam O'Shea; the latter two worked tirelessly behind the scenes, menu planning, food shopping and baking before creating hearty meals to keep the volunteers going strong. We must also thank the many volunteers who assisted with the barge and supply boats, those who helped with both mainland logistics and the loading and offloading of materials and equipment. On the Island Les Easom painted marker stones along the South Coast Path and Steve Roberts painted Howard's End.

The Friends have assisted the Island financially for many years, purchasing much needed equipment and supporting our Long-term Volunteers. This year, as well as funding the drone survey (detailed above), the Friends also purchased a set of grey recycled plastic posts to mark the permanent vegetation quadrats and a set of brown recycled plastic posts to mark Puffin productivity sites in Crab Bay. The posts, which were researched and sourced by Phil Blatcher, supersede the old wooden posts which were susceptible to rot and required regular maintenance. We were also extremely grateful to receive professionally bound copies of our Annual Reports produced between 2013 and 2020; these were organised by Richard Dobbins, funded by the Friends and now reside in the Library.

We were fortunate enough to be awarded several grants to spend during the 2021 season. We must therefore acknowledge the Sustainable Management Scheme for providing the funds for a new John Deere Gator, the replacement dumper truck and a water pump, along with the barge to deliver the new vehicles and remove the old vehicles. The PCNPA Sustainable Development Fund facilitated the purchase of a UV filter at the Lighthouse and financed repairs to the solar hot water system. RSWT paid for a Bat Sonogram Identification Training Course and their Covid Emergency Grant covered supplies of PPE and hand sanitiser for reopening the accommodation. Finally, the Nature Networks Fund financed a proportion of the new bedroom floor tiles; the remainder of the cost was covered by generous individuals, these including Chris and Mary Perrins, Mark Burton, Diana Knight and Phil and Dorothy Blatcher. Throughout the year the Island received many more generous donations, from books for the Library to kitchen equipment; we are so grateful for these kind gestures.

We must thank our colleagues at the Wildlife Trust of South and West Wales who take care of many behind-the-scenes tasks, jobs that for a second year running were complicated by a global pandemic. We would like to specifically acknowledge the support received from Mike Alexander, chair of the WTSWW Trustees, whose encouragement was again greatly treasured. Our appreciation goes to our line manager Lisa Morgan and to Chief Executive Sarah Kessell who continued to search for and secure the grants which allowed us to achieve all that we have this year.

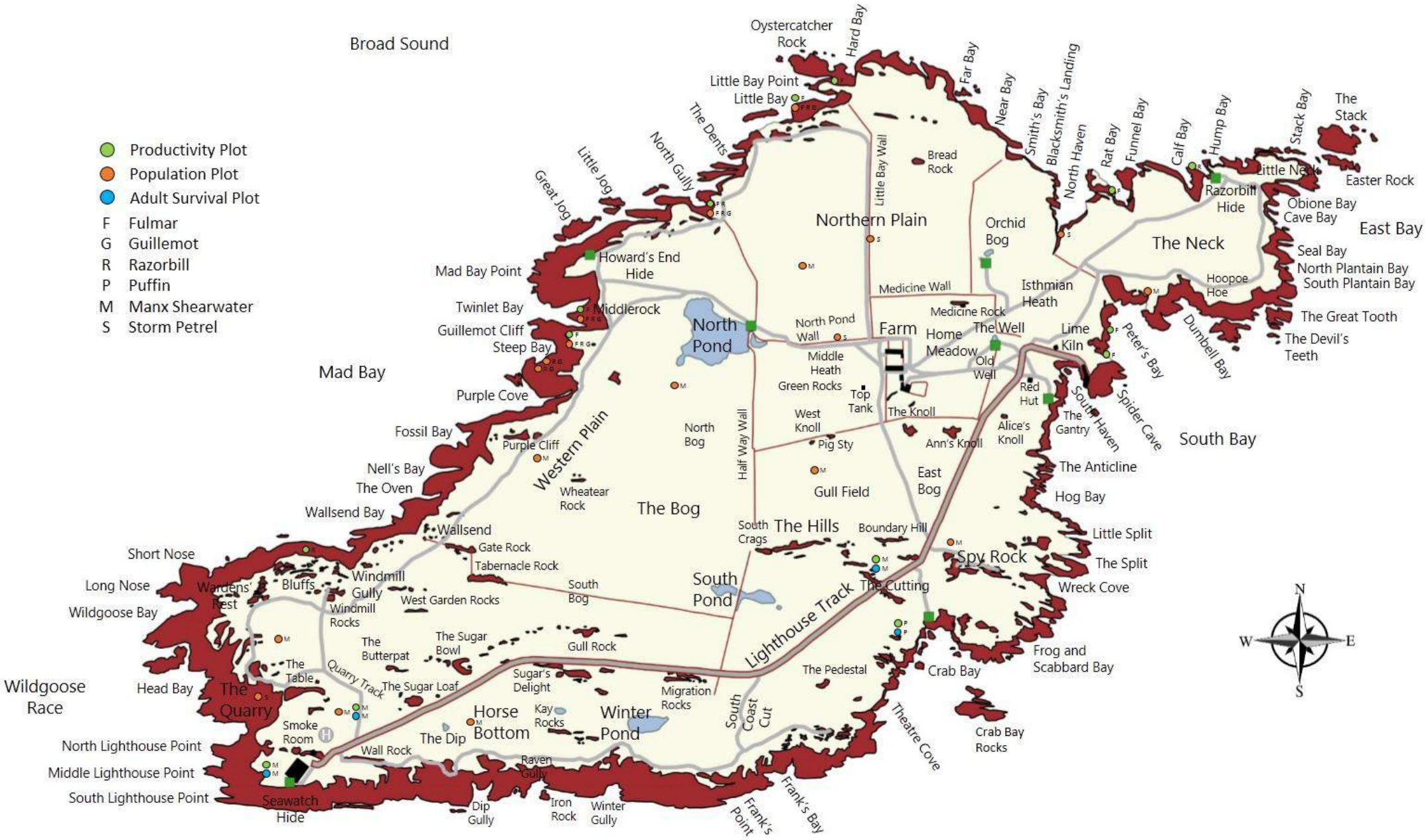
The team at Dale Sailing, particularly Gareth and John Reynolds, once again delivered all of the volunteers and materials to the Island and allowed materials and equipment to be delivered to and stored in their yard at Neyland. We would like to specifically thank the brilliant Dale Sailing crews who work incredibly hard to bring guests and supplies to Skokholm during the season. Mark Burton, Dave Astins and Lisa Morgan very kindly shopped for, or took delivery of, our monthly grocery orders and delivered them to the boat. Thank you to the Hywel Dda University Health Board for arranging our COVID-19 vaccinations during the season and to the members of the vaccination team who travelled out to Skomer to give us both our doses.

We are always appreciative of 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 analyses on feather samples obtained from migrant birds. Pembrokeshire Moth Recorder Robin Taylor and 2014 Long-term Volunteer Billy Dykes again kindly provided expert moth identification. Thanks also go to Mike Archer for his continued support and assistance with the digitisation of the Birdlog and ringing data and to Martin Winrow for uploading the 2019 to 2021 Birdlog records onto Bird Track.

We would like to say a sincere thank you to all of the guests who were able to visit Dream Island this year, and to those who kept us in their thoughts despite not being able to stay. Your records, support and understanding during a challenging year were hugely appreciated. We hope to see many more of you next season!

Finally, Anna and Steve Sutcliffe deserve a special 'last but certainly not least' thank you. For the last nine years they have been our mainland rock, two unbelievably generous, caring and considerate people who know island life so very well. They are our Pembrokeshire family who have always made us feel so welcome, and this year was no exception. In February, as we were preparing to return to Skokholm, Covid guidelines meant that different households could not mix indoors; Steve and Anna solved this by housing us in our own isolated annex which we could safely use as a base whilst we waited for a suitable weather window. They are amazing people with island life running through their veins and we hope that their involvement with Skokholm will continue for many years to come.

*Giselle and Richard*


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
Far Bay
Near Bay
Smith's Bay
Blacksmith's Landing
North Haven
Rat Bay
Funnel Bay
Calf Bay
Hump Bay
Stack Bay
The Stack
Little Neck
Easter Rock
Razorbill Hide
Obione Bay
Cave Bay
East Bay
Little Bay Point
Little Bay
The Dents
North Gully
Little Jog
Great Jog
Little Bay Wall
Bread Rock
Northern Plain
Orchid Bog
The Neck
Seal Bay
North Plantain Bay
South Plantain Bay
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
North Pond
Medicine Wall
Isthmian Heath
Medicine Rock
The Well
Hoopoe Hoe
The Great Tooth
The Devil's Teeth
North Pond Wall
Farm
Home Meadow
Old Well
Lime Kiln
Peter's Bay
Dumbell Bay
Middle Heath
Green Rocks
Top Tank
The Knoll
Red Hut
South Haven
Spider Cave
South Bay
The Gantry
Alice's Knoll
Ann's Knoll
Pig Sty
West Knoll
Half Way Wall
North Bog
Western Plain
Purple Cliff
Wheatear Rock
The Bog
Gull Field
East Bog
The Anticline
Hog Bay
Little Split
The Split
Wreck Cove
Spy Rock
Boundary Hill
South Crags
The Hills
Gate Rock
Tabernacle Rock
Wallsend
Short Nose
Long Nose
Wildgoose Bay
Wardens' Rest
Bluffs
Windmill Gully
Windmill Rocks
West Garden Rocks
South Bog
South Pond
Lighthouse Track
The Cutting
Frog and Scabbard Bay
Crab Bay
The Pedestal
Crab Bay Rocks
Theatre Cove
The Butterpat
The Sugar Bowl
Gull Rock
The Table
Quarry Track
The Sugar Loaf
Sugar's Delight
Migration Rocks
Wildgoose Race
Head Bay
The Quarry
Smoke Room
Horse Bottom
Kay Rocks
Winter Pond
The Dip
South Coast Cut
Wall Rock
Raven Gully
North Lighthouse Point
Middle Lighthouse Point
South Lighthouse Point
Seawatch Hide
Dip Gully
Iron Rock
Winter Gully
Frank's Point
Frank's Bay
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 bird-days or breeding pairs per year |
| Abundant | 1001-2500 bird-days or breeding pairs per year |
| Very Abundant | More than 2500 bird-days 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

**Quail** *Coturnix coturnix* **Sofliar**

**Rare** noted on 50 previous dates, with approximately 41 records of 44 birds, but only two in autumn 1964: 1 trapped

A female flushed from above the Quarry on 1st June later showed exceptionally well on the research path to the Quarry Storm Petrel transects (RDB, GE). This was the first since singles noted on four dates between 31st May and 5th June 2019, these including the last to be heard singing.

There were three singles between 2014 and 2017, three singles between 1991 and 1997, approximately six records in the 1980s (three of which were probably of two birds lingering for up to

three days), five singles in the 1970s, seven singles in the 1960s, eight singles in the 1950s, four singles in the 1940s and three between 1938 and 1939 (including one dead on the Lighthouse roof).

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

The majority of spring sightings were again of those which would attempt to breed on Skokholm, indeed only two March and two April daycounts exceeded the six breeders; there were 16 logged on 20th March (the highest spring daycount since 18 in April 2018), eight on 31st March, seven on 14th April (the additional bird probably that found dead at North Pond the following day) and nine on 27th April. Three nesting pairs matched that recorded last year as the second 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). Birds were first seen visiting a nest in the southwest corner of the Bog on 20th March, a nest which contained four eggs by the 25th; the 2015-2020 first egg mean is 2nd April, with the earliest during this period found on 24th March 2019 and the latest on 26th April 2020. A pair to the northeast of the Bog had six eggs on 8th April and a pair to the north of Orchid Bog had five on 1st May. Only the Bog pairs made second attempts following the loss of their first, the southwest pair having five eggs on 20th April and the northeast pair having four on 12th May. Canada Goose productivity remains very poor, with a single fledgling in 2012 and no fledglings at all in the last nine years (by contrast there were 38 fledglings in 2006 and a minimum of 40 in 2007). The failed breeders became more mobile during May and there were June sightings on only four dates, with a high of five on the 10th and two on the 12th which were the last until autumn; the last spring bird of 2020 was present on 28th May (there were no second clutches during what was a very late breeding season) and there were only two June bird-days in 2019, however a 2021 June bird-days total of 11 was down on tallies of between 35 and 150 recorded in each year between 2010 and 2018.

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

| 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 6 | - | 36 | 41 | 23 | 16 | 18 | 11 | 10 | 7 | 7 | 4 | 2 | 3 | 3 |

Two arrived from the northeast on 21st September, however they returned towards the mainland without making landfall; this was the latest autumn arrival of the last decade, with 2019 the only other year without an August record. Four departing early on the 29th took the September bird-days total to six; the 2011-2020 September bird-days mean is 410.2, with highs of 1856 in 2012 and 809 in 2015. A late, typically post-sunset, arrival to the North Pond roost and an early departure inevitably lead to undercounting, however birds were only encountered on two October dates, with nine on the evening of the 2nd and 59 on the afternoon of the 29th; although the peak count was only down on that logged in five previous Octobers (including highs of 149 in 2012 and 168 in 2015), a bird-days total of 68 was down on ten previous Octobers and a 2011-2020 mean of 234.0 (there was a high of 860 in 2015 and a low of 16 in 2014). Numbers increased in November, with between 38 and 95 (on the 14th) seen on nine dates between the 10th and 25th and two on the 27th which took the bird-days total to 698; there have only been higher daycounts in three Novembers, with peaks of 110 in 2014, 138 in 2015 and 205 in 2016, whilst the 1133 of 2015 and the 767 of 2016 are the only higher November tallies. Two at North Pond on the 1st was the second December record for Skokholm.

**Barnacle Goose** *Branta leucopsis* **Gwydd Wyran**
**Rare** Seven spring records of up to five birds and 15 autumn records of up to ten birds
**Earliest** 8th October 1987 **Latest** 2nd June 2018 (**17th June 2021**)

A rather unseasonal bird, which joined the gulls roosting in the Bog on 15th June, was at North Pond

on both the 16th and the morning of the 17th; 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 eight records since 2015, this increase in occurrence mirroring an expanding feral population in both Ceredigion (the number of birds breeding on Cardigan Island has increased rapidly in the last decade (Dobbins, *pers*. *comm*.)) and in Britain as a whole (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*., 2013)). October continues to be the most likely month in which to encounter this species on the Island, with 12 sightings logged during the period.

**Shelduck** *Tadorna tadorna* **Hwyaden yr Eithin**
**Scarce Breeder** recorded in 56 years, almost annually since 1956 and first seen with young in 2006

A lone bird was at North Pond on 28th February, two were there on both the 1st and 5th March and a single was again there on the 7th. With the exception of the 20th and 23rd March, there were sightings on each date between 15th March and 19th May, primarily of a pair but with between three and five noted on eight dates in March and with between three and seven noted on four April dates to the 23rd. The seven birds logged on 2nd April was the lowest spring maximum since 2006, down on a high of 25 present in both 2011 and 2012 and a 2013-2020 mean of 12.9 (there was a high during this period of 20 in 2013 and a low of eight in 2019). The female of the pair was regularly absent on six dates between the 9th and 19th May, however a breeding attempt was not confirmed. This was thus the second consecutive year, but just the second year since 2009 and the third year since breeding was first confirmed in 2006, in which no chicks were seen. 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, it was only in 2011 that any chicks definitely went on to fledge from Skokholm. North Pond was virtually empty on an exceptionally early 3rd June in 2020 (this one day later than the 2013-2019 mean first chick observation date), a lack of water which perhaps meant that any chicks would have been escorted elsewhere, however this year there was water in North Pond throughout June and the first two weeks of July. The pair were seen together on 16 dates between 22nd May and 12th June, the male was alone on 28th May and 2nd June and the female was alone at North Pond on the 13th and 22nd June. A pair returned to North Pond on the 27th, the evening of the 28th and on 30th June. Somewhat surprisingly, one emerged from Bracken near South Pond on 9th July; there have only been July sightings in five previous years. The only other record this year was of five distant birds, watched from the Lighthouse as they flew northwest on the morning of 22nd November; 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 and the December of last year.

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

The feathers and intestines of a male were along North Pond Wall on 15th March. A female at North Pond on the evening of 22nd May was the only other breeding season record. Breeding was confirmed in three years between 2015 and 2018 and strongly suspected in 2019, however it would appear that at least one of the individuals involved is dead (last year saw a pair present on one April date and a lone female present on one June date). A female at North Pond on the 4th was the first July sighting since 2017 and the last of the year; it was thus the first year since 2013 without at least one record between August and November.

**Pintail** *Anas acuta* **Hwyaden Lostfain**
**Scarce** suspected of breeding in 1993 and 1995, but only seven records since 1996 (all since 2013)

A drake, which frequented North Pond on 24th March, was at South Pond on the morning of the 25th before returning to North Pond that afternoon. This species was regular 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, a gap of three years before three 2018 records and another absence before a lone female in October last year. 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).

**Wigeon** *Mareca penelope* **Chwiwell**
**Uncommon Winter Visitor**
**Earliest** 22nd August 1986 (2nd November 2021) **Latest** 29th May 2017 and 2018 (11th March 2021)
1964: 1 trapped

The only spring sightings were recorded prior to the date on which staff arrived last year; there were four on 26th February, seven on the 27th and 28th, two on 1st March and lone males on the 5th and 11th March which were the last of the spring. Nevertheless a spring bird-days total of 22 was only fractionally up on the 16 of last year and was down on a 2013-2020 mean of 45.5 (there were highs during this period of 127 in 2017, 108 in 2018 and 84 in 2019, but no sightings at all in the springs of 2014 and 2016). Four on the 2nd and 3rd November were the first of the autumn, 30 days later than

the first of last autumn and the latest autumn arrival of the last decade (13 on 11th October 2012 were the previous latest during this period). The only other records were of three at North Pond on 7th November, 12 east through Broad Sound on the 22nd, a pair at North Pond on the 28th and a male at North Pond on 2nd December; the peak autumn daycount matched the 2013-2020 mean (there was a low of three in 2015 and a high of 24 in 2016), but a bird-days total of 26 was down on a 2013-2020 autumn mean of 36.3 (there were lows during this period of nine in both 2015 and 2017, whilst a high of 103 in 2016 was only down on the 120 of 1990 and the 149 of 1991).

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

There were sightings on all but two dates between the return of staff on 26th February and 12th July, with highs of eight on three dates in March, three dates in April and three dates in June, nine on 3rd July and ten on 7th April and 4th July (with peak counts of seven males and three females); the maximum spring daycount matched the 2013-2020 mean (there was a high during this period of 13 in 2013 and a low of eight in 2020, although a minimum of ten individuals (seven males and three females) were also present at some point last spring). A female accompanied 13 ducklings at the Well on 7th April, although the young were not seen again; these were the earliest chicks of the last nine years, 36 days earlier than the 2013-2020 mean (the earliest were present on 17th April in 2017 and the latest on 27th June in 2014). A female at Orchid Bog had nine new chicks on 24th April, however one the following day was the last to be seen. A female at North Pond, which had nine ducklings on the morning of 4th May, only had five late that afternoon, probably due to the attentions of a Raven. Another new brood of nine were at the Well on 24th May, although this attempt was also short lived. A very young chick found dead at East Bog on 29th June had perhaps been lost by the female which accompanied seven chicks at the Well on 10th July; these were not seen again. There were thus at least five broods of ducklings this year, this matching 2019 and down on a record six in 2018, but four up on last year and two up on the peak count listed by Thompson (2007). It is seemingly two decades since any young fledged on Skokholm; 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 during the second week of July, with counts of up to four on eight further dates taking the July bird-days total to 70 (the fourth highest tally this century, up on a 2013-2020 mean of 51.0, but down on a peak of 130 in 2019). One over North Pond on the 30th was the

only August record; although prior to 1934 up to 200 Mallard a day were logged during August, numbers have since declined, with highs of 146 in 1988 and 127 in 2012 the only bird-days totals to reach three-figures and a 2013-2020 August bird-days mean of just 7.1. Seven of the 11 September records were again nocturnal, with counts of up to six taking the bird-days total to 32, this the highest September tally since the 38 of 2000; 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). Although there were October sightings on only five dates, this included highs of 45 on the 29th and 46 on the 30th which took the bird-days total to 102; the peak October daycount was the highest since the 49 of 2013 and the bird-days total was up on a 2013-2020 mean of 67.4 (there was a high of 134 in 2018 and a low of seven in 2016). Sightings on 18 November dates probably included many of the same individuals returning from the mainland each night to roost, indeed a high of 46 on the 2nd matched the October maximum; although the peak daycount was down on that logged in two of the last seven years (and all-time November highs of 70 in 1930, 1977 and 1991 and 250 offshore in 1989), a bird-days total of 506 was a new November record, up on the 274 of 1989, the 261 of 2014 and the 223 of 2018. Up to 31 were present on three December dates prior to the departure of staff on the 5th.

**Teal** *Anas crecca* **Corhwyaden**
**Common Visitor** recorded in all months, but more regular in winter and possibly bred in 1936
1936-1976: 15 trapped, 2014-2018: 3 trapped

It again proved to be a quiet spring for this species, with February counts of eight on the 26th, 15 on the 27th and six on the 28th and counts of up to three on seven March dates to the 31st which took the spring bird-days total to 42; a March bird-days total of 13 was the lowest since 2009, down on a 2013-2020 mean of 173.3 and an all-time high of 874 in 1969, whilst the spring total was the lowest since 2010, down on a 2013-2020 mean of 216.9 (there was a high during this period of 369 in 2018 and a low of 77 last year). There was no April record for a second consecutive year, but for just the sixth time since 1988, and no May record for the fifth time since 2010 (although there have only been sightings in 21 previous Mays). A pair were at North Pond on 22nd June and four were present on the 28th; there have been sightings in 12 previous Junes, with bird-day highs of eight in 1966, six in 1971 and 17 in 2002 (eight in 1966 is the only daycount up on that of this year). The only July sightings were of one on the 3rd and two on the 4th; there have been Teal in 18 previous Julys, although in 16 of these years there was a record on only one date (up to three on eight dates in 1947 led to a July bird-days high of 11). Sightings on seven September dates from the 3rd included nocturnal highs of three on the 13th and seven on the 16th; a bird-days total of 17 was down on a 2013-2020 mean of 34.4, although this period included two of the four highest September tallies to date (there were all-time highs of 101 in 1973 and 84 in 2014). There were no further records until a single was at an empty South Pond on 24th October, however sightings on three further dates during the month included 76 on the 29th and 33 on the 30th which took the bird-days total to 111; there have been higher daycounts in three previous Octobers (with a peak of 150 in 1991) and higher totals in five previous Octobers (with highs of 256 in 1971 and 305 in 1991). A total of 147 November bird-days were logged over 18 dates, with peaks of 44 on the 6th and 24 on the 8th, whilst two were found eaten during the period; there have been higher November daycounts and bird-day totals in five years, with the records logged in 2018 (when a daycount of 110 took the monthly tally to 547). December counts of one on the 1st and four on the 3rd were the last of the year.

**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)

No doubt due at least in part to a COVID-19 dictated reduction in observers, there was no spring record for the first time since 2011 and no June record for the second time since 2010. July sightings

of 26 on the 14th, 20 on the 21st and five on the 30th took the bird-days total to 51; although up on the 28 of last July, the tally was down on a 2013-2020 mean of 283.9 and all-time highs of 520 in 1994, 601 in 1995 and 621 in 2014. The only August records were of four on the 5th, three on the 8th, one on the 21st and five on the 22nd; a bird-days total of 13 was the lowest August tally since 2010, down on a 2013-2020 mean of 203.0 (although this mean was substantially inflated by the 2017 total of 1044 which included record August daycounts of 128, 247 and 392). Sightings on nine dates, including highs of 27 on the 1st, 44 on the 8th and 30 on the 30th, took the September bird-days total to 151; although there have only been eight higher September tallies, the bird-days total was down on a 2013-2020 mean of 179.3 (the all-time September highs are 1411 in 1992, 409 in 2017 and 360 last year). Counts on five October dates to the 12th were, bar the 42 logged on the 5th, all of 14 or less; an October bird-days total of 67 was down on that logged in nine previous years, including highs of 587 in 1991, 161 in 1992, 142 in 1993 and 134 last year. The only observations during a typically quiet November were of seven on the 22nd and 12 on the 23rd. As is typically the case, the majority of birds seen during the autumn were heading southeast, presumably towards wintering grounds in Carmarthen Bay.

**Eider** *Somateria mollissima* **Hwyaden Fwythblu**
**Rare** logged in nine previous years, with 12 records of up to seven birds

A first-winter male seen from the Lighthouse, flying southeast with six female Common Scoter on 23rd November, was the first since a duck on 21st September 2001 (GE, RDB). A different first-winter male, more advanced with its moult, was below the South Coast cliffs the following day; this bird rapidly drifted west with the tide (GE, RDB). Of the 25 individuals now seen from the Island, one was in April (a female noted on three days of a five day stay in 1990), two were in May (a female on the 3rd in 1991 and a male with Puffins on the 31st in 1992), two were in June (a drake on the 14th in 1988 and a duck logged on four days of a five day stay in 1989), one was in July (a duck through Broad Sound in 1966), four were in September (three north in 1991, in addition to that listed above), eight were in October (seven on the 1st and a male on the 9th in 1989) and seven were in November (four on the 30th in 1998 and a female on the 24th in 2000, along with the two logged this year).

**Red-breasted Merganser** *Mergus serrator* **Hwyaden Frongoch**
**Rare** 15 records in 12 previous years, including nine in September or October and totalling 22 birds

A brown-headed bird flying northwest through Broad Sound on the morning of 10th November was the first since a group of three on 18th September last year (GE). The only other Skokholm records are of one on 19th February and two on 3rd November in 1968, one on 12th September 1973, two on 28th October 1980, one on 24th May 1985, two on 28th September and one on 21st October 1991,

singles on 4th October 1992 (over the Farm), 22nd June and 26th September 1993, 21st July 1994 and 13th May 1995, three on 21st September 2001 and what was probably a lingering individual seen from the Neck on the 16th and 21st September 2017. Birds previously listed for August and October 1977 and June 1991 were not included in the reports for those years and were excluded from the totals by both Betts (1992) and Thompson (2007).

**Goosander** *Mergus merganser* **Hwyaden Ddanheddog**
**Vagrant** two previous records

Two brown-headed birds flew northwest off the Lighthouse on 22nd November (RDB). The only other records are of a male on 23rd October 1961 and five brown-headed birds north on 4th June 1988.

**Alpine Swift** *Tachymarptis melba* **Gwennol Ddu'r Alpau**
**Vagrant** two previous records

One swept low and east over Home Meadow at 1240hrs on 1st April (RDB, GE). Having veered south, it went on to feed low over Crab Bay, Spy Rock, South Haven and the Neck, prior to crossing Broad Sound. It probably roosted on Skomer, with one seen arriving to the Deer Park the following morning.

The only other Skokholm records are of singles on 13th July 1972 and 24th March 2002; the latter was considered at the time to be the same individual seen at Penberi Pool, St. Davids on the 25th and back on the Dale Peninsula (at Mullock Bridge) on the 26th, although there had been a significant influx into Britain during the period.

**Swift** *Apus apus* **Gwennol Ddu**
**Fairly Common Migrant** common in some years and most regular in late spring
**Earliest** 15th April 1991 (26th April 2021) **Latest** 28th October 1976 (16th September 2021)
1955-1967: 13 trapped

One tracked from the Lighthouse to North Plain on the afternoon of 26th April was four days later than the first of last year, but three days earlier than the 2013-2020 first bird mean; there have been 148 earlier bird-days, including 90 in 1960 and with April singles on the 15th in 1991, the 16th in 1961 and the 17th in 1970 being the earliest. One on the 28th and three on the 30th were the only other April sightings; there have been higher bird-days totals in nine previous Aprils, including peaks of 126 in 1960, 19 in 1961 and 66 in 1962. Records on 12 May dates included highs of eight on the 7th and seven on the 29th and 30th; a May bird-days total of 44 was down on four of the last eight years (with a high during this period of 114 in 2017), a 2013-2020 mean of 50.5 and highs of 247 in 1989, 222 in 1959 and 282 in 1948 (the latter remains the highest total in any month). Sightings on 14 June dates, including highs of 11 on the 1st and seven on the 2nd and 29th, took the bird-days total to 53; the June total was the lowest since 2016 and down on a 2013-2020 mean of 77.0 (although this mean is inflated by a 2019 total of 175, a June tally only bettered by the 224 of 1969, and the 139 of 2018, the fifth highest June total). The July total was down on the 2013-2020 mean of 44.5 and on six of the last eight years, with up to five birds on 11 dates between the 11th and 27th producing a bird-days total of just 24. August was typically quiet, with three on the 23rd and two on the 31st the only birds logged (the latter going to roost in the Quarry); 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 2013-2020 mean of 8.3. The two roosting birds, again over the Quarry on 1st September, were perhaps those present at South Pond on the 2nd, whilst one on the 5th and two on the 16th took the monthly bird-days total to seven (these the first to be seen in this month since 2005); there have been higher September totals in three years, with 28 in 1990 (all logged on the 3rd) the peak. The last of the year was 31 days later than the last of 2020 and 28 days later than the 2013-2020 mean; there have only been 31 later bird-days, including ten on 30th September 1979 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 (8th May 2021) **Latest** 8th September 1956 (25th July 2021)
1934-1976: 77 trapped, 2015-2020: 6 trapped

The only spring record was of a male near the Lighthouse on the afternoon of 8th May; there have been 174 earlier bird-days, including 88 in April (all but eight of which arrived after the 18th and only ten of which were logged this century). Although spring counts are seldom high, a single spring bird-day matched that of last year and 2017 as the lowest tally since 2010; the peak spring bird-days totals are the 16 of 1951, the 19 of 1957 and the 17 of 1973 and 1976, with the most recent double-figure tally being the 13 of 1977 and the 2013-2020 bird-days mean being 3.3 (with a high during this period of eight in 2018). Two juveniles arrived on 24th July, this ten days later than the first two juveniles of last autumn. One lingered in the vicinity of the Table and one was watched as it gleaned Small Tortoiseshell caterpillars from the Nettles around Migration Rocks. Two birds were also noted on the 25th, although neither was seen well enough to confirm if it was the same individuals watched at close range the previous day; these were the last sightings of the year. There have been autumn highs of 34 in 1937 and 37 in 1966, however 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, whilst the 2013-2020 autumn bird-days mean is 3.3 and there were no records at all in 15 years this century.

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

One, found above Peter's Bay on the morning of 17th October, frequented Home Meadow that afternoon. The only other sighting was of one flying west over North Plain during the early afternoon of 16th November. Singles on one September date last year, on one April date in 2019, on three October dates in 2018, on two October dates in 2016, on 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 (26 of which were logged during May).

**Woodpigeon** *Columba palumbus* **Ysguthan**
**Uncommon Visitor** has bred, most recently in a South Haven sea cave in 2007
1960: 1 trapped, 2017: 1 trapped

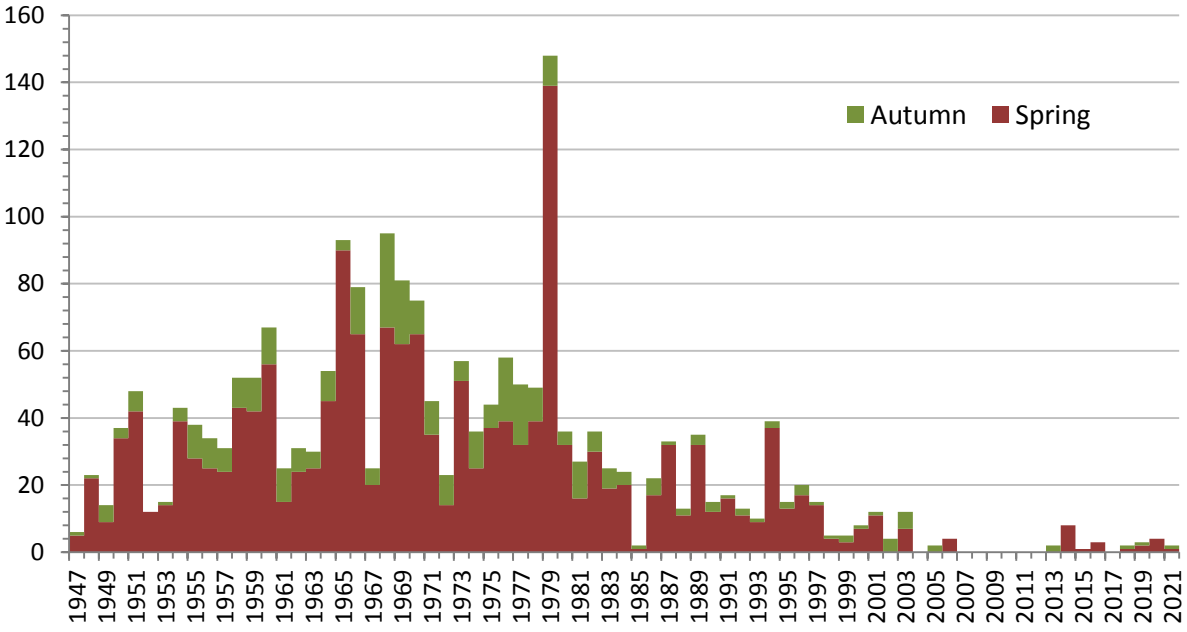
Singles on the 2nd, 9th and 17th led to a March bird-days total which equalled that of 2017 and 2018 as

the lowest of the last six years; the peak March total is the 82 of 1996, this in a year when three pairs attempted to breed. Similarly singles on the 2nd, 14th and 18th led to a total which matched that of 2016, 2017 and 2020 as the lowest of the last seven Aprils, this down on a 2013-2020 mean of 4.4 and the April high of 88 recorded in 1996. A tail feather above the Near Bay Peregrine site on 16th April suggested that visiting Woodpigeons are vulnerable, although Peregrines were breeding when the record spring counts of 1996 were logged. Numbers increased in May, with singles on 13 dates from the 5th and two on the 14th and 18th (the birds on the 14th were seen in the vicinity of the South Haven sea cave last used as a nest site in 2007); a May bird-days total of 17 was the highest in any month since June 2008, albeit well down on totals from the period during which this species bred and a May high of 106 in 1995 (when there were again three breeding pairs). There were sightings on four June dates, with singles on the 2nd and 13th and, perhaps coincidentally, a 2021 high of three on the 4th and 19th; the peak daycount was down on the five of last year and the four of 2019, but otherwise matched the highest since 2013 (Skokholm daycounts have never been big, with peaks of 18 in May 1960, 12 in April 1978 and 11 in August 1987 and May 1989). A single on the 8th made this the ninth July since 2007 with a sighting, whilst singles on the 10th, 15th and 30th led to the highest August total to be logged during the same period (a record 78 were noted in 1998). One on the 9th made this the sixth September since 2007 with a sighting. A single on 11th October was the last of the year; there had only been October sightings in 19 previous years, but in five years since 2014. A 2021 bird-days total of 37 matched that of both 2018 and 2019 as the highest since the 49 of 2008.

**Turtle Dove** *Streptopelia turtur* **Turtur**
**Scarce Migrant** previously Uncommon
**Earliest** 1st April 1949 (31st May 2021) **Latest** 18th October 1995 (8th July 2021)
1934-1976: 37 trapped

One at the Top Tank and then the Hills on 31st May was 22 days later than the first of last spring and 17 days later than two in 2019 (RDB); there have been 1226 earlier bird-days, including 47 in April (the most recent of which was in 2003). There have been 11 springs without a sighting, all recorded this century, whilst a lone spring 2021 bird-day matched that logged in 1985, 2015 and 2018.

**The total number of Turtle Dove bird-days logged in each year since 1947.**




The only other record was of one present at the Knoll and North Plain on 8th July, this the first to be seen in this month since 1999 and just the 75th July bird-day to date (RDB *et al*.). The 2021 sightings take the post-2006 bird-days total to just 25 and the 21st century total to 67; alarmingly there were

407 bird-days recorded in the last two decades of the previous century and 1165 bird-days logged in the 20 years prior to that. 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
1965-1976: 31 trapped, 2013-2020: 8 trapped, 2 retrapped

There was no March record for the sixth time in nine years, with one at the Lighthouse on 21st April being 15 days later than the first of last year, the latest spring arrival since one on 29th April in 2018 and the only sighting of the month; there have been between one and four bird-days recorded in each of the last nine Aprils, tallies well down on highs of 28 in 1974 and 35 in 1976.

It proved the poorest May since 2011, with singles on the 2nd, 7th, 27th and 31st being the only birds logged; the 2013-2020 May bird-days mean is 12.6 (with a peak of 27 in 2018 which matched that of

2000 as the highest this century), whilst historically daycounts of up to 13 (in 1974) have produced bird-days totals of up to 60 (in 1977). Singles on three dates, along with four together at Spy Rock on the 2nd, took the June bird-days total to seven; although the peak matched the highest June daycount since 2003, the bird-days total was down on a 2013-2020 mean of 10.0 and a high of 31 logged in 1977 and 1981. A single was at the Lighthouse on the 2nd during what was a typically quiet July, whilst a mobile bird on the 24th was only the 18th August bird-day this century and the 116th to date. One at the Lighthouse on the evening of 23rd September was probably the bird present at the Farm the following morning which was the last of the year; there have now been 98 September bird-days, whilst the most recent of 12 October bird-days was in 2003 and the only November bird-day was 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
4 trapped
1936-1976: 19 trapped, 2013-2019: 27 trapped, 6 retrapped

At least one bird did not survive the winter, with a patch of plucked feathers being found at South Pond on 27th February. The only March records also came from South Pond, where singles were logged on the 4th, 15th and 17th; a March bird-days total of three was the lowest since one in 2014, down on a 2013-2020 mean of 12.3 and an all-time high of 31 logged in 2018. One at the Well on the 13th was the only April record, this likewise the lowest tally since 2014 (the 2013-2020 April bird-days mean is 10.1, with all-time highs of 31 in 2013, 14 in 2015 and 11 in 2019). The only previous May records were logged in four years between 1929 and 1934, in four years between 1997 and 2007 and in five years between 2012 and 2020; this tally was not added to this year. A male was singing at the Well on five June dates between the 4th and 15th, with a second bird heard calling there on the 14th and further singles noted there on the 16th and 20th; a June bird-days total of eight was the sixth highest to date, with three of the higher totals coming in years when breeding was confirmed (the two highest June totals, the 34 of 1995 and the 27 of 2013, came in years when breeding was not confirmed). Following a single on 6th July, a remote motion-sensor camera placed over the small pool adjacent to the Well 9 Net revealed a single on the 10th and two on the 11th; one of the birds on the 11th was ringed, whilst the other unringed bird was probably the adult female trapped in the Well Heligoland three days later. Adults heard calling on the 23rd and 24th July were accompanied by the gentle peeping of what were presumed to be Water Rail chicks, although only an adult was heard on the 28th and the remote camera only revealed an adult on the 29th.

There were August records of up to two birds on four dates between the 1st and 10th, with the remote camera logging adults on a further three dates during the period. On 13th August the remote camera was moved to a small, purpose dug pool in the centre of the Well Reedbed (providing images such as that above); a subsequent check of the footage revealed that two large chicks had very quickly investigated the new source of standing water, this just the fourth confirmed record of breeding on Skokholm. There were diurnal records of up to two adults and occasional vocal young noted on all but three subsequent August dates (including an adult watched carrying food into the reeds on the 16th), whilst the remote camera revealed birds on an additional two dates and confirmed the presence of at least four large chicks on the 21st (it was suspected that a smaller, fifth chick may also have been present, although this was not established beyond doubt). One calling to the south of Home Meadow on 30th August was probably an arrival from the mainland, this two days later than the first autumn record of last year and the latest autumn arrival of the last nine years (although birds calling in the vicinity of the Well would have been assumed to be the breeders).

Daily records in September included the first from South Pond, East Bog, the Top Tank and near the Red Hut on the 2nd, the first from the Bog on the 10th, the first from north of the Hills on the 12th, the first from Orchid Bog on the 15th, the first around the Farm on the 17th, the first at North Pond and above Crab Bay on the 18th, the first on Isthmian Heath on the 19th and the first above Hog Bay on the 21st, whilst daycounts peaked at nine on the 21st and 28th; the peak daycount matched that of 2014 and 2018 as the highest to be logged in September, whilst a bird-days total of 113 was only down on the 137 of 2014 and the 120 of 2018 (perhaps surprisingly so, given that Water Rail did not breed in either of these years). Daily October sightings included highs of 15 on the 10th and ten on the 11th and 13th, the peak matching that of 2014 and 2016 as the second highest on record (only down on the 20 of 1931), however a bird-days total of 185 was down on the 222 of 2014, the 281 of 2015, the 194 of 2016 and the 195 of 2018 (the 2013-2020 October bird-days mean is 161.3, with a low during this period of 63 in 2020). Occupied sites additional to those previously noted were the Tabernacle, Billy's Dyke, the South Pond Lower Drain, Medicine Wall and the Courtyard. Records on all but four November dates included highs of nine on the 7th and 10th, ten on the 8th and seven on the 23rd which took the bird-days total to 113; the peak daycount was close to a 2013-2020 mean of 9.0 (there were all-time highs of 15 in 2015 and 11 in 2016), whilst the bird-days total was the second highest November tally to date, only down on the 123 of 2015. Two on the 3rd was the only December record prior to the departure of staff on the 5th. The only site occupied during November and December additional to those previously mentioned was near Bread Rock.

**Moorhen** *Gallinula chloropus* **Iâr Ddŵr**
**Scarce Breeder** did not breed in 1937, 1939 to 1953, 1955 to 1966, 1974 and 1976 to 1995
1 retrapped
1936-1970: 10 trapped, 2013-2020: 26 trapped, 8 retrapped

There were no sightings between 26th February and 9th March, whilst singles at the Well or to the north of Home Meadow on eight March dates from the 10th included one retrapped on the 26th which had been ringed as an adult on 7th March 2018 (and retrapped on 29th July 2018 and 14th September 2020); early spring is typically quiet on Skokholm (the 2013-2020 March bird-days mean is 8.5), a paucity of records which may reflect an absence of birds or just skulking non-breeding behaviour. One at Orchid Bog on 3rd April was the first in a breeding territory away from the Well, whilst counts of up to five on 22 further April dates included almost daily sightings from the 10th and birds first seen at the Wheelhouse Pond on the 6th, at South Pond on the 11th and at North Pond on the 15th; the peak April daycount matched that logged in 2015 and 2016 as the highest on record and a bird-days total of 48 was only down on the 65 of 2015, the 78 of 2016 and the 53 of 2017.

A very exposed nest at Orchid Bog was first recorded on 24th April. Two chicks could be seen at the nest on 13th May, these 12 days earlier than the 2013-2020 first chick mean and the earliest since

chicks on 24th April in 2015; four Orchid Bog chicks were confirmed on 15th May, however there were no further records of young after the 21st. Two second brood chicks were first seen at Orchid Bog on 7th July, with four recorded on the 25th and all four having fledged by 27th August. Nest building was occurring at North Pond on 9th May, adults were carrying food from the 27th and two chicks were seen on the 30th, however it was not until 9th June that four chicks were seen and not until 23rd June that five were observed; three fledglings were logged on 5th July. The adults were collecting nest material on 26th June and were collecting food from 26th July, although chicks were only ever seen with the first brood fledglings; a single chick was present on 27th July and two were seen on 6th August, however there were no further sightings. A nest found at the Well on 24th May contained chicks on both the 26th and 27th, whilst six were near the nest site on the 29th and four were still alive on 14th June; at least two went on to fledge. A second brood chick was present at the Well on 22nd July, with two noted the following day, three noted between the 24th and 27th and a fourth logged between the 1st and 6th August; the remote camera confirmed that three had fledged by 15th August. Adults were encountered at South Pond regularly during May and occasionally during June and July, however a lone chick logged on 9th July was not known to fledge. An adult accompanied a near-fledgling in a clearing to the north of South Pond on 22nd September. A pair in the drain below East Bog were first noted on 11th July when they were found with eight hatchlings; four chicks were still present on 19th July, however the only confirmed fledgling was a single on 10th August (a fledgling at the Top Tank on the same date could perhaps have come from North Pond, whilst the provenance of two fledglings in Gull Field on 30th August was unclear). A mid-sized chick on the path at Isthmian Heath on 6th September was probably the result of a third brood at either the Well or Orchid Bog; it was not seen again. Five pairs thus fledged a minimum of 14 young, this equating to a productivity figure of 2.80 fledglings per pair. Five breeding pairs is a new Skokholm record, up on a 2013-2020 mean of 2.8 and a high of four recorded in 2007 and 2011, whilst productivity was also up on the 2013-2020 mean (2.31 ±se 0.33, with a high of 3.50 in 2018 and a low of 1.00 in 2013 and 2014).

Sightings on 22 September dates included highs of ten on the 2nd and 13th and 12 on the 30th which took the bird-days total to 112; the peak daycount was a new Skokholm record, up on the ten of September 2001, whilst the bird-days total was up on a 2013-2020 mean of 38.8 and was only down on the 119 of 2001. An October Orchid Bog roost led to the three highest daycounts ever recorded on the Island, with 13 on the 6th, 14 on the 7th and 15 on the 13th (including a high of 12 juveniles on the 7th); given that only nine young were known to fledge from the Well and Orchid Bog, it seems likely that the 2021 productivity figure is an underestimate, although it is possible that youngsters may have reached Orchid Bog from elsewhere (North Pond was empty for three months from late July, perhaps encouraging the juveniles to explore further afield). A bird-days total of 116 was a new October record, up on the 53 of 2003 and the 45 of 2016, although only two bird-days were recorded from the 16th (a lack of records which again suggested that at least some birds depart for the winter). Sightings of up to two birds on five November dates to the 14th included records from South Pond, East Bog, the Well and Orchid Bog, whilst two were feeding together in the Bracken to the north of Home Meadow on the 28th; a November bird-days total of nine was the highest since the 16 of 2016, albeit down on six previous years and a high of 64 in 2001. It would seem likely that at least three individuals were still present in December, with singles near the Well on the 2nd, behind the Cottage on the 3rd and at North Pond on the 4th.

**Oystercatcher** *Haematopus ostralegus* **Pioden y Môr**
**Fairly Common Breeder and Common Visitor** previously an Uncommon Breeder
11 trapped (including 10 pulli), 29 resightings, 1 control
1939-1976: 1882 trapped, 2014-2020: 67 trapped (including 53 pulli), 95 resightings

Daily February sightings from the return of staff on the 26th included highs of 96 on the 27th and 97 on the 28th; there has been a recording presence in 29 previous Februaries, although there have only been higher daycounts in three (with 300 in 1930, 133 in 2000 and 110 in 2001). There were March

lows of 30 on the 8th, 53 on the 9th and 65 on the 24th, but 18 three-figure daycounts and highs of 133 on the 1st and 29th, 136 on the 16th and 138 on the 30th; there have been higher March daycounts in eight previous years, with peaks of 300 in 1932 and 1933, 160 in 1951 and 155 in 1988. The largest roosts again formed in the vicinity of the Anticline, with highs of 103 on the 1st, 124 on the 12th and 102 on the 26th; the peak was the largest Anticline spring roost this century, topping the 122 counted on 10th March 2013 and 16th March 2020. Birds were again quick to vacate coastal roosts, indeed there were only two Anticline roosts of more than 50 during April (with 60 on the 1st and 53 on the 2nd), however daycounts between the 5th and 8th April ranged between only 17 and 32 (despite rather typical weather during the period). A North Pond roost established during April contained more than 30 birds on 13 dates (peaking at 48 on the 24th, 49 on the 29th and 59 on the 28th and 30th), whilst the majority were on territory from the 18th. A scrape on Middle Heath (to the south of North Pond Wall) contained a single egg on 27th April, although this nest was empty two days later; this was six days earlier than the first three nests with eggs to be found in 2020 (one of which contained a full clutch of three), but was five days later than a single egg in 2019.

A whole Island census during May revealed a remarkable 76 territories; this was 80.5% more than the 2002-2020 mean (42.11 ±sd 11.37), 22 more than recorded last year and 15 more than the record set in 2017. Ringing suggested that the population grew in part due to a high adult return rate; of ten 2020 colour ringed breeders, nine returned this year, a return rate of 90.0% being up on the 81.8% of last year. However, given that 100% of up to 11 birds returned in each year between 2017 and 2019 (during which time the population increased by up to seven pairs a year but dropped by nine pairs in 2018), recruitment must have been exceptionally high this year to account for such surprising population growth. Three additional birds colour ringed on the Gann Estuary were found breeding this year; two ringed as sub-adults in 2018 and one ringed as an adult in the same year took the number of colour ringed birds breeding on Skokholm to 12. There were three birds found dead between 4th March and 30th April, this compared with an unusually high ten found between 16th March and 14th July last year. North Pond roosts were large for a fourth consecutive breeding season; there were peak May counts of 53 on the 2nd, 47 on the 6th and 31st and 61 on the 9th (the May high was 47 in 2020, 55 in 2019 and 36 in 2018) and peaks in June of 53 on the 13th, 49 on the 18th and 63 on the 25th (the June high was 58 in 2020, 61 in 2019 and 58 in 2018).

As in the previous eight seasons, nests were selected for productivity monitoring during early May (21 in total). Of these, 16 successful pairs managed to fledge 26 young, with seven pairs fledging a

singleton, eight pairs fledging two apiece and a pair to the east of the Dip fledging three. A productivity figure of 1.24 fledglings per monitored pair was down on recent highs of 1.62 in 2018 and 1.55 in 2014, but was otherwise the third highest to be recorded in nine years and was 39% up on the 2013-2020 mean (0.89 ±se 0.17). As is often the case, only Great Black-backed Gulls were seen to take young, although youngsters were occasionally seen limping and uneaten dead chicks were encountered. The first juveniles to be seen in flight were at the Dip on 1st July, these eight days later than the first of last year and the latest first fledglings of the last six years (the earliest during this period were logged on 16th June in 2017). The peak July North Pond roost counts were down on those logged recently, with highs of 51 on the 1st and 15th and 49 on the 13th and no more than 34 noted from the 18th (from when birds were obviously departing the Island); there were July highs of 64 in 2020 and 71 in both 2019 and 2018. The maximum August daycount was of 62 on the 10th (the 2013-2020 mean is 56.8), 41 of which were on the Anticline, whilst no more than 28 were present after the 16th and there were five single-figure August daycounts from the 19th. September proved typically quiet, with up to 21 present on all but four dates and 19 single-figure daycounts; the peak was down on a 2013-2020 mean of 27.0, whilst a bird-days total of 169 was the lowest since 2012 and well down on a 2013-2020 mean of 399.5. Sightings on 24 October dates, including highs of 20 on the 3rd and 21 on the 5th, tallied 229 bird-days; the peak count almost matched a 2013-2020 mean of 22.5, but the monthly total was down on a mean of 310.8 logged during the same period. Birds were noted on all but four November dates, with 14 single-figure daycounts and highs of 21 on the 11th, 22 on the 12th and 20 on the 30th taking the bird-days total to 254; there have been higher daycounts in five of the last eight Novembers (with a peak of 35 in 2015), whilst a mean 8.5 birds per November day was the lowest of the last nine years (there were highs of 15.6 in 2013 and 14.7 last year). Daily December sightings prior to the departure of staff on the 5th peaked at 15 on the 1st; there were higher December counts in 14 of the 24 years with a record (with a high of 43 in 1992).

**Ringing recovery** Left leg: Yellow above FH75227, Right leg: Tibia green, Tarsus yellow with black X4
**Originally ringed** as an adult of at least two years, SOUTH DUBLIN BAY, IRELAND 25th January 2020
**Previously recovered** as an adult, SOUTH DUBLIN BAY, IRELAND 6th March 2020
**Previously recovered** as an adult, NORTH DUBLIN BAY, IRELAND 7th October 2020
**Previously recovered** as an adult, THE GANN, PEMBROKESHIRE 20th April to 27th May 2021
**Recovered** as an adult, NORTH POND, SKOKHOLM 30th May 2021
**Subsequently recovered** as an adult, THE GANN, PEMBROKESHIRE 21st and 29th June 2021
**Subsequently recovered** as an adult, LIFFEY CHANNEL, DUBLIN BAY, IRELAND 10th August 2021
**Subsequently recovered** as an adult, SOUTH DUBLIN BAY, IRELAND 14th October 2021
**Finding condition** Colour ring read in field
**Distance travelled** 188km at 161 degrees (SSE)
**Days since ringed** 492

**Lapwing** *Vanellus vanellus* **Cornchwiglen**
**Scarce** previously Common and an Uncommon Breeder, but last bred in 2000
1938-1976: 696 trapped

A flyover on the morning of 26th April was the only sighting between 1st March and 30th June; there have now been records of up to five birds on just 24 dates during this period since 2004, a sobering statistic for a species which produced chicks on Skokholm as recently as 2000. One over North Pond on 26th July was in the Dip that afternoon and was probably the bird at Western Plain on the 27th and over Hog Bay and the Neck on the 28th; singles in seven years between 2007 and 2018 are the only other July records since 2003, whilst historically daycounts of up to 200 (in 1946) contributed to July bird-day totals of up to 2070 (in 1958). It was perhaps the mobile July bird which, following a three day absence, settled at the Dip on 1st August (becoming the first record in this month since 2015), whilst two at North Pond on the 24th led to the second highest August total since 1998; the most recent three-figure August daycount was logged in 1970, the most recent four-figure August tally

was 1990 in 1958 and the most recent three-figure August tally was 256 in 1996. There was no September sighting for the 18th time since 2000 and no October sighting for the first time since 2013. November saw four at North Pond on the morning of the 5th, two on North Plain and North Pond on the 16th and 17th and two in from the south on the 22nd; the peak daycount matched the fourth highest to be logged in any month since 56 in October 2003, whilst a bird-days total of ten was the highest in any month since 12 in November 2016. November daycounts peaked at 400 in 1927 and 1931 and 300 in 1939, although the monthly total has not exceeded 67 since 1981.

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

Due in part to an irregular staff presence, one over on 27th February was just the second record in this month since 1969, whilst singles on the 29th and 31st made this just the third March in 18 years with a sighting. Although cold weather can increase the number of spring birds, 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 individuals), counts are typically much lower. The sole April record was of one at North Pond on the 16th, this becoming just the sixth 21st century year with an April sighting (but the fifth year of the last six). A summer-plumaged bird which dangled its leg in flight (but which was otherwise seemingly healthy), was noted on each date from the 11th to 18th May and again on the 20th, during which time it visited South Pond, North Pond, Western Plain and was seen in flight over the Bluffs. A different summer-plumaged bird present on the 26th and 27th took the bird-days total to 11, this equalling that of 1971 and 1989 as the fifth highest May tally to date (a daycount of 46 took the 1967 total to a record 50). A summer-plumaged bird present on 5th June dangled its leg in flight, this probably the individual last seen on 20th May, whilst a different moulting adult was logged on the 17th and 18th, three summer-plumaged birds were present on the 20th, a single went over on the 24th and an adult in wing moult was logged on the 29th and 30th; the peak daycount was a new June record and a bird-days total of nine matched that of 1988 as the highest June tally to date.

A record 23 bird-days were logged during July, with a lone adult encountered at North Plain on nine dates between the 3rd and 14th and two adults in wing moult present at either North Plain, North Gully or the Dip on seven dates between the 17th and 31st; there have been records in 15 previous Julys, with a bird-days high of eight logged in 1986. Although only singles were found on the 5th, 19th and 29th August, what were probably the same two moulting adults were recorded on the 7th, on five dates between the 11th and 17th and on three dates between the 28th and 31st August; they again frequented the heath between North Gully and North Plain, although they were certainly absent from this area on some of the dates between observations. An August bird-days total of 21 was two

up on that of last year and matched that of 1967 as the second highest to date, only down on the 26 of 2015 (which included a flock of 25 on the 30th). The two adults, still present on each date between the 2nd and 5th September, were joined by a third bird on the latter date, this the start of an unprecedented run of autumn records which saw daily sightings to the 19th and highs of 13 on the 10th, 14 on the 14th and 27 on the 18th (which included a flock of 25); the peak daycount was the third highest to be recorded in September, down on 50 in 1950 and 33 in 1992. Further flyover singles on the 29th and 30th took the September bird-days total to a record 108 (the previous high being 65 in 1950), this the third highest total to be logged in any month (down on the 189 of March 1965 and the 234 of March 2018). Two birds at North Plain on the 8th and 9th, along with singles on the 11th, 12th and 15th, led to the second lowest October tally of the last six years (there was a high during this period of 20 in 2017). Although there were no November sightings (for the third time in eight years), birds in nine consecutive 2021 calendar months matched the record set in 1996 (when birds were noted in each month between March and November).

**Grey Plover** *Pluvialis squatarola* **Cwtiad Llwyd**
**Scarce** records in 56 years since 1929, with only five singles 2004-2012 and 12 singles 2013-2015

One at North Pond on 15th March was the first spring sighting since 2018 and the tenth March record for Skokholm. A mobile bird which briefly visited North Pond on 23rd April was the first in this month since 2017 and the 26th April bird-day (ten of which have been in the last nine years). The only other 2021 record was logged on 28th May, this a winter-plumaged bird which was also a fleeting visitor to North Pond; there have now been birds in 12 Mays, including five of the last ten. A total of three individuals was down on the four of last year and a bird-days total of three was down on the 12 of last year and a 2013-2020 mean of 5.0. The 2020 bird-days tally of 12 was the second highest to date, only down on the 14 of 1993 (which included a record daycount of six).

**Ringed Plover** *Charadrius hiaticula* **Cwtiad Torchog**
**Uncommon** but Scarce between 2004 and 2011
1956-1970: 3 trapped

Although never common in March, indeed there have only been 58 previous bird-days, there was no sighting in this month for the first time since 2017 and for the second time in six years. The first of the year was at North Pond on 3rd April, with what was probably the same bird noted on the 4th and 5th, this followed by sightings on ten April dates from the 14th which peaked at three on the 15th, 26th and 29th; the peak daycount matched the 2013-2020 mean, however a bird-days tally of 20 was only down on the 21 of 1966 (there have only been 14 double-figure April tallies, with six in the last seven years). May was similarly productive, with records on ten dates to the 13th, including highs of 16 on the 1st and eight on the 8th, and further counts of three on the 19th and 22nd and one on the 29th

which took the monthly tally to 50; the peak daycount was a new spring record, up on the 13 of May 1959 and the 14 of May 2014, whilst a May bird-days total of 50 was only down on the 52 of 2014 (the three highest May totals have occurred in the last eight years). Singles on the 14th and 26th led to a typical June tally; there have now been records in 30 Junes, including eight of the last nine, with a bird-days high of seven in 1951 and 2015. A spring bird-days total of 72 was the highest yet recorded, up on peaks of 59 in 1978, 62 in 2014 and 53 in 2019. Autumn passage began with a flyover single on 21st July, this ten days earlier than the first of last year; there have been 126 previous July bird-days, including 23 since 2014. Given that North Pond was empty throughout the month, that all bar one of the 26 August bird-days were flyovers was little surprise (a juvenile at the Table on the 31st was the only grounded bird); nevertheless a high of nine on the 30th matched the fourth highest August daycount (there were peaks of ten in 1957 and 11 in 1988 and 2016), whilst the bird-days total was the second highest to date, only down on the 65 of 2016. September was similarly dry, with singles on seven dates and two on the 13th all being flyovers; there have been higher September totals in 22 years, with peaks of 41 in 1989, 39 in 2015 and 74 in 2016. There was no October record for the second time in ten years and no November record (the most recent of 20 November bird-days was noted in 2016). An autumn bird-days total of 36 was 12 down on last year and down on highs of 59 in 1989, 68 in 2015 and 158 in 2016.

**The total number of Ringed Plover bird-days logged each month (2020 to 2018 in parenthesis), along with the maximum monthly daycount (2020 to 2018 in parenthesis) and the date(s) on which the 2021 peak was recorded.**

| March | April | May | June | July | August | September | October | November |
|---|---|---|---|---|---|---|---|---|
| 0 | 20 | 50 | 2 | 1 | 26 | 9 | 0 | 0 |
| (2, 1, 2) | (16, 8, 12) | (32, 42, 17) | (0, 2, 3) | (1, 2, 0) | (22, 11, 9) | (16, 14, 1) | (9, 1, 0) | (0, 0, 0) |
| 0 | 3 | 16 | 1 | 1 | 9 | 2 | 0 | 0 |
| (1, 1, 1) | (3, 2, 4) | (10, 5, 3) | (0, 1, 1) | (1, 1, 0) | (7, 1, 3) | (3, 2, 1) | (1, 1, 0) | (0, 0, 0) |
| | 3 dates | 1st | 14th & 26th | 21st | 30th | 13th | | |

**Little Ringed Plover** *Charadrius dubius* **Cwtiad Torchog Lleiaf**
**Rare** 11 spring birds accounting for 19 bird-days and three autumn birds accounting for 11 bird-days
**Earliest** 27th March 2012 (11th April 2021) **Latest** 24th August 2016 (14th May 2021)

One found at North Pond, late on the afternoon of 11th April, relocated to Winter Pond where it was still present the following morning (RDB); this arrived on the same date as two in 1988, with the only earlier sightings being of singles on 8th April 2011 and 27th March 2012. The second of the year spent the morning of 28th April at North Pond, whilst a mobile third settled there briefly on 14th May (GE).

Given the increase seen in the Welsh breeding population over the last few decades, it is of little surprise that eight of the birds found on Skokholm have occurred since 2016, with 13 since 2011 and all 17 since May 1986. A review of the digitised log and Skokholm Bird Observatory Reports has removed three erroneous spring records and one autumn record from the database and reduced the totals given in recent reports.

**Dotterel** *Charadrius morinellus* **Hutan y Mynydd**
**Rare** 12 previous autumn records of up to two birds and one spring record of five birds
**Earliest** 7th May 1960 (9th September 2021) **Latest** 16th October 1981 (15th September 2021)
1964: 1 trapped

A juvenile found on 9th September was present in the same area of North Plain on both the 10th and 11th (GE *et al*.). Two different juveniles were present in a similar area on the 13th and 14th, with what were probably the same two birds seen in flight with a Golden Plover on the 15th (JMH *et al*.); this was only the second autumn record of multiple birds following two which lingered between the 11th and 17th September 1974. Three birds in a year is an autumn record, with five in the spring of 1960 the only higher tally, whilst a bird-days total of nine was the second highest to date, only down on the 17 of 1974.

**Whimbrel** *Numenius phaeopus* **Coegylfinir**
**Common Visitor** has seemingly overwintered on at least 21 occasions
1959-1974: 30 trapped, 2018: 2 trapped

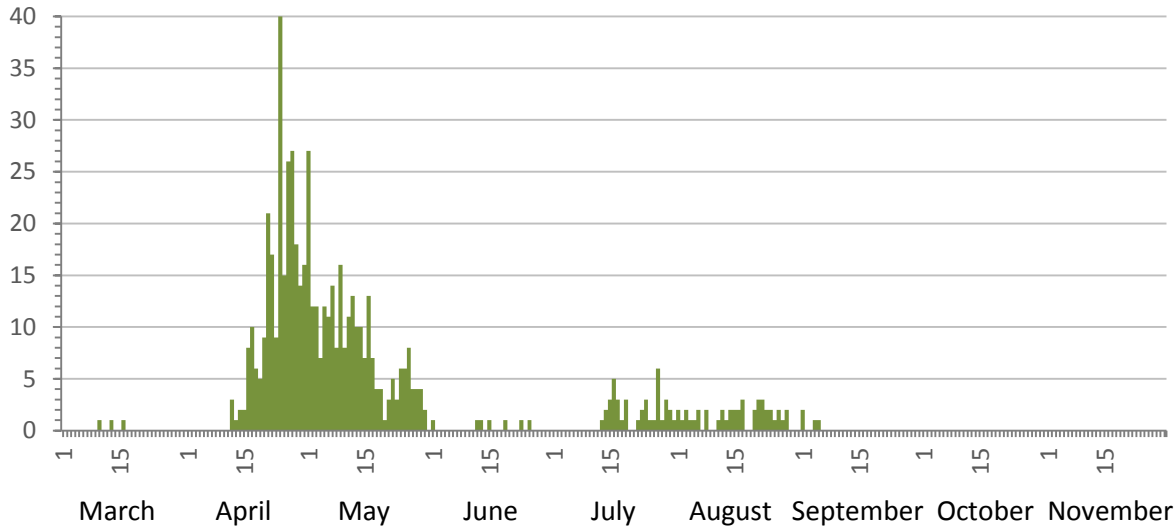
A ringed adult present at the Anticline on the 10th and 13th March was probably the bird with hidden legs noted on the 16th and was almost certainly that last seen on 4th December 2020; it is likely that this was the bird ringed in September 2018 which has now overwintered three times (it may also be the case that this is the same lone individual which spent the previous four winters between the Anticline and Crab Bay. It is perhaps one of the two which spent earlier winters in the same area). Three over the Neck on 12th April were the first spring migrants, these one day later than the 2013-2020 mean (with the earliest during this period logged on 3rd April in 2016 and the latest on 20th

April in 2013). There followed daily April records, with high counts of 21 on the 21st, 40 on the 24th, 26 on the 26th and 27 on the 27th which took the monthly total to 249; the peak April daycount was only down on the 47 of 1989, the 64 of 2003 and the 45 of 2016 and 2019, whilst the bird-days total was a new April record, up on the 173 of 1989, the 179 of 2016 and the 174 of last year. May also proved productive, with records on every date bar the 31st and highs of 27 on the 1st, 14 on the 7th and 16 on the 9th, but only single-figure daycounts from the 17th which took the bird-days total to 252; there have been 18 higher May daycounts (with 40 on the 9th in 1997 the most recent and 50 on the 1st in 1993 the peak) and four higher May totals (the 2013-2020 May mean is 219.5, with a high during this period of 326 in 2019 and an all-time high of 423 in 1989). Singles on seven dates between the 1st and 25th led to a June tally down on a 2013-2020 mean of 8.6. A combined April, May and June total of 508 was the second highest to date, up on the 504 of 2019 and 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 2021 peak was recorded. Counts from 2018 to 2020 are included for comparison.**

| | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov |
|---|---|---|---|---|---|---|---|---|---|
| **2021** | 3 | 249 | 252 | 7 | 39 | 42 | 4 | 0 | 0 |
| **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 |
| **2021** | 1 | 40 | 27 | 1 | 6 | 3 | 2 | 0 | 0 |
| **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 |
| | 3 dates | 24th | 1st | 7 dates | 27th | 3 dates | 1st | | |

**The number of Whimbrel logged each day between March and November 2021.**




As is invariably the case, autumn proved to be quieter than spring. Sightings on all but two July dates from the 13th totalled 39 bird-days and peaked at five on the 16th and six on the 27th; there have been higher daycounts in nine previous Julys and the same peak in an additional five (with a high of 18 in 2017) and higher bird-days totals in seven previous Julys (with peaks of 66 in 1967, 72 in 1976 and 48 in 1983 and 2019). Daycounts on all but five August dates to the 28th peaked at three on the 17th, 21st and 22nd and tallied 42 bird-days; both the maximum August daycount and bird-days total were the lowest since 2011, the peak down on a recent high of 20 in 2013 and all-time highs of 110 in 1948, 28 in 1962 and 39 in 1984, the total down on a 2013-2020 mean of 76.5 and all-time highs

of 169 in 1948, 172 in 1989 and 135 in 2015. There was no sign of the ringed overwintering individual first encountered on 27th July in 2020 and on 9th August in 2019, with two at the Stack on 1st September and singles on the 4th and 5th the last to be seen this year; a September bird-days total of four was the lowest since 2010, down on a 2013-2020 mean of 40.9, whilst there was no October record for the first time since 2009 and no November record for the first time since 2012.

**Curlew** *Numenius arquata* **Gylfinir**

**Common Visitor** previously Abundant and usually present throughout the year, but has never bred
1960-1976: 141 trapped, 2016-2019: 5 trapped, 2 controls

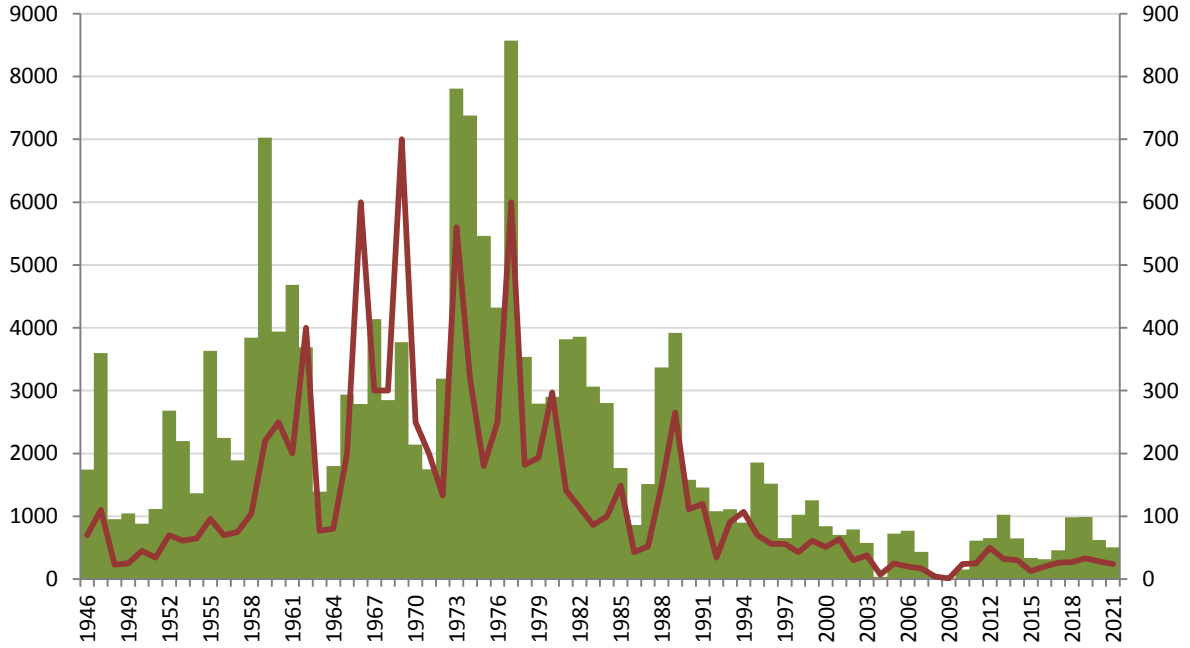
The drop in the number of Curlew visiting Skokholm has been alarming, with recent seasons proving the worst on record for this charismatic red-listed wader, a species which between 1994 and 2010 declined in the United Kingdom by 46% and in Wales by over 50% (BTO, 2016). Birds were present from the return of staff on 26th February, with North Pond peaks of six on the 26th and seven the following day taking the bird-days total to 17; although the staffing presence in February has been sporadic, there have been daycount highs of 200 in 1940, 81 in 1959 and 110 in 1965. Following five on the 1st and three on the 3rd, there were singles noted on 11 March dates to the 22nd.

**The total number of Curlew bird-days logged each month, along with the maximum monthly daycount and the date on which the 2021 peak was recorded. Counts from 2020 to 2017 are included for comparison.**

| | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov |
|---|---|---|---|---|---|---|---|---|---|
| **2021** | 19 | 26 | 30 | 38 | 118 | 90 | 110 | 28 | 26 |
| **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 |
| **2021** | 5 | 3 | 3 | 6 | 24 | 11 | 8 | 3 | 3 |
| **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 |
| | 1st | 13th & 26th | 12th & 24th | 27th | 16th | 23rd | 1st | 6th | 4 dates |

The peak March daycount was down on a 2013-2020 mean of 10.9 and all-time highs of 200 in 1965, 1967 and 1971 and 150 in 1975 (the latter the last three-figure March daycount), whilst a bird-days total of 19 was the lowest since 2011, down on a 2013-2020 March mean of 78.0, recent highs of 271 in 2013 and 147 in 2018 and all-time highs of 1158 in 1965 and 1058 in 1967. There were 26 bird-days noted over 18 dates in April, with highs of three on the 13th and 26th; although April has always proven to be a quieter month, with daycount highs of 60 in 1970, 50 in 1978 and 45 in 1981 and bird-days highs of 269 in 1977, 203 in 1978 and 182 in 1981, the 2021 totals were disappointing, the peak daycount being down on a 2013-2020 mean of 4.8 and the bird-days total being down on a 2013-2020 mean of 35.4. The maximum May daycount, which reached 32 in 1967 and averaged 15.6 between 1966 and 1983, has recently been much lower; a 2021 high of three on the 12th and 24th matched that noted in four of the last eight years. Although a pair were seen together on nine days in May, with song and display flights noted on the 15th and 16th, they flew towards Skomer on the latter date. There were sightings on only 18 June dates, however highs of four on the 1st, 29th and 30th and six on the 27th took the bird-days tally to 38; four of the six highest 21st century June totals have come in the last four years, although these are well down on all-time June highs of 412 in 1947, 464 in 1957 and 898 in 1959. 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 (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. Daycounts on 27 July dates were of three or less on 18 occasions, however highs of eight on the 11th, 23 on the 12th and 24 on the 16th took the bird-days total to 118; although there have only been five Julys this century with higher daycounts, there have been eight higher July tallies during the same period (peaking at 245 in 2000 and 252 in 2018), whilst historically daycounts of up to 149 (in 1985) and bird-days totals of up to 1741 (in 1959) have been logged. There were August sightings on every date bar the 7th, however 11 on the 23rd was the only daycount to exceed the five noted on the 18th, 19th, 28th and 29th; the peak matched that of 2016 as the lowest post-War August daycount high (there were peaks of 220 in 1959, 297 in 1980 and 265 in 1989), whilst a bird-days total of 90 was only up on the 83 of 2015 and the 82 of 2016 (there were highs of 2175 in 1959, 1521 in 1960 and 1897 in 1978, although there were perhaps higher tallies in the 1960s and 1970s when Curlew were routinely logged as being 'present' rather than being counted). September

daycounts peaked at eight on the 1st and seven on the 12th, however sightings on every date bar the 30th took the monthly tally to 110; the peak daycount was down on six of the last ten years, a 2013-2020 mean of 13.4 and all-time highs of 700 in 1969, 240 in 1973 and 200 in 1977, whilst the bird-days tally was down on eight years this century (the September total has reached four-figures on nine previous occasions, including a peak of 2069 in 1977). Counts of up to three on all but one date to the 16th, followed by singles on four dates, led to an October bird-days total of just 28, this matching that of 2016 as the lowest this decade; there were incredible October highs of 4305 in 1973, 3468 in 1974 and 3131 in 1977, these totals also including days when no count was entered into the Log. Counts on 15 November dates peaked at three on the 8th, 18th, 20th and 24th; that only 44 years ago a herd of at least 600 were present on one November date is a sad reflection of the Curlew's plight. Although staff did not leave until the 5th, one on the 2nd was the only December sighting; 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
1964-1974: 8 trapped

One at North Pond on 6th March was probably that seen at South Pond the following day, these taking the all-time March bird-days total to just 17; 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 of spring typically arrives in April (on the 20th in 2016, the 18th in 2017, the 23rd in 2019 and on the 29th in 2020). It was thus surprising that, for just the second time since 2013, there was no April sighting this year. Indeed there were only two more spring records, one a flyover with five Whimbrel on 1st May and one a winter-plumaged bird heading southeast on 11th May; although up on the two of last year, a spring bird-days total of just four was down on a 2013-2020 mean of 12.4, a recent high of 31 in 2019 and all-time highs of 108 in 1966, 50 in 1992 and 38 in 2000 (1966 seeing eight or nine logged on ten dates). Two over on 22nd August were the first of the autumn, these the first in this month since two singles in 2013. One went over the following day and a minimum of two were calling after dark on the 24th; an August bird-days total of five matched the third highest to date and took the all-time tally for this month to 70. A single on 13th September was also calling after dark, there were two on North Plain the following day and at least two present on the 16th were the last of the year. A total of ten autumn bird-days matched that of 2015 and 2019 as the second highest since 2013; the highest autumn bird-days total of the 21st century is the 47 of 2016 and 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). Although traditionally this was thought of as the commoner of the two godwit species on Skokholm, this proved to be the case this year for just the second time since 2010.

**Black-tailed Godwit** *Limosa limosa* **Rhostog Gynffonddu**
**Scarce or Uncommon Visitor** but Fairly Common in 2012, 2013, 2015, 2017 and 2019
1971: 1 trapped

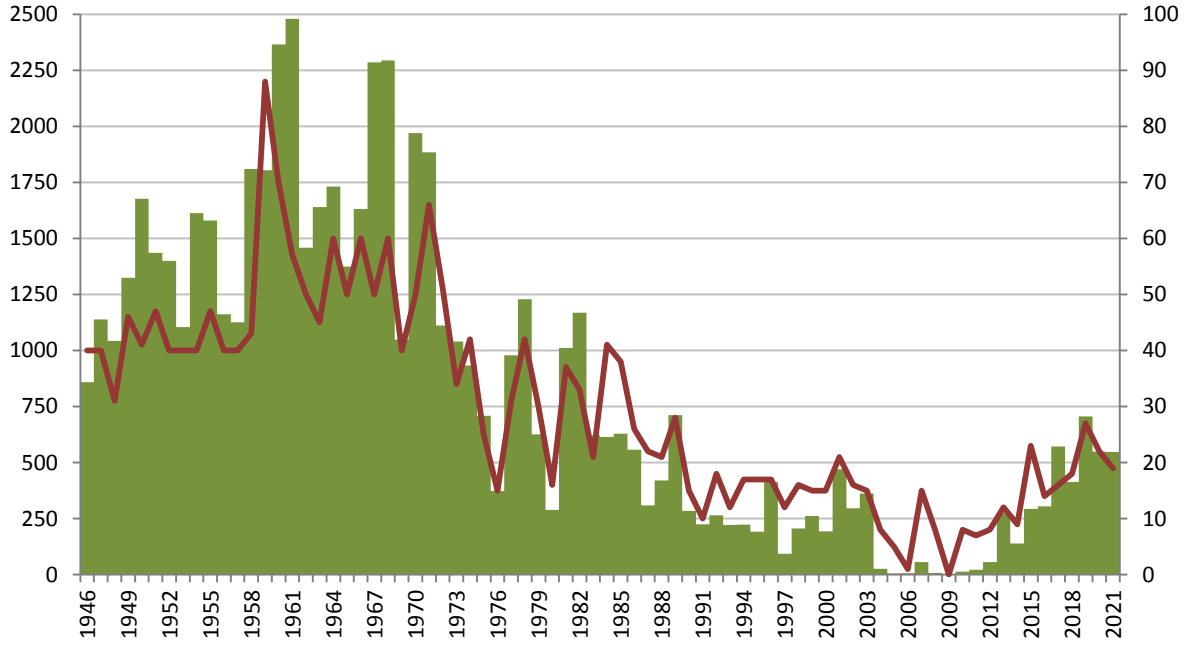
One heading northwest off Twinlet on 15th April was the first of the year; there have now been April birds in 33 years, including eight of the last 11. Three together at North Pond on the morning of 6th June was the only other spring record, this matching the eighth highest daycount in this month but resulting in the lowest June bird-days total since 2016 (a record 17 were logged in June 2019). One over on the 6th made this the eighth consecutive July with a record (and the 34th to date), however a lack of further sightings during the month led to the lowest July bird-days total since a blank 2013 (the three highest July totals have come in the last decade, with peaks of 36 in 2012, 41 in 2017 and 27 in 2019). The only other sighting this year was of one at North Pond on 29th October, this just the third bird-day to be logged in this month (following singles in 2013 and 2017); one on 22nd November 1927 and five on 4th November 2013 are the only later Skokholm records. An annual total

of six bird-days was the second lowest of the last 11 years. In contrast to the Bar-tailed Godwit, the six most productive years for this species have occurred since 2012 (including a record 149 bird-days in 2017).

**Turnstone** *Arenaria interpres* **Cwtiad y Traeth**
**Common Visitor** once Abundant, but sometimes only Fairly Common in recent years
1956-1970: 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 (observations should thus be comparable). Sightings on eight March dates peaked at four on the 1st and 27th, with counts of three on five dates taking the bird-days total to 25; although the peak March daycount was down on four years this decade, the bird-days total was only down on 21st century tallies of 61 in 2001, 34 in 2002 and 26 in 2013. The only April record was of a northbound single on the 28th; although the 2013-2020 April bird-days mean is just 8.0, a total in excess of 400 was not uncommon between 1947 and 1961 (137 in 1982 is the most recent three-figure April tally). Following a flyover single on the 7th, sightings on 13 further May dates included a peak daycount of 19 on the 19th (17 of which were on Halftide Rock, whilst two were simultaneously at Howard's End) and an unusual run of North Pond records which saw up to four birds encountered on nine dates; there have been higher May daycounts in 15 years, most recently with 23 in 2015 and with a high of 50 in 1966, whilst a bird-days total of 41 was the second highest since 1986 (but down on a 1958-1974 May mean of 177.6 and a high of 334 in 1967).

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




Up to three on five June dates between the 9th and 24th included birds at North Pond on three dates; this becomes just the eighth June since 1994 with a record, although a bird-days total of nine was down on 24 previous years and highs of 109 in 1958, 74 in 1960 and 79 in 1961. July was similarly productive, at least by recent standards, with up to six noted on five dates from the 12th leading to a bird-days total of 14, this the second highest in this month since 1992; there have however been 42 higher July totals, with peaks of 203 in 1958 and 1970, 228 in 1960 and 124 in 1950 and 1978. August counts were also respectable, with sightings on 16 dates from the 10th, highs of 13 on the 12th, 12 on the 21st and 15 on the 22nd and a bird-days total of 109; the peak was fractionally up on a

2013-2020 mean of 12.4 (albeit well down on highs of 88 in 1959 and 70 in 1960) and the total was the fourth highest since 1989 (the August total between 1946 and 1989 averaged 353.2 bird-days, with highs of 683 in 1951, 765 in 1960 and 781 in 1971).

**The total number of Turnstone bird-days logged each month (2020 to 2018 in parenthesis), along with the maximum monthly daycount (2020 to 2018 in parenthesis) and the date on which the 2021 peak was recorded.**

| March | April | May | June | July | August | September | October | November |
|---|---|---|---|---|---|---|---|---|
| 25 | 1 | 41 | 9 | 14 | 109 | 107 | 151 | 85 |
| (0, 13, 4) | (0, 6, 6) | (12, 8, 24) | (0, 2, 0) | (1, 2, 0) | (111, 136, 38) | (227, 299, 258) | (146, 203, 69) | (50, 34, 14) |
| 4 | 1 | 19 | 3 | 6 | 15 | 18 | 14 | 11 |
| (0, 9, 1) | (0, 4, 2) | (6, 3, 7) | (0, 2, 0) | (1, 2, 0) | (21, 22, 5) | (22, 27, 18) | (19, 24, 14) | (14, 10, 8) |
| 1st & 27th | 28th | 19th | 9th | 20th | 22nd | 11th | 8th | 9th & 23rd |

Given the comparatively productive summer months, September proved disappointing, with birds noted on 20 dates, highs of 18 on the 11th, eight on the 13th and 11 on the 30th and 107 bird-days logged; although the peak daycount was up on a 2013-2020 mean of 15.4, the total was the lowest of the last seven years, down on a recent high of 299 in 2019 and well down on totals which peaked at 637 in 1950. A maximum daycount of 14 on the 8th matched the lowest October high of the last five years, however records on 19 dates during the month led to a bird-days total of 151, this the third highest tally since 1974 (there were 13 higher totals between 1954 and 1974, peaking at 442 in 1954, 389 in 1967 and 378 in 1968). Records on 17 dates, including highs of ten on the 2nd and 11 on the 9th and 23rd, took the November bird-days total to 85; although somewhat biased by a longer than average staff presence, the November total was the fourth highest to date, only down on the 164 of 1967, the 108 of 1968 and the 89 of 1970. There were three on 1st December and two on the 3rd, prior to the departure of staff on the 5th. An autumn total of 471 bird-days over 79 dates was up on a 2013-2020 mean of 369.4 over 62.5 dates, but was down on three of the years during that period (the 555 of 2017, the 676 of 2019 and the 536 of last year); the 2019 autumn total was the highest 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 over four and a half times the 2021 maximum, 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
1956-1970: 8 trapped

The first of the year was found at East Bay on 10th September, whilst three over with 12 Golden Plover on the 14th was the only other sighting; the peak daycount matched the ninth highest to date, whilst an annual bird-days total of four matched the 2013-2020 mean (there were highs during this period of ten in 2015 and 13 in 2018 and all-time highs of 85 in 1958, 18 in 1962 and 31 in 1978). This becomes the 42nd of 90 recording years with a record, with sightings in every month bar December but 169 of 299 all-time bird-days being logged 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 (27th April 2021) **Latest** 26th October 1971
1955-1970: 7 trapped

A reeve at North Pond between the mornings of the 27th and 29th was the second April sighting since

1995 and just the second individual to be logged in any month since 2017. Although Ruff have been noted in 33 previous springs, a male in April last year, 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 522 bird-days logged on Skokholm have occurred in autumn and that there have been 82 autumn bird-days this century (with highs of 40 in 2015 and 26 in 2016), it is disappointing that there have now been four consecutive autumns without a sighting.

**Dunlin** *Calidris alpina* **Pibydd y Mawn**
**Common Visitor** recorded in all months but only Fairly Common in some years
1937-1976: 185 trapped, 2014-2019: 18 trapped

There were no March Dunlin for the third time in ten years, whilst the first spring record, of one briefly at North Pond on 18th April, was the latest since three on 19th April in 2017. Sightings on 11 further April dates included highs of nine on the 25th, 11 on the 28th and 22 on the 29th and took the bird-days total to 67; the peak daycount was the second highest ever logged in April, with 44 on the 24th in 1960 the only higher tally, whilst the bird-days total was the sixth highest, down on peaks of 82 in 1953 and 1955, 115 in 1960, 111 in 1966 and 77 in 1978. Records on 21 May dates included highs of 16 on the 8th, ten on the 9th and 25 on the 19th, along with eight further daycounts of five or more which took the bird-days total to 129; there have been higher daycounts in eight previous Mays (including four of the last eight and with a peak of 41 in 1995) and higher bird-days totals in eight previous Mays (including four of the last six and with peaks of 193 in 1967, 167 in 2016 and 204 last year). Up to three were at North Pond on four June dates between the 2nd and 6th, with two there on the 20th and one there on the 27th taking the bird-days total to 11; there have been six higher June tallies, with peaks of 30 in 1963 and an unprecedented 133 in 2018.

North Pond held a substantial amount of water during the first two weeks of July, however this had diminished significantly by the 20th and it was empty by the 27th; despite the presence of water, only five July bird-days were noted over four dates to the 13th, whilst flyover singles were logged on the 20th and 23rd and one frequented an empty North Pond on the 30th. Although up on the two of last year, a July bird-days total of eight was the second lowest of the last nine years and well down on a 2013-2020 mean of 38.8 (during which period there were all-time highs of 134 in 2017 and 73 in

2019). No doubt due at least in part to the fact that North, South and Winter Ponds were empty throughout the month, the 15 bird-days logged over six August dates from the 20th were all flyovers (including a high of eight off the Lighthouse on the 20th); the bird-days total was down on a 2013-2020 August mean of 64.5 (this a period which included August records of 139 in 2015 and 192 in 2017), however there have only been higher August daycounts in 12 years (with a high of 50 in 1950). Up to two birds on 11 September dates were again all flyovers bar one in Crab Bay on the 2nd, singles at Orchid Bog on the 24th and 26th and two there on the 29th; North Pond remained empty until a tiny puddle developed on the 28th, this coinciding with a September bird-days total of 14 which was down on a 2013-2020 mean of 27.1 and all-time highs of 68 in 1958, 83 in 1981 and 69 in 2015. Despite an increase in the amount of standing water across the Island, the only October sightings were of two at Orchid Bog on the 3rd and one there the following day; although there have been October records in each of the last nine years, six of these have seen only two or three bird-days logged. Lone flyovers on the 10th and 22nd made this just the 20th November with a sighting.

**The total number of Dunlin bird-days logged each month, along with the maximum monthly daycount and the date(s) on which the 2021 peak was recorded. Counts from 2018 to 2020 are included for comparison.**

| | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov |
|---|---|---|---|---|---|---|---|---|---|
| **2021** | 0 | 67 | 129 | 11 | 8 | 15 | 14 | 3 | 2 |
| **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 |
| **2021** | 0 | 22 | 25 | 3 | 2 | 8 | 2 | 2 | 1 |
| **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 |
| | | 29th | 19th | 3rd | 10th | 20th | 3 dates | 3rd | 10th & 22nd |

**Purple Sandpiper** *Calidris maritima* **Pibydd Du**
**Uncommon Visitor** previously Fairly Common but occasionally Scarce in recent years
1967-1976: 8 trapped

One at the Devil's Teeth on the 1st and four in Crab Bay on the 27th were the first in March since four

bird-days were logged in 2019; although there were records in 25 of the Marches between 1947 and 1986 (with a daycount high of 32 in 1968 and a bird-days high of 101 in 1967), this becomes only the fourth March since 1986 with a sighting. There were no April birds for a 20th consecutive year, whilst one on the Big Tooth on 19th May was the first record in this month since 2010. There followed two at Howard's End on the 20th and one back at the Big Tooth on the 21st, these taking the 21st century May bird-days total to 13 (six of which were in 2000); unsurprisingly May records were more regular historically, with sightings in 39 years between 1949 and 1999, a daycount high of 19 in 1971 and bird-days peaks of 47 in 1971, 64 in 1972 and 44 in 1974. Two on the Crab Bay Rocks on 24th September were the first of the autumn, these followed by three there on the 26th and one there on the 29th; although September daycounts of up to 25 (in 1971) have led to bird-days totals of up to 168 (in 1973), this September saw the third highest daycount and fourth highest bird-days total this century. The only October record was of one with Turnstones in South Haven on the 5th, a single was at the same site on 2nd November and a flyover at North Pond on 27th November was the last of the year. A 2021 bird-days total of 18 was down on the 28 of last year but the fourth highest tally of the last nine years, up on a 2013-2020 mean of 13.1. 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 records suggests a genuine lack of birds, this a sad reflection of the situation nationally and their amber listing as a species of UK conservation concern.

**Woodcock** *Scolopax rusticola* **Cyffylog**
**Scarce Winter Visitor** not recorded every year, but over 200 corpses found in February 1963
**Earliest** 15th July 1962 (16th November 2021) **Latest** 23rd April 1956
1956-1963: 3 trapped, 2018: 1 trapped

As is so often the case, there were no spring birds this year; there have been records between 3rd March and 23rd April in only 22 previous years, including four of the last ten. One flushed from above North Haven on 16th November was the first of the autumn, this ten days later than the first of last autumn, 18 days later than the 2014-2020 first autumn bird mean and the latest arrival of the last eight years. Singles at East Bog on the 18th and 20th, at the Table on the 23rd and at the Well on the 28th took the November and autumn bird-days total to five, this equalling the fourth highest November bird-days tally to date (there were November highs of eight in 1991 and 2018 and ten in 1968). A winter presence would no doubt increase the number of records; there were 93 bird-days in January 1982, including 47 on the 15th which is the highest daycount of live birds.

**Snipe** *Gallinago gallinago* **Gïach Cyffredin**
**Common Winter Visitor and Passage Migrant** breeding suspected in 1927 and 1965
1936-1976: 55 trapped, 2018-2019: 14 trapped, 3 retrapped

Two Snipe were at North Pond when staff returned on 26th February, 24 were counted on the 27th (not including a relatively fresh leg in the Well Heligoland) and nine were logged on the 28th; although the peak was the seventh highest post-War February daycount, it was well down on a post-1945 high of 54 logged in 2019 and pre-1940 highs of 200 in 1929 and 160 in 1930. Counts on 19 March dates were, bar 15 on the 1st, nine on the 6th and 13 on the 30th, all of five or less and totalled 72 bird-days; there have been higher daycounts and bird-days totals in four of the last eight Marches, with all-time daycount highs of 100 in 1931 and 72 in 2019 and all-time March bird-days highs of 314 in 1971, 331 in 1973 and 313 in 2019. Snipe were logged on 20 April dates, with highs of six on the 16th and five on the 21st taking the bird-days total to 44; there have been higher daycounts in 16 Aprils, with highs of 20 in 1955, 1971 and 1995, and higher totals in 14 Aprils, with highs of 105 in 1955, 139 in 1973 and 95 in 1977. Singles on five May dates to the 7th made this the sixth May of the last ten with a sighting and took the 21st century May bird-days total to 31 (there have been 318 May bird-days since 1931). The last of 36 previous June bird-days occurred in 1999.

**The total number of Snipe bird-days logged each month (2020 to 2018 in parenthesis), along with the maximum monthly daycount (2020 to 2018 in parenthesis) and the date(s) on which the 2021 peak was recorded.**

| March | April | May | June | July | August | September | October | November |
|---|---|---|---|---|---|---|---|---|
| 72 | 44 | 5 | 0 | 2 | 5 | 33 | 79 | 124 |
| (76, 313, 170) | (19, 61, 32) | (0, 0, 3) | (0, 0, 0) | (0, 1, 10) | (19, 25, 35) | (85, 64, 83) | (131, 113, 174) | (89, 149, 184) |
| 15 | 6 | 1 | 0 | 1 | 1 | 4 | 9 | 10 |
| (22, 72, 33) | (5, 16, 5) | (0, 0, 1) | (0, 0, 0) | (0, 1, 2) | (5, 6, 18) | (14, 7, 15) | (10, 13, 23) | (15, 18, 21) |
| 1st | 16th | 5 dates | | 6th & 9th | 5 dates | 4 dates | 13th | 3rd & 13th |

One at Isthmian Heath on 6th July was 31 days earlier than the first of last autumn and, equal with one in 2018, the earliest July record since one on the 3rd in 1964. One at the same site on the 9th was the only other July sighting and took the 21st century July bird-days total to 28, ten of which were in 2018. Singles on five August dates from the 10th led to the lowest bird-days total in this month since 2011, a tally well down on a 2013-2020 mean of 22.8, a 21st century high of 42 in 2017 and all-time highs of 86 in 1947 and 1958 and 77 in 1982. September saw counts of up to four birds on 15 dates tally 33 bird-days; the maximum September daycount was the lowest since 2011, the number of days with a sighting was the lowest since 2016 and the bird-days total was the lowest since 2017, down on a 2013-2020 mean of 54.4 and all-time highs of 145 in 1972, 83 in 2018 and 85 last year. Counts again increased in October with 79 bird-days noted over 23 dates and highs of six on four dates and nine on the 13th; the peak daycount matched that of 2015 and 2017 as the third lowest of the last nine Octobers and the total was down on a 2013-2020 mean of 87.4 (this a period which included highs of 174 in 2018, 113 in 2019 and 131 last year) and all-time highs of 273 in 1973 and 259 in 1975. There were sightings on all but two November dates, with highs of eight on the 2nd and ten on the 3rd and 13th which took the bird-days total to 124; although differing staff departure dates mean that November tallies are not directly comparable, the total was the fourth highest to date, down on peaks of 126 in 1927, 184 in 2018 and 149 in 2019. There were December counts of four on the 2nd, 20 on the 3rd and two as staff departed on the 5th, the peak including a flyover wisp of 17 and matching the sixth highest December daycount (the four highest December daycounts of between 40 and 100 were all logged between 1927 and 1930).

**Jack Snipe** *Lymnocryptes minimus* **Gïach Bach**
**Scarce Winter Visitor** although not recorded every year
**Earliest** 18th August 1938 (12th October 2021) **Latest** 22nd May 1995 (20th March 2021)
1964-1976: 8 trapped

One flushed from the Well on the 20th was the first March sighting since 2018 and only the sixth to be logged in this month since 1992 (all of which have occurred since 2013); this becomes the 37th spring with a sighting. One at Orchid Bog on 12th October was 16 days later than the first of last autumn and two days later than the 2013-2020 first of autumn mean. One in the Well Reedbed on 15th October was the only other record this year. A 2021 total of two autumn bird-days was the lowest since 2018 and was fractionally down on a 2013-2020 mean of 2.9; although Lockley described Jack Snipe as 'common from 7th October to 24th March', the all-time autumn bird-days highs recorded in the census logs are nine in 1957 and 1968 and 11 in 2013.

**Common Sandpiper** *Actitis hypoleucos* **Pibydd y Dorlan**
**Uncommon** more regular in autumn
**Earliest** 21st March 1948 (14th April 2021) **Latest** 29th October 1975 (19th September 2021)
1938-1976: 22 trapped, 2018: 1 trapped

One which flew into North Haven on 14th April was the first of the year and the first spring sighting since 2019. One on the bank at Wallsend the following day was the only other April sighting and one in Hump Bay on 15th May was the only other spring sighting; this has never proven a common species in the first half of the year, indeed the three bird-days logged this spring, although down on a 1946-2020 spring bird-days mean of 9.6, was close to a 21st century mean of 4.3 (the 21st century high is 17 in 2016 and the all-time highs are 27 in 1950 and 1953). The first two returning birds arrived on 4th July, this three days earlier than the first of last autumn. Further singles on the 9th, 17th and 25th, along with two on the 13th, took the July bird-days total to seven, this matching that of 2020. Sightings on five August dates were all of singles bar three on the 9th and four on the 23rd, a bird-days total of ten being the seventh highest August tally since 1988. Following sightings of two on both the 2nd and 3rd, there were singles noted on seven September dates to the 19th, the latter the latest autumn record since one on the 26th in 2014 (indeed there have only been 56 later bird-days); a September bird-days total of 11 matched that of 1948 as the third highest to date (only down on tallies of 13 in 1958 and 20 in 2002). An autumn total of 28 bird-days was 12 up on last year and up on a 1946-2020 autumn mean of 20.3, albeit down on recent highs of 58 in 2013 and 36 in 2014 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 (14th August 2021) **Latest** 21st October 1967 (11th October 2021)

There was no spring sighting for a second consecutive year; although spring birds have only been encountered in 15 previous years, this has included five of the last 11. One which arrived from the north on 14th August, turned at Migration Rocks and settled on Orchid Bog; August records in 33 previous years have accounted for 112 bird-days, 28 of which have occurred since 2013 and 30 of which were in 1997 (the latter the only month in any year with a double-figure tally). There was no September sighting for the sixth year this decade; September records in 18 previous years peaked at three bird-days in 1958 and 2015. The only other sighting this year was of a vocal single on 11th October which headed west over Winter Pond before veering high and south to sea; there have only been three previous October sightings, with singles on the 1st in 1946 and 1950 and on the 21st in 1967. A total of two autumn bird-days was one down on last year and was down on a 2013-2020 mean of 5.8 (this period included highs of 13 in 2015 and ten in 2017, tallies only down on a remarkable 31 logged in 1997 (when daycounts of up to five were linked to flooding)).

**Redshank** *Tringa totanus* **Pibydd Coesgoch**
**Uncommon** most regular in July and August
1 control
1957-1974: 4 trapped, 2018-2020: 4 controls

At least two were present between North Pond and North Gully on 10th March, whilst a colour ringed bird at North Pond on the 13th (see below) was perhaps that noted at the same site the following day (although its legs were not seen); there have been Redshank records in 23 previous Marches, including seven of the last nine, and with bird-day highs of 35 in 2018 and 30 in 2019 (the 2021 March total becomes the third highest to date). Singles were at North Pond on the 13th, 19th and 20th April, the latter bird definitely being unringed; there have been April sightings in 38 previous years, again including seven of the last nine, with bird-day highs of 12 in 1956, ten in 1962 and nine in 2018. The only May record was of a vocal bird logged at 2330hrs on the 28th; records in 35 previous Mays total 101 bird-days, with highs of 14 in 2000 and 12 in 2014. An unringed, summer-plumaged bird was at North Pond on the 10th, one was calling in a thick fret on the 14th and an unringed bird on the 22nd took the June bird-days total to three, this taking the all-time June total to 70 (25 of which have occurred since 2014). The only July records were of one calling in the early hours of the 18th, a flyover on the 20th and two heading north over the Courtyard on the 30th; a July bird-days total of four was down on a 2013-2020 mean of 8.4, although this period included totals of 22 in 2015 and 13 in 2017 which are the highest to date.

No doubt due in part to a lack of standing water, singles on eight August dates were either coastal or flyovers, the bird-days total matching that of 2018 and 2020 as the lowest of the last ten years (this a period which included an all-time August high of 34 in 2017). Two were at the Bluffs on 1st September, with singles on four further dates to the 12th taking the monthly tally to six; although noted in each of the last ten Septembers, this is typically a quiet month for sightings, indeed the bird-days record logged in 1973 is just 17. There were no October birds for the first time in six years (there have only been sightings in 18 Octobers to date), with one at North Pond on 12th November being the only other sighting this year; Redshank have been recorded in nine previous Novembers, including five of the last seven (and in the Decembers of 1927, 2019 and 2020).

**Ringing recovery** Left tibia: Orange, Right tibia: White 26 on Black, Right tarsus: DT23625
**Originally ringed** as a first-winter, THE GANN, DALE, PEMBROKESHIRE 17th February 2018

**Previously retrapped** as a first-winter, THE GANN, DALE, PEMBROKESHIRE 21st February 2018
**Previously resighted** as a first-winter, NORTH POND, SKOKHOLM 29th March 2018
**Previously resighted** as a first-winter, NORTH POND, SKOKHOLM 4th and 5th April 2018
**Previously resighted** as an adult, NORTH POND, SKOKHOLM 4th November 2018
**Previously resighted** as an adult, THE GANN, DALE, PEMBROKESHIRE 9th January 2019
**Previously resighted** as an adult, NORTH POND, SKOKHOLM 1st, 5th, 7th, 11th and 19th March 2019
**Resighted** as an adult, NORTH POND, SKOKHOLM 13th March 2021
**Finding condition** Colour rings read in field
**Distance travelled** 9km at 78 degrees (ENE)
**Days since ringed** 1121
This is one of two Gann ringed Redshank to have been identified on Skokholm, both of which have returned to the Island in more than one winter (the orange ring from the tibia of a third bird has also been found). The other returning bird, DT23633 (number 58), joined this individual at North Pond on 5th March 2019 and returned on 22nd November 2020.

**Greenshank** *Tringa nebularia* **Pibydd Coeswerdd**
**Uncommon** but sometimes Scarce and not recorded every year
**Earliest** 30th March 2019 (1st May 2021) **Latest** 9th November 1958 (20th September 2021)

The only spring sighting was of a vocal eastbound flyover on 1st May, this becoming the 20th May with a record (but just the fourth of the 21st century); there were no spring birds last year, this 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 at 0340hrs on 23rd August was followed by a single on the 28th which briefly settled at Orchid Bog, a bird-days total of two matching that of last August; there have been more bird-days logged in August than in any other month, with a total of 277 including 21 this decade and highs of 18 in 1964 and 1983. A flyover on 20th September was the only other sighting this year, this taking the all-time bird-days total for this month to 103, 11 of which have occurred this decade. There have been 20 bird-days later than the last of this year, with ten in September, nine in October (including one last year) and one in November.

**Kittiwake** *Rissa tridactyla* **Gwylan Goesddu**
**Very Abundant** a single pair attempted to breed in 1959
2018-2020: 5 controls

Although present offshore in all months, Kittiwake were again logged in smaller numbers than might be expected given the presence of 1439 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, a post-breeding dip in numbers and a substantial autumn arrival. Daycount maxima between April and July 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, dropping by 32% between 2000 and 2015 and by over 14% between 2020 and 2021. There were again several summer records of Kittiwakes feeding amongst fishing Razorbills, the diving auks seemingly pushing fish up to where they could be reached by the gulls; this perhaps offers some hope for a declining gull reliant on other predators making food available (increasing auk numbers perhaps surrogates for apparently declining populations of larger predatory fish). Seawatching effort increases in August and September as autumn passage attracts regular and prolonged observations, the usual dip in numbers logged at this time thus no doubt reflecting a genuine absence (which coincides with the period of post-breeding moult). Unusually this drop in numbers was not observed last year, an August daycount of 1170 on the 28th and a monthly bird-days total of 4989 both being the highest to date. Similar high August counts were also logged in 2018, with both years seeing large numbers loafing on coastal rocks and roosting on the sea in the

lee of the Island; in both years colour rings confirmed that at least some of the birds present were from French breeding colonies. Post-breeding counts were typically low this year, indeed they were poorer than of late, with an August bird-days total of 368 being the lowest of the last nine years and a September total of 461 being the third-lowest to be logged during the same period.

With the exception of a first-summer bird at the Dents on 14th May, one on the rocks at Wildgoose Point on 5th September and a juvenile sat above the Quarry on 13th November, Kittiwake were seen ashore on eight dates between 18th June and 17th July, with one at North Pond on 23rd June and highs of 30 unringed birds at Crab Bay Rocks on 20th June, 20 on the back of the Stack on 30th June and 28 between Crab Bay and Frank's Point on 16th July. A 2021 total of 111 loafing birds was the fifth highest tally this decade, down on a 2013-2020 mean of 402.3 noted over 7.6 days and peaks of 288 over 11 dates in 2017, 1235 over 13 dates in 2018 and 1388 over 20 dates in 2020.

**The total number of Kittiwake bird-days logged each month, along with the maximum monthly daycount and the date(s) on which the 2021 peak was recorded. Counts from 2020 to 2016 are included for comparison.**

| | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov |
|---|---|---|---|---|---|---|---|---|---|
| **2021** | 298 | 172 | 866 | 939 | 1217 | 368 | 461 | 2548 | 2650 |
| **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 |
| **2021** | 81 | 63 | 91 | 254 | 244 | 51 | 258 | 531 | 437 |
| **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 |
| | 11th | 13th | 4th | 21st | 12th | 4th & 5th | 29th | 25th | 30th |

October proved to be quiet, with daycounts of no more than 59 to the 21st and highs thereafter of 317 on the 23rd, 531 on the 25th and 395 on the 30th, the majority again being recorded in Broad Sound but with no birds seen there at all on the 28th and 29th; both the peak October daycount and a bird-days total of 2548 were the lowest since 2018, the former down on a 2013-2020 mean of 989.6 and a recent high of 3032 in 2019, the latter down on a 2013-2020 mean of 3565.9 and a recent high of 10,414 in 2019. A sporadic Broad Sound presence continued into November with fewer than 50 noted on 13 dates, but highs of 211 on the 17th, 245 on the 19th and 437 on the 30th which took the bird-days total to 2650; the peak daycount was the lowest since 2014, down on a 2013-2020 mean of 1240.3 and recent highs of 2820 in 2015, 2548 in 2016 and 1154 last year (a Skokholm daycount record of 8000 was logged in November 1968). The number of birds in Broad Sound increased during the first four days of December, with 1037 on the 1st, 806 on the 2nd, 1175 on the 3rd and 651 on the 4th. Kittiwake were again often absent on days when other small gulls remained, for example only 41 joined 746 Black-headed Gull and 211 Mediterranean Gull in Broad Sound on 21st November.

**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. There was no March sighting for the first time in four years; there have been 659 previous March

bird-days logged over 32 years, with 44 in 1968 and 455 in 2013 being the highest tallies. An adult over North Pond on the 1st and one over the Farm on the 14th were the only April records; sightings in 54 previous Aprils total 542 bird-days, with the 2013-2020 mean being 3.3 but the 1966-1976 mean being 31.3 (the latter period including a record high of 65 in 1971). May was similarly quiet, with an adult south over the Farm on the 13th and a first-summer at North Pond on the 30th; of the 387 previous May bird-days, 36 have been logged this century, with a 2013-2020 bird-days mean of 2.5 and all-time highs of 23 in 1967, 30 in 1970 and 22 in 1971. June saw two adults north over North Plain on the 6th, adults at North Pond on the 21st and 24th and three west on the 27th; annual June sightings between 2013 and 2020 averaged 6.5 bird-days (there were seven this year), the all-time highs being 26 in 1966 and 28 in 1969. Following a flyover adult on the 4th, there were singles on five further July dates from the 13th (including a juvenile sat on the edge of the Crab Bay Puffin colony on the former date) and six on the 21st; the first juvenile of the year was six days earlier than the first of last year but ten days later than the 2013-2020 first definite juvenile mean (the earliest during this period arrived on 22nd June in 2018). A total of 12 bird-days was the seventh highest July tally this century, but was down on a 2013-2020 mean of 22.4 and an all-time high of 102 logged in 2018.

The August records were of two west on the 3rd, singles over the Island on the 21st and 22nd, 25 in Broad Sound on the 25th and two off the Lighthouse on the 29th; the peak matched the eighth highest August daycount to date (four of the higher counts were made in 2019 and 2020, including an all-time high of 97 in 2019), however a bird-days total of 31 was down on 11 previous years (including all-time August highs of 224 in 2019 and 124 in 2020). Birds were noted on ten dates in September, with highs of 25 on the 13th and 17 on the 15th taking the total to 72; the peak daycount was down on a 2013-2020 September mean of 57.6 and the bird-days total down on a 2013-2020 mean of 103.8, although this was a period which saw daycounts of 128 in 2013 and 199 in 2015 contribute to all-time September highs of 269 in 2013 and 270 in 2015. It proved by far the poorest October of the last ten years, with birds noted on 18 dates, but highs of just 28 on the 6th, 40 on the 7th and 22 on the 11th taking the bird-days total to 181; the mean 2013-2020 October maximum is 773.5 (with a high of 1735 in 2017), whilst the bird-days mean for the same period is 3883.8 (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 2021 daycounts of 746 on the 21st, 927 on the 22nd and 767 on the 29th were well up on a 2020 high of 257, the peak almost matching a 2013-2020 mean maximum of 1015.8 (this period including highs of 1178 in 2014, a November record 2400 in 2017 and 1466 in 2018). Daily December counts to the 4th included 1375 on the 1st and 1003 on the 3rd, these the highest daycounts of the year and the highest daycounts in any year since 2018.

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

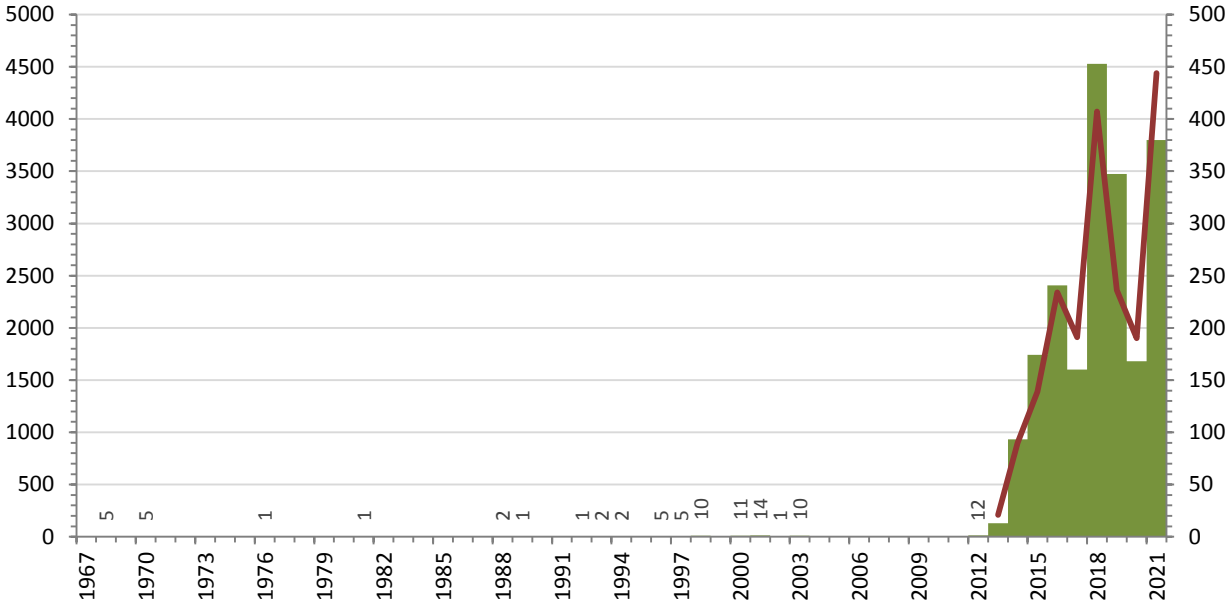
An adult in Broad Sound on 22nd November was perhaps the bird seen from the Bluffs seven days later. A bird-days total of two almost matched a 2013-2020 mean of 2.8, this a period which saw a high of seven in 2020 but no sightings at all in 2013 and 2014. The 2020 total was only down on the 12 of 1967, 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 58 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 the end of 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, 3473 in 2019 and 1680 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 in 2019), and there has not yet been an April or May sighting. Two along the South Coast on 31st July were the first of this year, these 36 days later than the first of last year and making this only the fifth year with a July sighting. The only August records were of a moulting adult on the 3rd, a winter-plumaged adult on the 6th and a first-winter on the 29th; August sightings in nine previous years, including seven of the last eight, have tallied 36 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 2013.**




Perhaps surprisingly, there were no September records for the first time since 2011, this mirroring lower than average counts of both Kittiwake and Black-headed Gull. Likewise October counts were also down on recent years, with sightings on 20 dates from the 4th but highs of 21 on the 6th, 23 on the 17th and 20 on the 22nd taking the bird-days total to just 165; the peak October daycount was down on a 2013-2020 mean of 122.4 (there were highs of 191 in 2017 and 227, 202 and 243 in 2018)

and the bird-days total was down on a 2013-2020 mean of 897.4 (this a period which included highs of 1171 in 2016, 1186 in 2017 and 1961 in 2018). Numbers increased in November, with birds logged on all but four dates, daycounts of ten or less on two dates, eight counts of between 11 and 50 and 11 three-figure daycounts from the 11th which included highs of 190 on the 20th, 211 on the 21st and 213 on the 28th; although differing staff departure dates mean that November counts are not directly comparable, the peak daycount was down on that noted in three previous years, whilst a bird-days total of 2394 was only down on the 2547 of 2018 (when staff departed on the 26th). Counts on the first four days of December included 444 on the 1st, this the highest ever Skokholm daycount, 328 on the 2nd which is the fifth highest and 355 on the 3rd which is the fourth highest; the highest previous daycounts are of 234 on 14th November 2016, 236 on 28th November 2019, 243 on 28th October 2018, 361 on 3rd November 2018 and 407 on 4th November 2018. Given the substantial number of Mediterranean Gulls being recorded in Skokholm waters, it is surprising how few are first-winters, indeed there were no first-winters logged during the record 1st December count and only four were present the following day. The peak 2021 counts of first-winter birds were of five on four dates between the 8th and 21st November and of six on 19th November; there were highs of 12 in 2016, ten in 2017, 33 in 2018, 11 in 2019 and ten in 2020. 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 over 10% now having been present on two occasions.

**Common Gull** *Larus canus* **Gwylan y Gweunydd**
**Uncommon** offshore during the late autumn, but with only 34 bird-days between April and July
1956: 12 trapped

First-winter birds heading west off the Bluffs on the 24th and east off the Lighthouse on the 30th were the first March sightings since 2019, taking the all-time March bird-days total to 44. 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. There were no further sightings until a first-winter was found off the Lighthouse on 6th October, this matching the first of 2018 as the latest autumn arrival since 2017, 12 days later than the 2013-2020 first autumn bird mean; there have been 31 previous August bird-days, including just five this century, and 93 previous September bird-days, including 49 this century and a high of 33 in 2013.

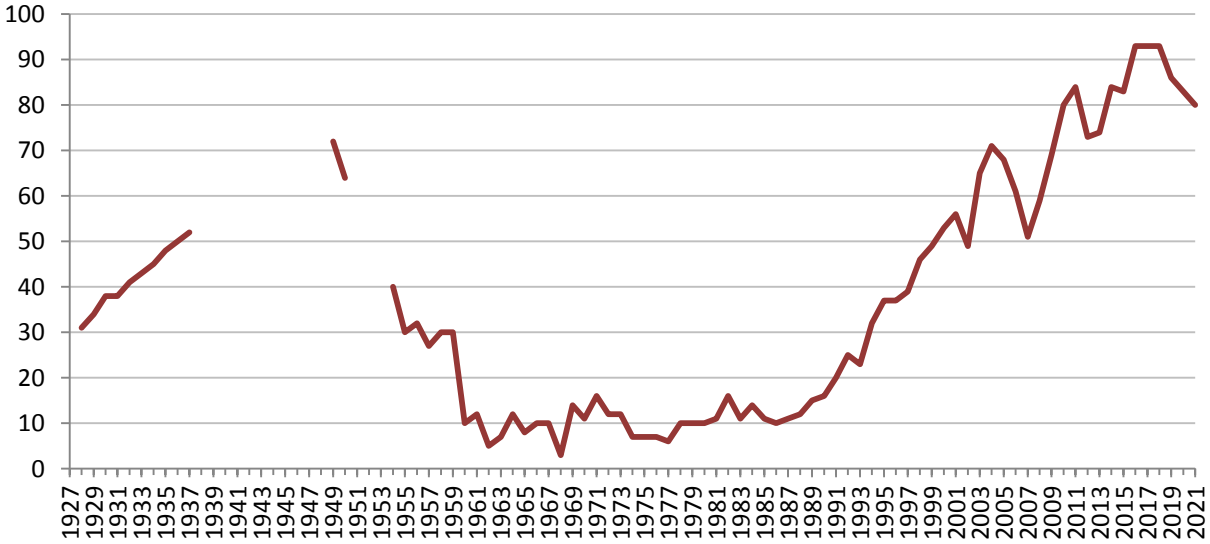
As was noted for the other species of small gull, October counts were low, indeed the only other sightings were of first-winters on the 7th and 8th, six on the 22nd and a second-winter on the 25th; the peak October daycount was the lowest since 2015 and was down on a 2013-2020 mean of 16.3 (an

all-time high of 60 was recorded in 1992), whilst a bird-days total of ten was the lowest of the last nine Octobers, down on a 2013-2020 mean of 55.5, a high during that period of 93 in 2018 and all-time highs of 121 in 1966, 130 in 1991 and 182 in 1992. Numbers increased in November, with sightings on all but five dates from the 5th and highs of 30 on the 21st, 26 on the 28th and 14 on the 30th which took the bird-days total to 162; the peak daycount was up on a 2013-2020 mean of 21.6 and the total was the sixth highest to date, up on a 2013-2020 mean of 95.1 (there were highs during this period of 247 in 2018, when staff departed on the 26th, and 169 in 2019, when staff were present throughout the month, totals well down on those of a record 1968 when daycounts of up to 150 took the November total to 823). Sightings on the first four days of December included highs of ten on the 1st and 35 on the 2nd, the latter count comprising 29 adults, two second-winters and four first-winters; there were five higher counts of second-winters during the autumn, with highs of five on 18th November and seven on 3rd December, and two higher counts of first-winters, with five logged on both the 16th and 21st November.

**Great Black-backed Gull** *Larus marinus* **Gwylan Gefnddu Fwyaf**
**Fairly Common Breeder and Common Visitor**
38 trapped (including 37 pulli), 48 resighted
1936-1976: 231 trapped, 2012-2020: 471 trapped, 15 retrapped, 218 resighted, 6 controls

Many birds were again absent during March, with daycounts peaking at 74 on the 11th and 75 on the 24th; the peak was the lowest March high since the 68 of 2014 (between 2015 and 2019 March daycounts reached between 117 and 132, although they only peaked at 88 last year). The majority of the birds present were on territory, with maximum roost counts of only 15 on the 1st and 22 on the 11th; the peak March roost between 2013 and 2020 averaged 37.4 birds, with highs of 48 in 2016 and 2017, but a low of 20 last year. Numbers again increased in April, however a maximum daycount of 118 on the 24th was the lowest April high of the last decade. Communal roosts only formed occasionally and were all small, with highs from the Bog of 14 on the 23rd and 26th and 16 on the 25th; the peak April roost between 2013 and 2020 averaged 72.8 birds, with a high of 213 on the 3rd in 2013 and a low of 38 in 2019.

**The number of Great Black-backed Gull breeding pairs 1928-2021 (where data exists). Control of numbers started in 1949 (destruction of both nests and adults) and stopped in 1985.**




A whole Island census between 25th April and 16th May located 80 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 2010, the ninth highest on record, it was down on the 83 mapped last year and highs of 93 mapped in 2016, 2017

and 2018. Indeed this proved the third year in succession in which the total number of breeding pairs has fallen below the lower limit stipulated in the Skokholm Management Plan. A 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 birds available to recruit to the breeding population.

A colour ringing project, begun seven 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 43 adults wearing rings in 2018, only 34 (79.1%) returned in 2019, the breeding population dropping by seven pairs during the same period, whilst 37 of 43 birds (86.1%) returned in 2020, the nest count dropping by three that year. This year saw 28 of 36 birds return (77.8%), whilst the breeding population declined by a further three pairs; this suggests that approximately 37 established adults did not return to breed in 2021 and that 31 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 (thus making survival appear lower than it is in reality), however if we exclude the data collected in the year after ringing (when any disturbance should take effect), the return rates remain at a similar 89.5% in 2016, 100% in 2017, 90.6% in 2018, 74.2% in 2019, 81.8% in 2020 and 77.8% in 2021; it thus seems likely that disturbance is not responsible for the recent decline in return rates.

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 in 2020 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, lost its colour ring between the 5th and 6th June last year; 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 is 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 last year saw the appearance of W:235 on North Plain in August, a bird which had not been found since the end of the 2018 breeding season; this bird was not seen this year. Additionally W:239, also ringed in 2018 and which occupied its 2018 territory in 2019, was not seen until 1st December last year, perhaps suggesting that it had been present but had departed early; this year it bred close to where it was ringed.

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. There were no injuries recorded this year, however dead adults were found above Peter's Bay on 9th March and at Wardens' Rest on 4th June (the latter, ringed as a chick in 2013, was accompanied by three small dead chicks and an alarming partner). Last year saw an adult with a broken and almost severed wing, two adults found dead, a lethargic adult with a bleeding puncture wound in its flank and a juvenile with a broken leg (additionally a juvenile had a damaged wing during 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 2019 (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 last year), 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 21 behind 'Boy's Pride' on 13th August (down on a high of 32 logged last year when a crew member was deliberately feeding fish remains to gulls), six behind 'Our Hazel' on 13th August (down on a high of 26 last year) and six behind White Water II on 4th June (the latter were fishing with rod and line, the former two are potting vessels). 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 above Blacksmith's Landing on the latter date located a nest with three eggs, although no other pairs were seemingly sitting at this time. The first eggs encountered last year, also a full complement of three, were also found on the 16th, this the date of the mean 2013-2020 first egg (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 2021 were present at the same site as the first eggs on 15th May; the first of last year were found on the 17th, the first of 2019 on the 16th and the first of 2018 on the 20th. Of 43 monitored nests, 12 pairs failed, seven pairs fledged a singleton, 14 pairs fledged two and ten pairs fledged three. There were thus 65 young fledged, resulting in a productivity figure of 1.51 fledglings per monitored pair; productivity was 7.9% up on that of 2020, 38.5% up on the 1989-2004 mean of 1.09 and 4.9% up on the 2013-2020 mean (1.44 ±se 0.09). One of the North Plain youngsters was adopted and fed to fledging by a neighbouring pair, seemingly to the detriment of the adopting pair's breeding success; the adoption coincided with the death of one of the adopting pair's three small chicks, the adopted youngster being larger and able to outcompete the remaining two, this probably contributing to the demise of a second chick when three-quarter sized and perhaps to the death of the remaining youngster soon after it fledged (see Brown and Eagle (2019) for photographs of a Lesser Black-backed Gull chick being fed by an adult Great Black-backed Gull, this perhaps also the result of a chick stage adoption following the death of a youngster).

**Productivity estimates 2002-2021 (average number of fledglings per monitored pair).**

| 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 |
|---|---|---|---|---|---|---|---|---|---|
| 1.09 | 0.91 | - | 0.76 | 1.07 | 1.02 | 1.02 | - | 0.71 | 0.89 |
| **2012** | **2013** | **2014** | **2015** | **2016** | **2017** | **2018** | **2019** | **2020** | **2021** |
| - | 1.80 | 0.93 | 1.66 | 1.38 | 1.54 | 1.40 | 1.43 | 1.40 | 1.51 |

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 an eighth 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 3099 corpses, comprising 2132 adults and 967 youngsters, were marked this year. The number of adults marked was down on a record 3008 logged last year and 11.5% down on a 2014-2020 mean of 2408.1 ±sd 500.3, whilst the number of youngsters marked was the lowest to date, 18.3% down on a 2014-2020 mean of 1183.1 ±sd 181.7 (a high of 1398 was recorded in 2016 and a low of 970 last year). The total number of marked corpses was the second lowest to date, only up on the 2661 of 2019 and 13.7% down on a 2014-2020 mean of 3591.3 ±sd 550.0. 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). Ad hoc observations suggested a large reduction in the number of shearwaters being dug out from their burrows this year (as opposed to being taken from the entrance), although one of 160 study chicks was seemingly accessed via an excavated hole; 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. 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 percentage of Great Black-backed Gulls colour ringed as fledglings to be encountered in each subsequent year.**

| Ringed in | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | Mean |
|---|---|---|---|---|---|---|---|---|
| **% not seen again** | 27.91 | 48.08 | 56.25 | 63.89 | 42.11 | 25.00 | 56.41 | **45.66** |
| **% seen again** | 72.09 | 51.92 | 43.75 | 36.11 | 57.89 | 75.00 | 43.59 | **54.34** |
| **% seen 1+ year** | 46.51 | 34.62 | 28.13 | 27.78 | 34.21 | 31.82 | 17.95 | **31.57** |
| **% seen 2+ years** | 34.88 | 28.85 | 15.63 | 25.00 | 31.58 | 13.64 | | **24.93** |
| **% seen 3+ years** | 30.23 | 25.00 | 15.63 | 22.22 | 15.79 | | | **21.77** |
| **% seen 4+ years** | 27.91 | 23.08 | 12.50 | 11.11 | | | | **18.65** |
| **% seen 5+ years** | 16.28 | 15.38 | 6.25 | | | | | **12.64** |
| **% seen 6+ years** | 13.95 | 9.62 | | | | | | **11.78** |
| **% seen 7+ years** | 6.98 | | | | | | | **6.98** |
| **% found dead** | 9.30 | 1.92 | 9.38 | 2.78 | 2.63 | 6.82 | 2.56 | **5.06** |

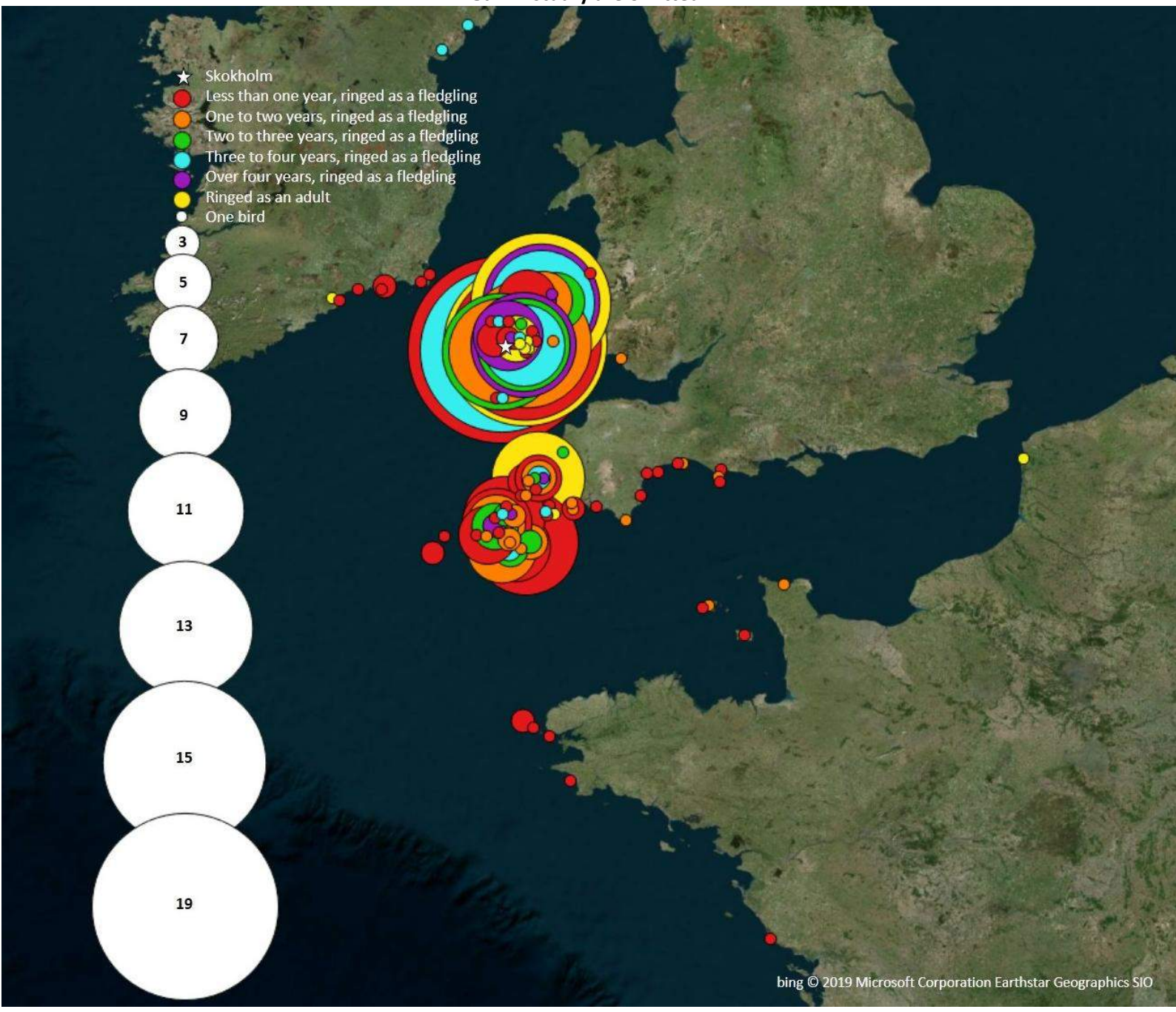
The colour ringing project initiated in 2014 is also providing information on juvenile survival and recruitment. Of 43 fledglings ringed in 2014, 31 (72.09%) have been resighted subsequently, including four which have been found dead. At least 20 birds (46.51%) definitely survived their first full year, 15 (34.88%) survived two years, 13 (30.23%) survived three years, 12 (27.91%) survived four years, seven (16.28%) survived five years, six (13.95%) survived six years and three (6.98%) have survived at least seven years (one of which was seen on Skokholm (but did not breed here) and two of which were on Skomer (one definitely breeding)). The birds ringed as fledglings in 2015 have provided similar results (see table above). 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 approximately 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 establish territories on Skokholm or Skomer (where they should be

seen) as opposed to other less studied breeding sites. Of 40 youngsters which have so far returned to Skokholm at some point, 11 were first back as first-summers, seven as second-summers, 13 as third-summers, seven 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 6.34% of all youngsters ringed between 2014 and 2018 having first returned to the Island at this age.

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 gravitate back towards Pembrokeshire as they get closer to breeding age (see both the table and map below). In addition to those sightings listed below, there were 14 birds ringed as breeding adults and found 7.5km away on the Gann Estuary (birds captured on their Skokholm nests between 2014 and 2019). The ages given in the following table are known for birds ringed as near-fledglings, whereas 'adult' denotes a bird ringed at a minimum of four years which is thus of unknown age. All of these records were received since a similar table was published in the 2020 Seabird Report.

| Darvic | Ring | Location | County | Age | Date |
|---|---|---|---|---|---|
| W:004 | MA37971 | Camel Estuary | Cornwall | Second-summer | 05/08/21 |
| W:004 | MA37971 | Hayle Estuary | Cornwall | Third-winter | 15/12/21 |
| W:007 | MA37974 | Nevern Estuary | Pembrokeshire | Second-winter | 22/02/21, 06/03/21 |
| W:025 | HT94870 | Nevern Estuary | Pembrokeshire | Adult | 01/04/21 |
| W:039 | HT94878 | Skomer Island | Pembrokeshire | Seventh-summer | 07/03/21 |
| W:055 | HT94917 | Nevern Estuary | Pembrokeshire | Seventh-summer | 11/03/21, 27/04/21 |
| W:064 | HT94925 | Skomer Island | Pembrokeshire | Seventh-summer | 14/07/21 (breeding) |
| W:064 | HT94925 | Gann Estuary | Pembrokeshire | Eighth-winter | 15/12/21 |
| W:067 | HT94927 | Gann Estuary | Pembrokeshire | Eighth-winter | 17/11/21 |
| W:077 | HT94934 | Skokholm | Pembrokeshire | Eighth-winter | 21/04/21, 10/09/21 |
| W:083 | HT94940 | Gann Estuary | Pembrokeshire | Seventh-winter | 20/11/21 |
| W:114 | HT94943 | Skomer Island | Pembrokeshire | Sixth-summer | 03/04/21, 18/07/21 |
| W:116 | HT94976 | Nevern Estuary | Pembrokeshire | Sixth-summer | 31/03/21 |
| W:119 | HT94979 | Skokholm | Pembrokeshire | Sixth-summer | 20/04/21, 26/06/21 |
| W:121 | HT94981 | Skokholm | Pembrokeshire | Sixth-summer | 22/03/21, 24/07/21 |
| W:121 | HT94981 | Gann Estuary | Pembrokeshire | Sixth-summer | 26/03/21 |
| W:124 | HT94955 | Gann Estuary | Pembrokeshire | Sixth-summer | 27/03/21 |
| W:124 | HT94955 | Skokholm | Pembrokeshire | Seventh-winter | 19/04/21, 17/09/21 |
| W:139 | HT94994 | Cunnigar, Waterford | IRELAND | Adult | 18/09/21 |
| W:145 | HT95000 | Angle to Milford Haven | Pembrokeshire | Adult | 26/02/21 |
| W:154 | MA37811 | Skokholm | Pembrokeshire | Fifth-summer | 07/06/21 |
| W:168 | MA37826 | Skokholm | Pembrokeshire | Fifth-summer | 20/04/21 |
| W:179 | MA37838 | Skokholm | Pembrokeshire | Fifth-summer | 20/06/21, 23/06/21 |
| W:192 | MA37859 | Skokholm | Pembrokeshire | Fourth-summer | 16/06/21 |
| W:195 | MA37862 | Skokholm | Pembrokeshire | Fourth-summer | 19/03/21, 12/05/21 |
| W:196 | MA37863 | Carlingford Lough | County Down | Fourth-winter | 05/01/21 |
| W:196 | MA37863 | Dundrum Inner Bay | County Down | Fourth-summer | 19/04/21 |
| W:219 | MA37884 | Skokholm | Pembrokeshire | Fourth-summer | 07/05/21, 20/07/21 |
| W:221 | MA37886 | Nevern Estuary | Pembrokeshire | Fourth-summer | 01/04/21 |
| W:222 | MA37887 | Gann Estuary | Pembrokeshire | Fifth-winter | 30/11/21 |
| W:226 | MA37891 | Gann Estuary | Pembrokeshire | Fourth-winter | 17/01/21 |
| W:242 | MA37911 | Gann Estuary | Pembrokeshire | Fourth-winter | 17/11/21 |
| W:247 | MA37916 | Gann Estuary | Pembrokeshire | Fourth-winter | 27/03/21, 30/11/21 |

**The movements of Skokholm ringed Great Black-backed Gulls 2014-2021. The different colours represent the different ages at which the birds were resighted. 27 birds ringed as fledglings and resighted on Skokholm over four years later and 34 birds ringed as adults and resighted on the Gann Estuary are omitted.**




| Darvic | Ring | Location | County | Age | Date |
|---|---|---|---|---|---|
| W:254 | MA37919 | Gann Estuary | Pembrokeshire | Fourth-winter | 30/11/21 |
| W:258 | MA37903 | Skokholm | Pembrokeshire | Fourth-winter | 13/09/21 |
| W:261 | MA37906 | Skokholm | Pembrokeshire | Third-summer | 27/03/21 |
| W:267 | MA37924 | Gann Estuary | Pembrokeshire | Fourth-winter | 09/03/21, 14/12/21 |
| W:269 | MA37926 | Skokholm | Pembrokeshire | Fourth-winter | 19/08/21 |
| W:296 | MA37964 | Skokholm | Pembrokeshire | Second-summer | 20/04/21 |
| W:317 | MA37991 | Gann Estuary | Pembrokeshire | Third-winter | 20/11/21 |
| W:318 | MA37992 | Gann Estuary | Pembrokeshire | Second-winter | 10/02/21 |

| | | | | | |
|---|---|---|---|---|---|
| **W:320** | MA37994 | Skokholm | Pembrokeshire | Third-winter | 27/11/21 |
| **W:320** | MA37994 | Gann Estuary | Pembrokeshire | Third-winter | 01/12/21 |
| **W:321** | MA37995 | Gann Estuary | Pembrokeshire | Third-winter | 30/01/21, 26/11/21 |
| **W:322** | MA37996 | Skokholm | Pembrokeshire | Third-winter | 08/09/21 |
| **W:325** | MA37999 | Gann Estuary | Pembrokeshire | Third-winter | 30/11/21 |
| **W:327** | MA46908 | Skokholm | Pembrokeshire | Second-winter | 22/08/21, 17/09/21 |
| **W:332** | MA46913 | Skokholm | Pembrokeshire | First-summer | 04/08/21 |
| **W:332** | MA46913 | Gann Estuary | Pembrokeshire | Second-winter | 03/12/21 |
| **W:333** | MA46914 | Halzephron Cliffs | Cornwall | Second-winter | 17/11/21 |
| **W:345** | MA46926 | Perelle Beach, Guernsey | CHANNEL ISLANDS | First-summer | 23/03/21, 25/03/21 |
| **W:347** | MA46928 | Newlyn Harbour | Cornwall | First-summer | 03/01/21, 08/05/21 |
| **W:348** | MA46929 | Gann Estuary | Pembrokeshire | Second-winter | 30/11/21 |
| **W:351** | MA46935 | Little Porth, St. Mary's | Isles of Scilly | First-winter | 04/01/21, 07/01/21 |
| **W:352** | MA46936 | Gothian Sands, Gwithian | Cornwall | Second-winter | 27/09/21 |
| **W:353** | MA46937 | Camel Estuary | Cornwall | First-winter | 20/02/21 |
| **W:358** | MA46942 | Gann Estuary | Pembrokeshire | First-summer | 22/02/21, 15/03/21 |
| **W:364** | MA46948 | Tacumshin Lake, Wexford | IRELAND | First-winter | 25/02/21 |
| **W:365** | MA46949 | Skokholm | Pembrokeshire | Second-winter | 17/09/21, 25/09/21 |
| **W:368** | MA46954 | Grassholm | Pembrokeshire | Juvenile | 24/08/21 |
| **W:374** | MA46961 | Gann Estuary | Pembrokeshire | First-winter | 17/11/21 |
| **W:381** | MA46968 | Gothian Sands, Gwithian | Cornwall | First-winter | 05/12/21 |
| **W:382** | MA46969 | Newlyn Harbour | Cornwall | First-winter | 05/12/21 |

Breeding season roosts again formed regularly in the Bog, although 47 on 4th May and 33 on 23rd May were the only counts of more than 25; the smallest post-2012 breeding season roosts have occurred in the last four years. The first three flying fledglings were not noted until 11th July, these the latest to be recorded during the last eight years (the 2014-2020 first fledgling mean is 2nd July, with the earliest recorded on 30th June 2019 and the latest on 7th July 2015). It was not until mid-August that the larger post-breeding roosts began to develop, with the largest gatherings being of 86 on the 22nd, 59 on the 26th, 68 on the 28th and 76 on the 29th. The first fledgling to be seen away from the Island was at Grassholm on 24th August; this was six days later than a bird seen to the north of Aberaeron, Ceredigion last year. Fledglings had reached Gothian Sands and Newlyn Harbour by 5th

December; these were the latest first southwest resightings of the last eight years, 77 days later than both the first of last year and the 2014-2020 mean (a bird at Newquay Harbour, Cornwall on 10th August remains our earliest southwest resighting, whilst one at Marazion, Cornwall on 26th November was the latest). September roost counts were considerably lower than seen in most recent years, with 48 at North Plain on the 13th being the largest gathering; counts peaked at 130 in 2020, 113 in 2019, 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). There were peak October daycounts of 116 on the 4th (when 36 roosted on Western Plain and 62 were on the sea off the Bluffs) and 152 on the 5th (when 85 roosted on Western Plain and 46 were in Mad Bay), the latter being the highest October daycount since 175 were logged in 2016, however counts failed to exceed 24 on each date from the 9th and a bird-days total of 904 was the lowest October tally this decade (the 2013-2020 October bird-days mean is 1441.9, with a high of 3113 in 2013 and a low of 943 in 2018). The only November daycounts in excess of 32 were of 34 on the 6th (which included a lingering juvenile found dead on the 9th) and 79 on the 27th, the peak being the fifth highest of the last nine years (down on the 117 of last year and three 2013 daycounts which included a record 270 on the 3rd). Counts during the first five days of December peaked at 24 on the 1st and 2nd.

**Ringing recovery** MA37945
**Originally ringed** as a juvenile, SKOKHOLM 1st September 2018
**Recovered** as a third-summer, PLAYA DE SANTA CRUZ, OLEIROS, SPAIN 6th June 2021
**Finding condition** Metal ring read in field
**Distance travelled** 958km at 194 degrees (SSW)
**Days since ringed** 1009
There have been 53 Great Black-backed Gulls ringed in Great Britain and found in Spain.

**Iceland Gull** *Larus glaucoides* **Gwylan yr Arctig**
**Vagrant** only six previous records

A first-winter, found sat on the sea off the Quarry on 22nd March, was later seen over Frank's Point and eventually settled on North Pond (GE, RDB). Perhaps surprisingly this was only the seventh for Skokholm following a first calendar-year bird present on 14th November 2019 and second calendar-year birds present on 27th March 2018, 7th July 2012, 26th March 1996, 27th April and 16th May 1993 (the latter considered at the time to be the same bird) and 19th March 1983. A third-summer 'found in the Lesser Black-backed Gull colony' on 23rd August and 9th September 1988 'showed faintly brown flight and tail feather markings and was presumably a hybrid' (Betts, 1992).

**Glaucous Gull** *Larus hyperboreus* **Gwylan y Gogledd**
**Vagrant** only six previous records

A first-winter feeding in Broad Sound on 2nd December was the first since a first-winter initially found in the same area on 18th November last year (RDB); whereas the 2020 bird was almost certainly that present in a small Herring Gull roost on North Pond two days later, disappointingly this year's bird was not relocated over the Island. The only other Skokholm records are of a first-winter seen briefly on the roof of the Wheelhouse on 12th March 2004, a second calendar-year bird on 17th April and 14th May 1995 (presumed at the time to be the same individual), a second-winter on 31st March 1991 and 'immatures' on 1st November 1981 and 6th April 1969.

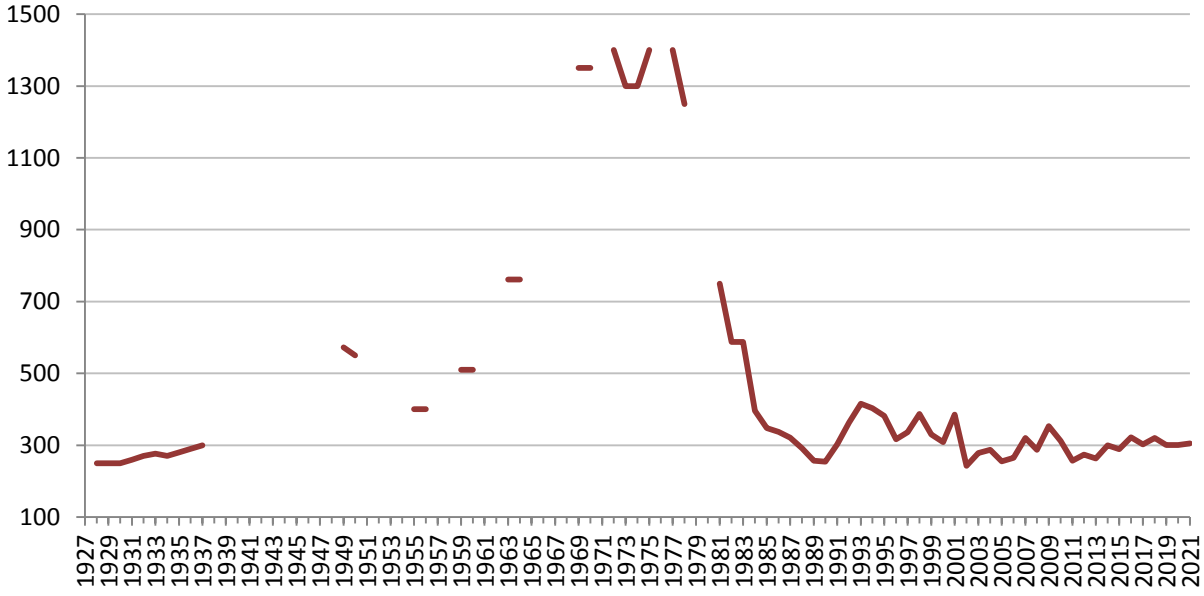
**Herring Gull** *Larus argentatus* **Gwylan y Penwaig**
**Common Breeder** Abundant Breeder in the 1970s
8 trapped (including 1 pullus), 4 retrapped, 17 resighted
1934-1976: 13,265 trapped, 2013-2020: 134 trapped, 24 retrapped, 42 resighted, 1 control

March daycounts again fluctuated widely, with 80 or less logged on eight dates, including lows of 18 on the 2nd, 41 on the 4th and 39 on the 5th when birds fed and roosted away from Skokholm, but highs of 295 on the 16th and 269 on the 21st when many were back on territory. Coastal roosts again included reasonable numbers of young birds (for example a group of 25 subadults at Oystercatcher Rock on 20th March), this in contrast with observations made of Lesser Black-backed Gulls during the same period. The first lone egg was found in Peter's Bay on 15th April, although a full check of the nests around the Neck revealed only one other apparently incubating adult; this was seven days earlier than the first of last year and three days earlier than the mean 2013-2020 first egg date (see table below), indeed the only earlier first egg was found on the 14th in 2014. Only one egg was found during a full check of the Blacksmith's Landing nests the following day.

**When the first egg was located in each year 2013-2021, along with the 2013-2020 first egg mean.**

| 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | Mean |
|---|---|---|---|---|---|---|---|---|---|
| 18th April | 14th April | 25th April | 17th April | 18th April | 19th April | 18th April | 22nd April | 15th April | **18th April** |

**The number of breeding pairs 1928-2021 (where data exists). The 1970s peak was attributed to the exploitation of local fish waste and the decline to botulism (Thompson, 2007).**




Whole Island counts between the 15th and 17th May located 305 active nests, four more than were recorded in both 2020 and 2019 and a total up on the 2011-2020 mean (292.9 ±sd 22.1) but 3.2%

down on the 1984-2020 mean (315.2 ±sd 46.1). This was thus the third consecutive year in which the total has fallen below the lower limit set in the Skokholm Management Plan. Nevertheless 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 (see chart above).

**The number of breeding pairs and productivity estimates (average number of fledglings per sample pair) 2007-2021.**

| 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 320 | 287 | 353 | 312 | 257 | 274 | 263 | 300 | 289 | 322 | 302 | 320 | 301 | 301 | 305 |
| 0.61 | - | - | 0.82 | 0.67 | 1.15 | 0.72 | 0.70 | 0.66 | 0.86 | 0.70 | 0.73 | 0.69 | 0.33 | 0.84 |

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 adults colour ringed in 2017 (all trapped on the nest), 17 in 2018 (11 on the nest and six in the Gull Trap) and ten in 2019 (nine on the nest and one in a Spring Trap); two of the Gull Trap birds were only linked to territories in later years (one in 2019 and one in 2020) and the Spring Trap bird has not been linked to a breeding territory (and is thus not included in survival estimates). A COVID-19 dictated staffing shortage meant that there were no adults trapped in 2020. 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 bred in 2018 (84.6%). Of 26 birds with rings in 2018, 17 (65.4%) were still alive during the 2019 breeding season, four of these Gull Trap birds (100.0% return) and 13 nest trapped birds (59.1% return); two of the nest trapped birds were only seen elsewhere and were seemingly not breeding, whilst two had changed nest site (one moved 370m and one moved 837m). Of 27 with rings in 2019, 18 (66.7%) were alive in 2020, four of these Gull Trap birds (80.0% return) and 14 nest trapped birds (63.6% return); five of the nest trapped birds and one of the Gull Trap birds were not seen on the Island. Of 19 colour ringed birds alive in 2020, all 19 were resighted this year; all five Gull Trap birds were on territory, whereas four nest trapped birds were not found breeding (including three only seen on the mainland). Although the sample size is perhaps too small to draw any firm conclusions, these observations suggest that trapping on the nest is 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 were not trapped on the nest in 2021 and will not be again until further off-nest Gull Trap work is conducted and analysed. In an effort to increase the sample size for birds trapped away from the nest, four adults were taken in the Gull Trap this year; one of these was later found on territory.

Two of the colour ringed birds have been found dead, both on Skokholm and with no apparent cause of death. This year saw unringed dead adults found floating in Crab Bay on 2nd April, ashore near the Bluffs on 30th April and hanging from fishing line in Calf Bay on 6th July (above photograph), whilst a live adult with a badly broken leg was present on 15th April. Two dead adults were found last year, whilst injuries included a badly broken leg, a bloody hole in a flank and a recently amputated foot. Three serious leg injuries were noted in 2019. Following four affected birds in 2019, no incidences of oiling have been recorded for two years. It would seem likely that interactions with fishing gear are responsible for some of these injuries, unsurprisingly so given how this species searches around boats for food. This season saw a peak count of 42 behind Boy's Pride (a potting vessel) on 16th March, whilst smaller numbers were regularly present around boats fishing with rod and line.

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

| Darvic | Ring | Location | County | Age | Date |
|---|---|---|---|---|---|
| W:998 | GV22352 | Gann Estuary | Pembrokeshire | Adult | 16/12/21 |
| W:998 | GV22352 | Sandy Haven | Pembrokeshire | Adult | 20/12/21 |
| W:985 | GV22422 | Gann Estuary | Pembrokeshire | Adult | 19/11/21, 20/11/21 |
| W:985 | GV22422 | Sandy Haven | Pembrokeshire | Adult | 20/12/21 |
| W:984 | GV22423 | Gann Estuary | Pembrokeshire | Adult | 05/03/21, 13/11/21 |
| W:983 | GV22390 | Llanstadwell | Pembrokeshire | Adult | 27/04/21 |
| W:983 | GV22390 | Gann Estuary | Pembrokeshire | Adult | 01/12/21 (Skokholm 03/12/21) |
| W:978 | GV22428 | Gann Estuary | Pembrokeshire | Adult | 02/03/21, 26/11/21, 14-18/12/21 |
| W:977 | GR98293 | Sandy Haven | Pembrokeshire | Adult | 20/12/21 |
| W:975 | GV22431 | Gann Estuary | Pembrokeshire | Adult | 19/11/21 |
| W:973 | GV22439 | Gann Estuary | Pembrokeshire | Adult | 01/03/21, 13/11/21, 14/12/21 |
| W:972 | GR87973 | Dale Beach | Pembrokeshire | Adult | 01/03/21 |
| W:972 | GR87973 | Gann Estuary | Pembrokeshire | Adult | 14/11/21, 16/11/21 |
| W:972 | GR87973 | Sandy Haven | Pembrokeshire | Adult | 20/12/21, 21/12/21 |
| W:971 | GV22440 | Gann Estuary | Pembrokeshire | Adult | 10/01/21, 18/03/21, 01/12/21 |
| W:970 | GV22457 | Gann Estuary | Pembrokeshire | Adult | 14/11/21, 30/11/21, 13/12/21 |
| W:969 | GV83059 | Gann Estuary | Pembrokeshire | Adult | 02/01/21, 28/02/21 |
| W:966 | GV83062 | Gann Estuary | Pembrokeshire | Adult | 10/01/21, 01/03/21, 16/11/21 |
| W:965 | GV83063 | Gann Estuary | Pembrokeshire | Adult | 30/01/21, 07/03/21, 10/11/21 |
| W:965 | GV83063 | Sandy Haven | Pembrokeshire | Adult | 20/12/21 |
| W:964 | GV83064 | Gann Estuary | Pembrokeshire | Adult | 14/11/21, 16/11/21, 20/11/21 |
| W:964 | GV83064 | Sandy Haven | Pembrokeshire | Adult | 20/12/21 |
| W:961 | GV83058 | Gann Estuary | Pembrokeshire | Adult | 15/01/21, 02/03/21, 16-17/11/21 |
| W:961 | GV83058 | Sandy Haven | Pembrokeshire | Adult | 21/12/21 |
| W:953 | GV83151 | Gann Estuary | Pembrokeshire | Adult | 14/11/21 (Skokholm 16/11/21) |
| W:953 | GV83151 | Sandy Haven | Pembrokeshire | Adult | 20/12/21 |
| W:952 | GV83147 | Gann Estuary | Pembrokeshire | Adult | 13/12/21 |
| W:950 | GV83136 | Sandy Haven | Pembrokeshire | Adult | 20/12/21 |

The first chicks were seen in the South Haven sea cave on 15th May, these two days earlier than the first of last year and the earliest of the last five years. The first flying fledgling was at North Plain on 30th June, this one day earlier than the first of last year and four days earlier than the 2013-2020

mean; the only other June fledgling noted during this period was logged on the 30th in 2016, with the latest first aloft on 10th July in 2015. Checks of the Neck productivity plot during July, where 141 pairs had established nests (12 more than last year), located a maximum of 119 fledging-sized young (along with 16 small chicks, although none of these late attempts seemingly resulted in fledglings). The resulting 2021 productivity figure of 0.84 fledged young per pair was 154.5% up on the 0.33 of last year (the lowest estimate since 2004), 25.4% up on the 2011-2020 mean (0.67 ±se 0.05) and the highest since the 0.86 of 2016. Disappointing 2020 productivity was linked to rough weather on the 22nd and 23rd May which resulted in several low nests being destroyed by unseasonable 11 metre waves at the point when many eggs were hatching. However this year saw similar wild weather, indeed the weather between the 20th and 21st May was even more extreme, with southwesterly winds gusting at up to 69mph and the Mid Channel Rock Lighthouse Beacon off St Ann's Head registering an average wave height of 11 metres and multiple waves of at least 16 metres. Several nests to the south of the Neck (in the productivity plot) were lost, as were nests along the South Coast cliffs and in Little Bay (the latter the only site where dead chicks were seen). Birds were nest building at the Dip, in South Haven and to the south of the Neck on the 21st and in Crab Bay on the 22nd, whilst rafts of 32 adults off the Lighthouse, 18 off Crab Bay and six off South Haven on the 22nd were unusual and perhaps mirrored breeding failures. Presumably the pairs around the Neck which were not impacted by the storm had a particularly successful breeding season, this theory supported by ad hoc observations which recorded many pairs with two or three large young (resulting in the higher than average productivity seen this year).

August saw the customary post-breeding departure of both adults and fledglings, however a mean daycount of 90 was the second highest of the last nine years and up on a 2013-2020 mean of 73 (this perhaps reflecting both higher productivity and more regular ant swarms); although there were lows of 34 on the 19th, 25 on the 29th and 14 on the 30th, there were highs of 225 on the 23rd, 193 on the 24th and 220 on the 25th when up to 165 (predominantly adults) fed on ants. As is typically the case, few Herring Gulls visited Skokholm in September; there were 12 single-figure daycounts, although offshore birds led to highs of 115 on the 6th, 86 on the 14th and 91 on the 22nd which contributed to the second highest September bird-days total of the last decade (878 only being down on the 1150 bird-days of 2015). October counts were up on last year but down on the 2013-2020 mean; only six daycounts exceeded 40, including highs of 204 on the 6th and 129 on the 7th when the majority were at sea. Numbers again increased in November, with many birds returning to their breeding territories (including at least 75% of the colour ringed birds which had bred in South Haven) and more returning to Skokholm to roost; eight three-figure daycounts included a peak of 180 on the

27th (when 159 roosted at North Pond), this down on a 2013-2020 mean high of 386 and the lowest November maximum of the last nine years (the all-time November highs are the 585 of 2015, the 588 of 2016 and the 612 of 2017, the majority of which were feeding with the smaller gulls in Broad Sound). There were record December daycounts, with 465 on the 1st (including 309 in the Sound), 838 on the 2nd (751 in the Sound) and 425 on the 3rd (225 in the Sound); the previous December high was the 400 of 1979, indeed this year's 2nd December tally exceeds all earlier autumn daycounts (although this species was routinely only recorded as being 'present' in the past).

**Ringing recovery** Blue darvic with white W:572 (GPS tagged)
**Originally ringed** as a rehabilitated juvenile, released MID-CORNWALL
**Recovered** as a juvenile, THE NECK, SKOKHOLM 0900hrs 25th August 2021
**Finding condition** Bird not seen, GPS track only
Taken as a chick and released following care, this bird reached Pembrokeshire during mid-August and lingered around the Dale and Marloes peninsula. The GPS tag detached when on Middleholm at the end of October.

***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 x Lesser Black-backed Gull hybrids occasionally establish territories on Skokholm (see the 2014 and 2015 Seabird Reports for photographs and further details), a metal ringed bird present in South Haven during March and August and from October to December 2020 appeared more similar to a Yellow-legged Gull (see the 2021 photograph below). 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. This year saw the same metal ringed bird present on its preferred Haven Rock on four March dates between the 7th and 18th, although, as was the case in 2020, it was not seen for the remainder of the spring. This annual absence was probably explained on 9th July when the ringed hybrid was found at a nest on the slope above Hog Bay, paired with a Herring Gull and with two near-fledglings. The same ringed adult was in South Haven on 18th August, on five dates in November and on the 2nd, 3rd and 4th December, when it again favoured

Haven Rock. It was unclear whether a hybrid present at the Stack on 28th November was the Hog Bay breeder, however what was definitely a second, more typical hybrid was on the Neck on 4th December.

**Lesser Black-backed Gull** *Larus fuscus* **Gwylan Gefnddu Leiaf**
**Abundant Breeder** previously a Very Abundant Breeder
41 trapped (including 26 pulli), 3 retrapped, 2 resighted, 1 control
1938-1976: 11,912 trapped, 2013-2020: 579 trapped, 26 retrapped, 105 resighted, 16 controls

A mean March daycount of 473 was remarkably similar to the 476 of 2020 and 2019, but down on the 568 of 2018, the 515 of 2017 and the 823 of 2016. The number of birds within the colonies again fluctuated considerably during the day; for example the Frank's Point colony, empty on the morning of the 5th, contained 34 birds that afternoon. The larger communal roosts recorded in previous years were again generally absent; the majority of March counts were of birds on territory, with the largest roosts being of 78 in the Bog on the afternoon of the 1st, 55 there on the 5th and 36 at North Pond on the 9th. 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. The peak April daycounts were also very similar to those logged recently, with highs of 789 on the 4th and 796 on the 26th almost matching the 798 of last year and the 759 of 2019 (albeit being well down on a 2013-2020 mean of 1333.9 and a high during that period of 2109 in 2014). A check of nests near the Top Tank on 24th April located three eggs; these were one day earlier than the first single of 2020 and four days earlier than the 2013-2020 mean.

**When the first egg was located in each year 2013-2021, along with the 2013-2020 first egg mean.**

| 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | Mean |
|---|---|---|---|---|---|---|---|---|---|
| 3rd May | 24th April | 4th May | 25th April | 1st May | 26th April | 28th April | 25th April | 24th April | **28th April** |

Vantage point counts of the inland breeding subcolonies and a full census of the coast nesting pairs were made between the 15th and 19th May, during which 842 apparently incubating adults were located; this was the second lowest count in over 50 years, a total only up on the 795 of last year and 22.7% down on the 2014-2020 mean (1088.7 ±sd 251.1). In an effort to reduce disturbance in the colony, the Islands Conservation Advisory Committee has suggested that the walkthrough

surveys, which have traditionally been used to check the accuracy of the point counts, are no longer performed annually; there was thus no walkthrough this year (as was the case in 2020 due to a COVID-19 dictated lack of personnel). The number of apparently incubating adults (as assessed using the vantage point counts) and the number of nests containing eggs (as located during walkthrough surveys) invariably differ, 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 2021 chick located on 18th May (on the 22nd in 2020 and 2019, the 23rd in 2018 and the 24th in 2017) but a nest near the Top Tank containing small chicks on 9th July, the latter five days after the first fledgling was seen at North Pond (the first fledgling was noted on 30th June in 2020 and between the 5th and 7th July in each year between 2016 and 2019). 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%, see table below).

**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** |

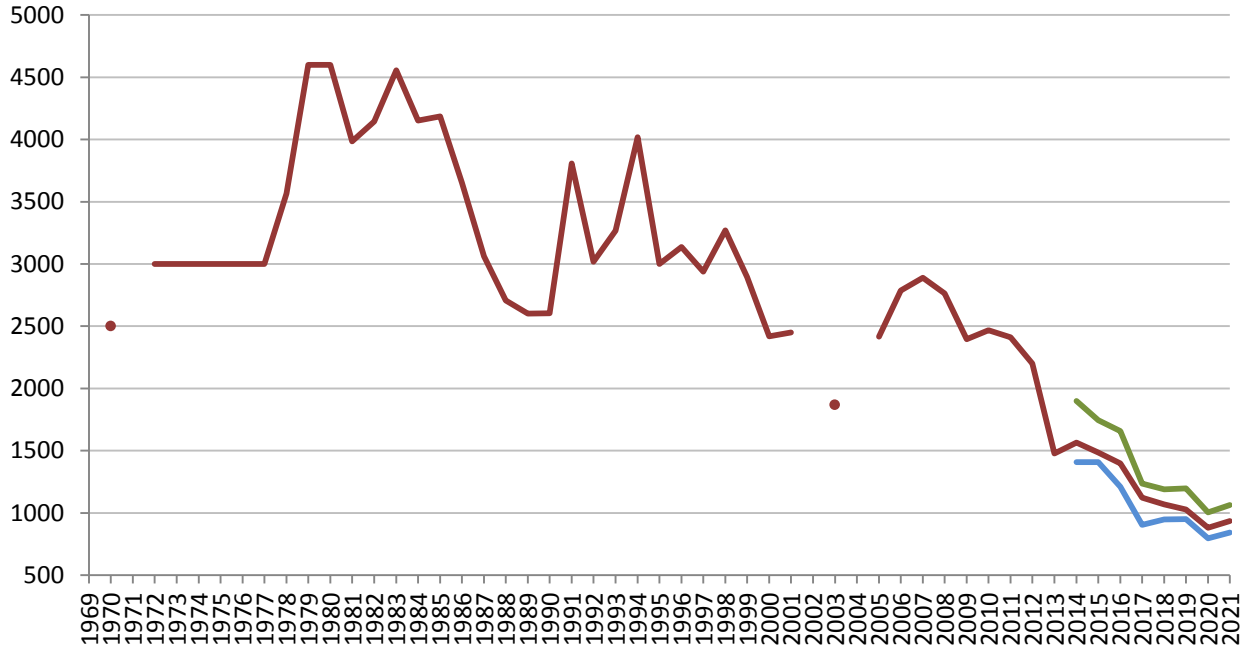
* How many more nests (containing eggs) were present than the number of apparently incubating birds seen (as a percentage).

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

Of the 842 apparently incubating adults counted this year, 125 were 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 717 apparently incubating birds actually represented a total of 810 nests with eggs (giving a 2021 breeding population estimate of 935); this is the second lowest estimate of the post-War era, a total up on the 880 of last year but down on the 1028 of 2019 and the 2014-2020 mean (1221.1 ±sd 260.1). A mean 2013-2019 correction factor of 1.31 would suggest that the remaining 717 apparently incubating birds actually represented a total of 939 nests (including empty nests); this gives a 2021 breeding population estimate of 1064, a total

up on the 1003 of last year but down on the 2014-2020 mean (1417.9 ±sd 341.5). The actual number of breeding pairs probably lies somewhere between these two estimates (935-1064), this assuming that the sward height in 2021 was typical of that seen in recent years.

**The total number of Lesser Black-backed Gull breeding pairs 1970-2021. 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 corrected 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 2020-2021 totals are based on the 2013-2019 means.**




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 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 ringed on first visit x number checked for rings on second visit) / number of birds found to have rings on second visit', predicts the number of near-fledglings

within an area (which can then be compared with the number of pairs thought to have been present there). Whereas the walkthrough surveys allowed for an accurate assessment of how many nests were in an area, a lack of walkthroughs in 2020 and 2021 means that productivity estimates are less accurate (as they are based on corrected vantage point counts). Visits to the Middle Heath and Green Rocks area during early July suggested that 54 near-fledglings had been produced by 63 pairs (the uncorrected vantage point count for this area was 56 pairs); the resulting productivity figure of 0.86 fledglings per pair was the highest inland estimate of the last nine years. The coastal slopes of Purple Cove were investigated for a fifth 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 42 pairs produced a minimum of 39 fledglings, giving a productivity figure of 0.93 fledglings per pair (the 2017-2020 Purple Cove mean is 0.89, with a high of 1.21 in 2018). Between 2017 and 2020, productivity at the latter site proved to be consistently higher than that observed inland, this fitting ad hoc observations made in recent years and perhaps supporting the theory that birds in larger colonies are struggling in part due to the intraspecific depredation of small chicks.

Combining data from Purple Cove and Middle Heath suggests that 105 pairs fledged 93 young; a combined productivity figure of 0.89 is the highest estimate of the last nine years, this 217.9% up on the 2013-2020 mean of 0.28 ±se 0.06 (there was a high during this period of 0.63 in 2018 and a low of 0.12 last year). It is unclear why productivity was so high this year, however ad hoc observations mirrored the estimate; although fledglings across North Pond and North Plain could potentially have come from anywhere on Skokholm (and possibly elsewhere), a maximum of 136 on 23rd July was the highest July or early August count since 141 were present in 2014 (although it should be remembered that the breeding population has fallen considerably during the same period, the 2014-2020 mean maximum is 104.7, with the lowest three counts occurring between 2018 and 2020).

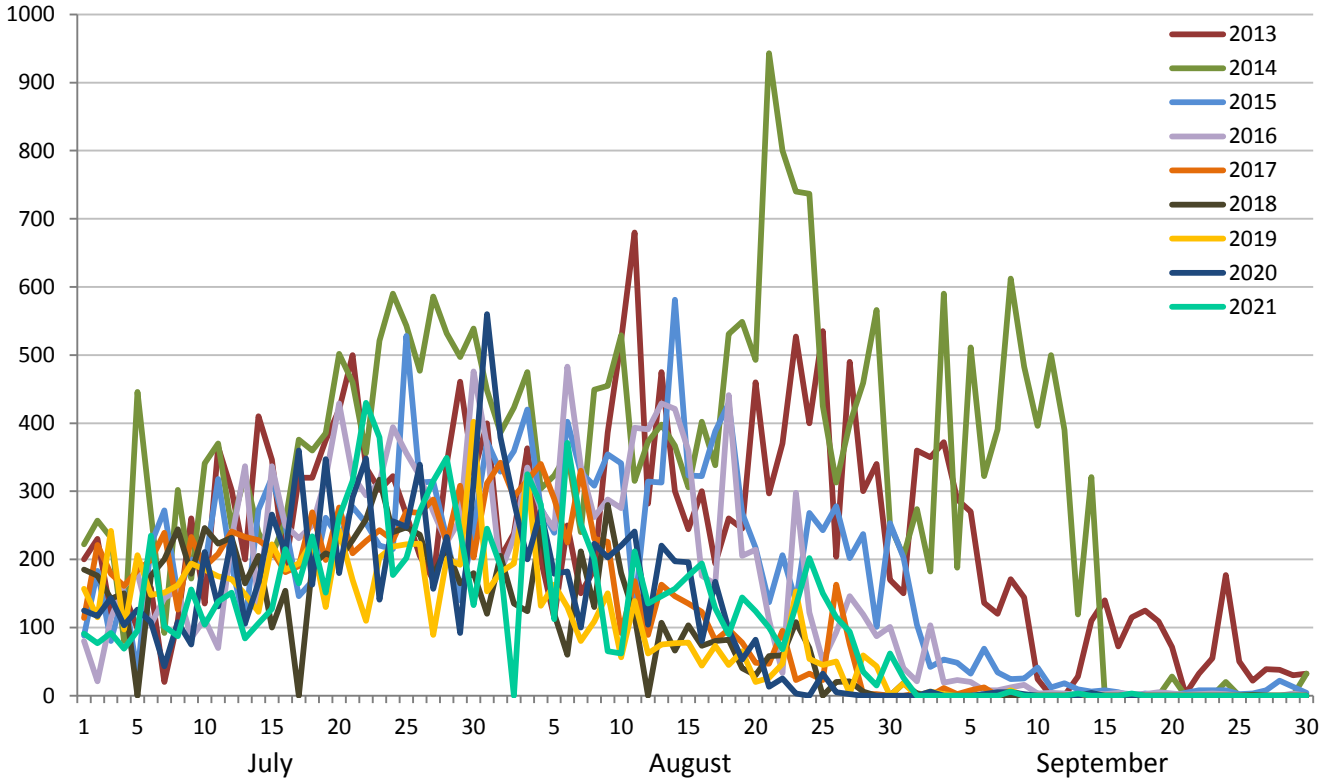
**Lesser Black-backed Gull productivity estimates 2004-2021 (where data exists).**

| 2004 | 2005 | 2008 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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 | 0.89 |

Although poor productivity is seemingly driving the decline in the Skokholm breeding population, it also seems possible that disease may be taking its toll in some years. There were 21 dead adults found between March and 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), two dead adults in 2019 and 11 dead adults last year (including a very weak and uncoordinated bird (with a clean vent) found dead two days later, but not including two live birds with broken wings, one with a broken leg and one with a missing foot). This year saw 14 adults found dead between 6th April and 28th August, an adult on 20th April which had recently lost a leg, a very lethargic adult on 6th June (which had missing feathers and a possible head injury) and a sick adult on 23rd June exhibiting the symptoms noted in 2016; although it is possible that aggressive interactions with other birds may have caused some deaths, disease or poisoning again seems likely.

**The number of Lesser Black-backed Gulls roosting on North Plain and in the vicinity of North Pond 2013-2021.**




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 430 birds on the 22nd, this down on July peaks of up to 590 logged in each year between 2013 and 2016 and the 560 of last year, but up on those recorded between 2017 and 2019. Despite the higher productivity seen this year, a cumulative July total of 5798 roosting birds was the third lowest to be noted during the same period, a total only up on the 5764 of 2018 and the 5660 of 2019. Whereas roost counts between 2013 and 2017 peaked in August, the last four years have seen a more rapid departure of birds from the Island. This year saw an August peak of 371 on the 6th, this just eight down on that of last year and the second largest August roost 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 4364 roosting birds was up on the 3759 of last year and was the highest tally since the 7306 of 2016 (between 2013 and 2015 the August total ranged between 8903 and 13,849). The last three-figure roost count of the year was the 115 present on 16th August, this the same date as the last of 2017 but up to nine days later than the last such counts made between 2018 and 2020; between 2013 and 2016 the last three-figure roost counts were logged in September. September again proved to be exceedingly quiet, with only 12 roosting birds noted during the entire month; in 2015 and 2016 the September roost total was in three-figures, whilst in 2013 and 2014 it was in four (with a high of 5359 in 2014). A peak October daycount of 26 on the 6th was the highest since the 83 of 2013, however the 79 bird-days logged over 17 dates was down on the 85 of last year and a 2013-2020 mean of 171.5. Sightings on all but five November dates totalled 206 birds and included highs of 18 on the 10th, 43 on the 26th (all roosting at North Pond) and 51 on the 27th (47 at North Pond); the peak daycount was the highest since 2016, but the total was down on the 277 of last November (the highest tally since 1991). Daily sightings during the first five days of December peaked at 23 on the 1st and 25 on the 5th.

**Ringing recovery** Left leg D7734, Right leg black darvic with white 5AW8
**Originally ringed** as a subadult male, CHOUET LANDFILL, GUERNSEY 24th May 2013
**Previously recovered** as a subadult, FIGUEIRA DA FOZ, COIMBRA, PORTUGAL 8th November 2013
**Previously recovered** as a subadult, VIL DE MATOS LANDFILL, PORTUGAL 8th November 2013
**Previously recovered** as an adult, DUMBELL BAY, SKOKHOLM 13th May and 29th June 2016
**Previously recovered** as an adult, GANN ESTUARY, PEMBROKESHIRE 9th March 2020
**Recovered** as an adult, PETER'S BAY, SKOKHOLM 14th June 2021
**Finding condition** Darvic ring read in field
**Distance travelled** 311km at 320 degrees (NW)
**Days since ringed** 2944

**Ringing recovery** GR87994
**Originally ringed** as an adult, HOME MEADOW GULL TRAP, SKOKHOLM 3rd August 2015
**Recovered** as an adult, HAVERFORDWEST, PEMBROKESHIRE 13th June 2021
**Finding condition** Found with open wing fracture and euthanised
**Distance travelled** 25km at 63 degrees (ENE)
**Days since ringed** 2141

**Ringing recovery** GV22403
**Originally ringed** as a near-fledgling, SKOKHOLM 9th July 2017
**Recovered** as a fifth-winter, ILHA DESERTA, FARO, PORTUGAL 27th October 2021
**Finding condition** Dead on beach, leg and ring only
**Distance travelled** 1652km at 188 degrees (S)
**Days since ringed** 1571

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 177 separate resightings of 38 different individuals away from Skokholm. The following table summarises resightings received since similar tables were published in the 2014-2020 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 reflected in the colour ringing data, with 19 birds having been resighted at the same location in subsequent winters. Records of returning birds have come from several sites in Portugal and Spain, along with two in France, one in the Channel Islands and one in Morocco (including 8A:W this September, which had been seen at the same site in September 2017, and 9X:W last September, which had been seen at the same site in September 2014 (see below)).

| Darvic | Ring | Location | Country | Date |
|---|---|---|---|---|
| **5E:W** | GR98203 | Duncannon Beach, Wexford | Ireland | 05/01/21* |
| **8A:W** | GR98247 | Praia da Caparica, Lisbon | Portugal | 16/09/21 |
| **8U:W** | GR98259 | Gann Estuary, Pembrokeshire | UK | 30/11/21 |
| **9E:W** | GR98263 | Duncannon Beach, Wexford | Ireland | 12/01/21* |
| **9X:W** | GR98275 | Torreira, Aveiro | Portugal | 13/09/20 (sic) |

*That two birds with such similar ring numbers arrived at the same site within eight days was cause for concern, however it was reported that 'huge numbers of gulls were present on a bonanza sprat fishery'. Neither had been seen elsewhere before.

**Sandwich Tern** *Thalasseus sandvicensis* **Morwennol Bigddu**
**Uncommon** although Scarce in all but one year between 2006 and 2012
**Earliest** 29th March 1984 (22nd August 2021) **Latest** 25th October 1967 (6th September 2021)

There were again 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). As is often the case, there were no records in June (there have only been 113 June bird-days), whilst there were no July birds for a third consecutive year (there were July sightings in each year between 2012 and 2018 totalling 22 bird-days, the all-time July tally being 132). Two off the Lighthouse, early in the afternoon of the 22nd, were the only Sandwich Tern encountered in August; sightings in 39 previous Augusts peaked at 65 in 1983 and 34 in 1993, although the 2013-2020 mean is just 6.4. The 1001 bird-days previously logged in September is considerably more than in any other month (394 in August is the next highest tally), however two off the Stack on the 6th were the only birds noted this September and the last of the year; the 2013-2020 September bird-days mean is 13.9 (with a high of 32 in 2015), whilst the all-time highs are of 103 in 1966, 82 in 1994 and 60 in 2011. An autumn bird-days total of just four was the lowest this decade and massively down on highs of 110 in 1966, 107 in 1983 and 102 in 1994.

**Arctic Tern** *Sterna paradisaea* **Morwennol y Gogledd**
**Uncommon** sometimes Scarce, although unidentified 'commic' terns Uncommon or Fairly Common
**Earliest** 18th April 2018 **Latest** 27th October 2017 (16th September 2021)
1963-1967: 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). Indeed a juvenile which flew directly over the Courtyard, late on the morning of 16th September, was the only *Sterna* identified to species level this year. September is the month in which this species is most likely to be encountered, with 602 previous bird-days including 109 last year (a tally only down on the 140 of 1997), whilst August has proven the second busiest month with 260 bird-days, 120 of which were logged in a record 2020. Additionally there were 'commic' terns noted on three 2021 dates, with one off the Lighthouse on 6th August, four in Broad Sound on 20th August and a final

single on 19th September; a bird-days total of six was the third lowest this decade, down on a 2013-2020 mean of 119.6, a high during that period of 436 last year and all-time highs of 582 in 1957, 1400 in 1958 and 713 in 2011.

**Great Skua** *Stercorarius skua* **Sgiwen Fawr**
**Uncommon** sometimes Scarce and much more regular in autumn
**Earliest** 4th April 2015 (5th August 2021) **Latest** 15th November 2015 (23rd October 2021)
2020: 1 trapped

The first of the year went west through Broad Sound on 5th August, this 14 days earlier than the first of last year, but seven days later than the 2013-2020 first autumn bird mean; following records of up to three birds in each of the springs between 2014 and 2017, this was the fourth consecutive year without a spring sighting. The only other August records were of singles on the 7th, 21st and 30th, a bird-days total of four being eight down on that of 2019 and 2020 and down on a 2013-2020 August mean of 5.5 (48 of 123 August bird-days have been logged in the last nine years). Following singles on the 2nd and 4th, there were September sightings on seven further dates from the 19th, including highs of six on the 19th and 29th and eight on the 30th, the latter the fifth highest daycount of all-time behind the 14 of 28th September 1978 and counts from September 2019 of nine on the 23rd, 11 on the 25th and 12 on the 29th. A September bird-days total of 30 matched that of 2018 as the second highest to date, a tally only down on the 42 of 2019; of 340 all-time September bird-days, exactly half have been recorded since 2013. Up to four were noted on four October dates to the 5th, whilst one pursuing a subadult Gannet on the 23rd was the last of the year; both the maximum daycount and a bird-days total of nine were the second highest to be logged in October, the peak matching that of 1989 and only down on the five of 2019, the total only down on the 26 of 2019. There have been seven later bird-days, including four in November. A 2021 bird-days total of 43 was up on a 2013-2020 mean of 30.5 and was the second highest to date, only down on a remarkable 81 in 2019.

**Arctic Skua** *Stercorarius parasiticus* **Sgiwen y Gogledd**
**Uncommon** sometimes Scarce
**Earliest** 9th April 1996 (4th May 2021) **Latest** 15th November 2020 (7th October 2021)

The only spring record was of a dark morph chasing a Kittiwake off the Lighthouse on 4th May, this eight days earlier than the only spring bird of last year; there have been 53 spring bird-days logged during 24 previous years, with 12 this century and highs of eight in 1982, seven in 1993 and six in 2002. An all-time July bird-days total of 31, the most recent of which was last year, was not added

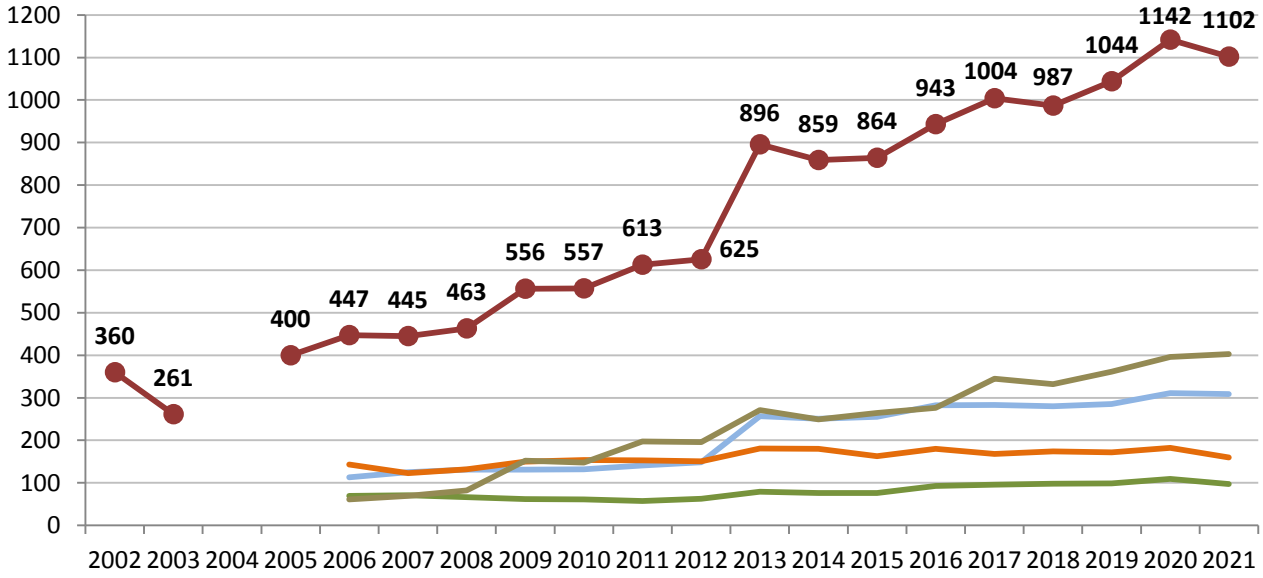
to, and it became the first August of the last seven without a sighting (there have been 110 August bird-days, including four last year and highs of 15 in 1957 and nine in 2015). A pale juvenile on the morning of 27th September was the first of the autumn and the only sighting during the month; there have been 349 previous September bird-days, with a 2013-2020 mean of 5.4 and highs of 50 in 1980, 27 in 1993, 67 in 2004 (including an astonishing 63 on the 5th) and 21 in 2017. The sole October sighting was of one in Broad Sound on the 7th; of 35 later bird-days, only one has occurred in November. There have been 73 previous October bird-days logged during 19 years, with a high of 19 in 2019 (when a daycount of ten on the 8th equalled one made on 15th September 1993 as the second highest in any month). An annual bird-days total of three was the lowest since 2013, down on a 2013-2020 mean of 13.4 and highs of 51 in 1980, 36 in 1993, 67 in 2004 (courtesy of that remarkable daycount) and 30 in 2017. Given that the number of Great Skua records was so high in 2021, it would seem likely that the lack of Arctic Skua sightings was not due to seawatching effort.

**Guillemot** *Uria aalge* **Gwylog**

**Very Abundant Breeder** Common during the period 1928-1996, numbers then increasing rapidly
1 pullus trapped, 3 controls
1936-1976: 1021 trapped, 2014-2020: 5 pulli trapped, 20 controls

There were at least 578 ashore during thick fog on 27th February and 1731 were logged the following day. The mean March daycount was 666, this down on the 725 of last year (when observations began on the 16th); although there were ten dates without a sighting and a further eight dates when between one and 17 were encountered, there were highs of 3195 on the 7th and 2495 on the 30th. Customary departures for the sea continued in April, with 11 dates when counts of less than 600 were logged (including five dates without a sighting and two dates with between one and eight birds present); there were ten similar mass April departures last year, nine during an unprecedentedly early 2019 breeding season and an average of 15.5 between 2013 and 2020 (with a high of 25 in 2013). A minimum of 3725 on the 14th was the second highest April daycount to date, a tally only down on the 3971 logged on the 3rd last year. Over 1000 birds were flushed from the Mad Bay cliffs by the potting vessel 'Boy's Pride' on 19th April; it is unclear what impact disturbance events such as this have on the colony during the pre-laying period.

**The total number of adult Guillemot in all six study plots 2002-2021 (as an average from ten visits) and the totals from the four largest plots since 2006 (as an average from ten visits).**




The first egg to be found was at Middlerock on 27th April, this five days earlier than a 2013-2020 first egg mean of 2nd May; although nine days later than the first 2019 egg (which was 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)), the first of 2021 matched that of last year as the second earliest of the last nine years (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 2019 when Storm Hannah encouraged the majority of auks 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, however very strong winds and exceptional 16 metre seas during the 20th and 21st May led to the loss of many eggs from the more exposed ledges; this unseasonable disruption probably altered the number of adults present on at least some areas of cliff during the 2021 survey period.

The six study plots were counted on ten dates between 26th May and 7th June. The mean total from all plots was 1102 adults on ledges; this was 3.5% down on the record 2020 total, but 22.8% up on the 2011-2020 mean (897.7 ±sd 170.1) and the second highest total yet recorded. Numbers declined significantly in three of the plots; at Middlerock the ten visit mean declined from 58 to 48 (a 17.2% drop which took the total to 16 birds down on the high set in 2015 and 2016), at Guillemot Cliff the mean declined from 182 to 160 (a 12.1% drop which took the total to a new low, 22 birds down on the record set last year) and at Steep Bay the mean declined from 109 to 97 (an 11.0% drop, although the total was still the fourth highest yet recorded at this site). The Little Bay plot contained an average of 309 birds, this almost matching the record 2020 mean of 311. The slope to Purple Cove contained an average of 85 birds, this matching that of last year as the highest mean to date. The North Gully plot contained an average of 403, this 1.8% up on the 396 of last year and a new high. The plots now contain more birds than were present on all of the Skokholm cliffs prior to 2004 and nearly twice the number present in the plots during 2010, whilst the lowest of the ten 2021 plot counts exceeded the highest 2016 plot count. A distinctive yellow billed adult was again present in the North Gully plot (above photograph); similar aberrants have been seen on the Isle of Man, Bass Rock, the Farne Islands and Lambay.

This was the third time in nine years in which numbers have declined in the plots, although such small declines are perhaps a short-term consequence of the weather conditions and local factors prevalent each year, rather than of a genuine drop in the number of birds looking to occupy these areas; the previous declines were followed by an increase in numbers over the next two years. Recent Skokholm 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

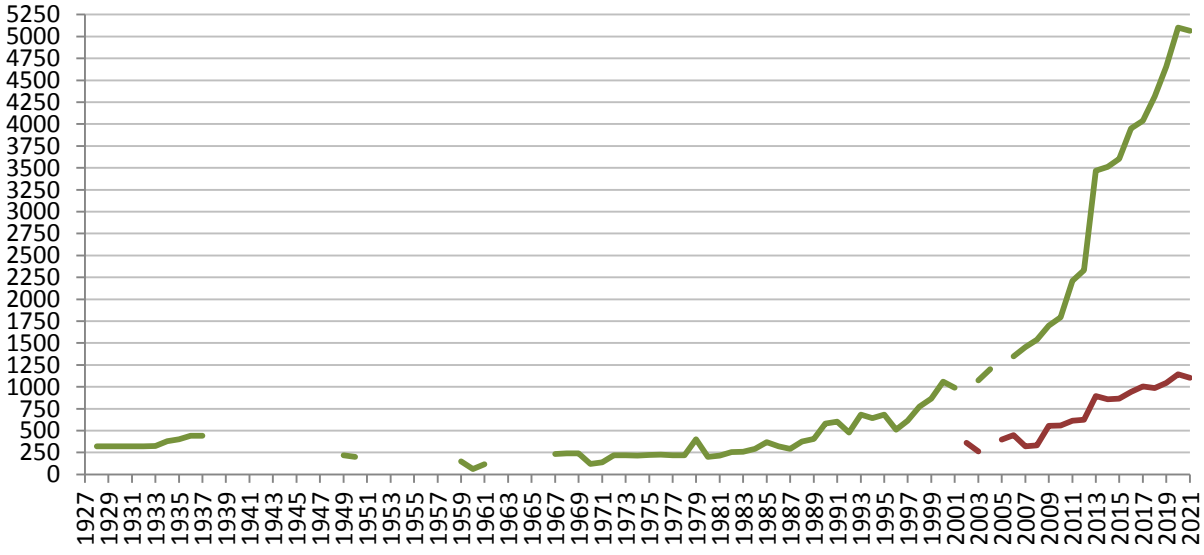
increase in Fulmar numbers; it seems possible that in some areas Fulmars will halt any further expansion of auks along their current ledges and they may be excluding auks from previously occupied areas. Although Fulmar-free ledges apparently suitable for colonisation by cliff nesting auks are present within the study plot boundaries, these new areas were not utilised this year. Interestingly the birds present on the expanding upper edge of the North Gully colony (which still lie within the plot boundary) are perhaps more likely to be disturbed; a Rabbit which ran through this area of the plot on 13th June flushed approximately 20 Guillemot, including one which lost its egg.

**The whole Island totals (adults on ledges suitable for breeding), 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 2012-2021.**

| | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
|---|---|---|---|---|---|---|---|---|---|---|
| **Island** | 2330* | 3466 | 3512 | 3603 | 3949 | 4038 | 4316 | 4654 | 5101 | 5065 |
| **Plots** | 625 | 896 | 859 | 864 | 943 | 1004 | 987 | 1044 | 1142 | 1102 |
| **Range** | 530-746 | 824-949 | 797-947 | 756-939 | 887-1003 | 939-1144 | 937-1060 | 982-1140 | 1069-1213 | 1012-1209 |
| **±SD** | | 39.20 | 54.25 | 58.30 | 40.25 | 57.45 | 37.38 | 54.40 | 50.57 | 68.55 |
| **Plot %** | 26.8* | 25.9 | 24.5 | 24.0 | 23.9 | 24.9 | 22.9 | 22.4 | 22.4 | 21.8 |

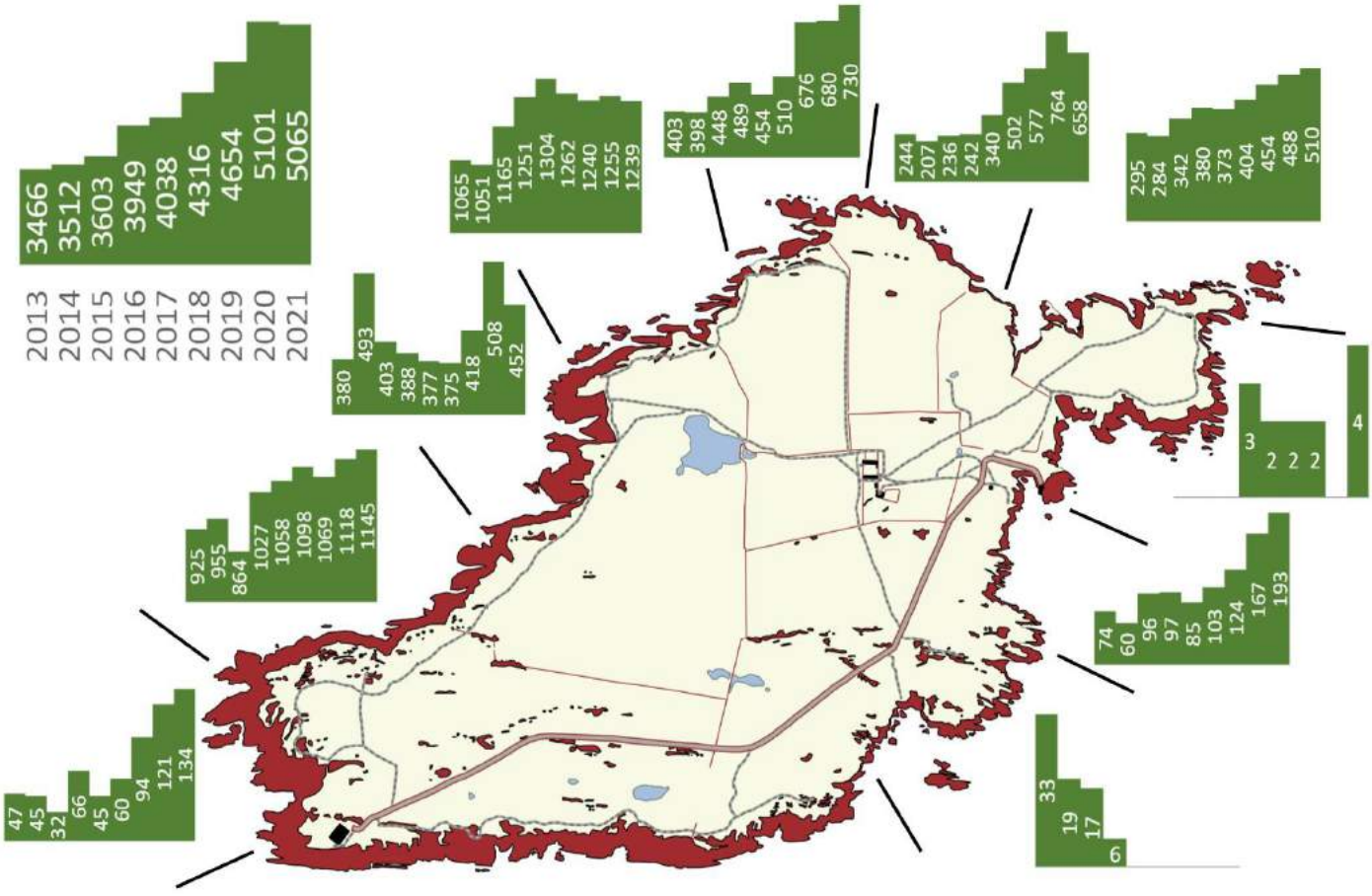
* There was no boat-based count in 2012.

**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.**



Whole Island counts were made from the land between 28th May and 6th June and calm seas allowed for a boat-based survey on 7th 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 5065 adults in suitable breeding habitat was 0.7% down on the 2020 count, but the second highest tally yet recorded on Skokholm. This was the first time since 2001 in which the mean whole Island count had declined on that recorded the previous year; the 1.3% growth logged between 2013 and 2014 and the 2.3% growth logged between 2016 and 2017 were the lowest increases during this period, whilst mean population growth between 2006 and 2021 was 9.8% per annum. The proportion of the whole Island count made up of study plot birds (21.8%) was down on the 2011-2020 mean of 24.5% and was the lowest since 2008, perhaps suggesting that some of the factors limiting the more intensively studied plots are not impacting the entire Island population in the same way (a 3.5% decline in the plots was higher than that seen across the Island as a whole). However, 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 2013-2021.**




As can be seen from the above map, the only numerical declines occurred between Purple Cove and Twinlet (56 fewer birds), between the Jogs and the Dents (16 fewer birds) and between Smith's and Far Bays (106 fewer birds). There was an average of 13 more birds around the Quarry, 27 more birds between Wardens' Rest and Fossil Bay, 50 more birds around Little Bay and Little Bay Point, 22 more birds along the north coast of the Neck and 26 more birds in the vicinity of South Haven and Hog Bay. Following a lack of birds in 2020, an average of four occupied a ledge in Peter's Bay. There were no birds occupying the ledges around Crab Bay for a fifth year. 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

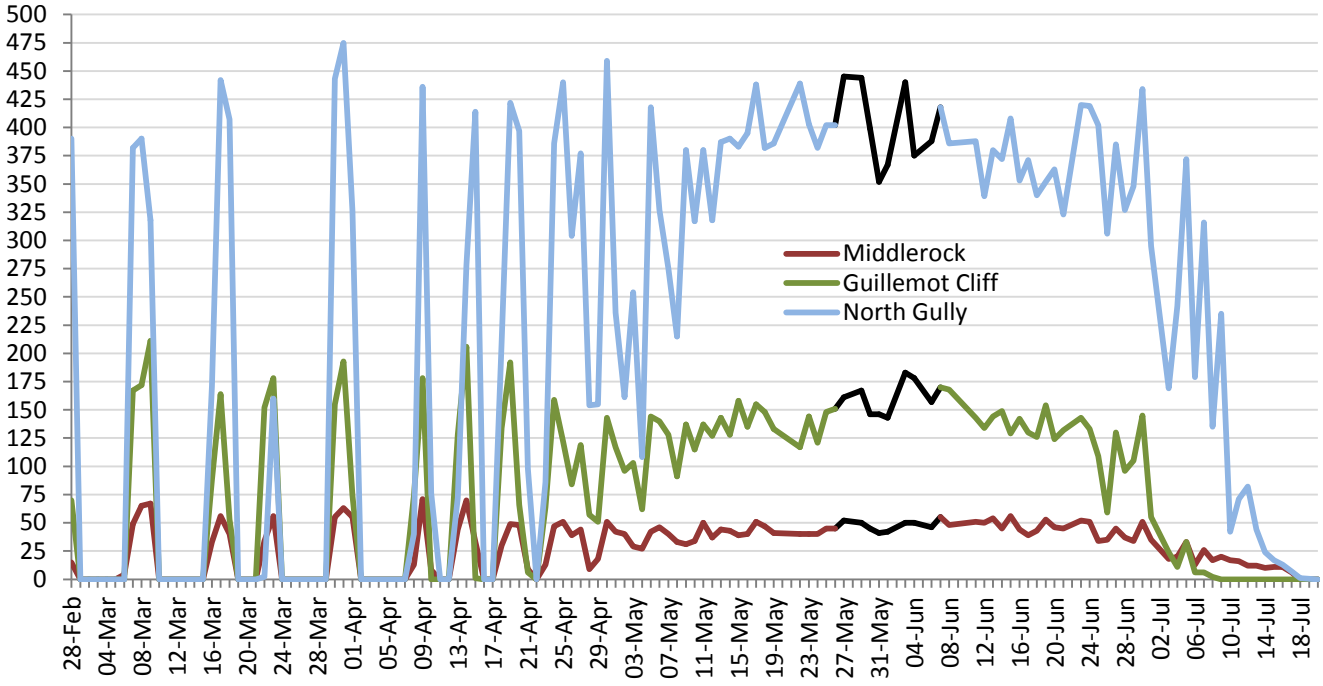
an estimate of breeding pairs (Harris *et al*., 2015). A 2015 survey on Skokholm found the correction factor to be 0.64, a figure close to the 0.67 widely adopted in previous studies (see the Skokholm Seabird Report 2015); the latter correction factor predicts the Skokholm breeding population to be in the region of 3394 pairs, this 24 fewer than last year.

The first egg to be seen this year was still an egg on 26th May, whilst the first chick of the year was present on an adjacent Middlerock ledge three days later (when it could not be confirmed if the first egg had hatched); this was one day later than the first chick to be seen last year, but six days earlier than the 2013-2020 mean (the earliest chick during this period was logged on the 23rd in 2019, whilst the first chick of 2014, the year following the severe winter auk wrecks, was on 13th June). Productivity, calculated at between 0.55 and 0.61 jumplings per pair in 2013 and 0.6 in 2007, was not assessed in 2021 following recommendations from the Islands Conservation Advisory Committee. Chicks were jumping from the third week of June and the number of adults recorded in the three regularly monitored plots dropped from 615 on the 23rd to 545 on the 25th, 400 on the 26th, 211 on 3rd July and 154 on 8th July (see chart below).

There were the usual late spikes in the number of Guillemot occupying the plots, with the total in the three monitored plots increasing from 198 on the 6th to 348 on the 7th and from 154 on the 8th to 255 on the 9th; similar late season returns occur each July. Between the 8th and 9th July, the number of adults in the Guillemot Cliff plot dropped from two to zero; the last birds had departed Guillemot Cliff by the 6th last year, the 3rd in 2019, the 14th in 2018 and the 5th in 2017. The number of birds in the Middlerock plot dropped from 11 on the 16th to six on the 17th and zero on the 18th; Middlerock was deserted on the 17th in 2020 and 2018, on the 6th in 2019 and on the 9th in 2017. Counts at North Gully dropped to seven on the 17th, one on the 18th and zero on the 20th; North Gully was deserted on the 15th last year, the 16th in 2019, the 20th in 2018 and the 17th in 2017. This was thus the seventh year of the last eight in which birds have remained for longer at North Gully; although the larger breeding population at North Gully probably accounts for the typically later departure, the last five years have seen the last birds depart Guillemot Cliff before Middlerock (this despite the larger population at Guillemot Cliff). Whole Island counts mirrored those made at the plots, with Steep Bay the only site to see birds ashore after the 22nd; 15 birds were still ashore on the 23rd, there were 13 two days later, six on the 26th and six on the 27th were the last to be seen on land this breeding season (this six days later than the 2013-2020 last bird mean, with two on 16th July 2019 the earliest last birds and six on the 27th in 2013 the latest (equal with those of this year)). Up to six

were seen at sea on a further four dates to the end of July and in August there were records on just ten dates, totalling 121 bird-days and with peaks of 45 on the 5th and 36 on the 8th; the August bird-days total was the lowest since the 47 of 2016 and well down on totals of between 1129 and 3841 logged in the three years between 2018 and 2020 (a total of 178 in 2017 was the previous August high, however a boat trip four miles offshore that year revealed hundreds of rafting Guillemots).

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




September counts are rarely high (the record bird-days totals remain the 563 of 2014 and the 1419 of 2018), however this year saw sightings on only ten dates tally just 44 birds; the 2011-2020 mean is 291, with only one total during this period being down on that of 2021. However, there were an additional 1261 distant, unidentified auks logged during September, this the second highest total in this month (only down on the 2613 of 2018). Sightings of up to 135 Guillemots on 14 October dates totalled 519 bird-days, this the highest October tally to date (the previous high was the 123 of last year); this increase reflected an unprecedentedly early return to the cliffs (see below). An additional 7951 unidentified auks were logged during the same period, this including a record daycount of 3569 on the 3rd and by far the highest October tally to date (the previous high being the 2055 of 2016). There was again a staff presence throughout November, with sightings on 20 dates and highs of 539 on the 8th and 538 on the 9th taking the bird-days total to 2647; the peak November daycount was only down on the 790 of 2015 and the 785 of 2019, whilst the bird-days total was only down on the 3441 of 2019. An additional 3026 distant auks were noted during November, this total only down on the 3985 of 2019 and the 3038 of 2020. 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 six of seven subsequent Novembers, with 2017 the only year without a record (when staff departed on the 9th). This season saw 129 birds ashore above the Jogs on 23rd October, this seemingly the earliest ever return to the Island; there were 125 ashore on 5th November last year, with the only earlier landfalls being of birds on 27th October in 1999, on 3rd November in 2016 and on the 1st and 4th November in 2019. There were landfalls on the next three October dates (with a high of 62 above the Jogs on the 25th) and on nine November dates, with birds at Guillemot Cliff and

Steep Bay on the 6th the first ashore at a site other than above the Jogs. There were highs of 375 ashore on 8th November (across four sites) and 511 the following day (across six sites). No birds were ashore during the first five days 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.

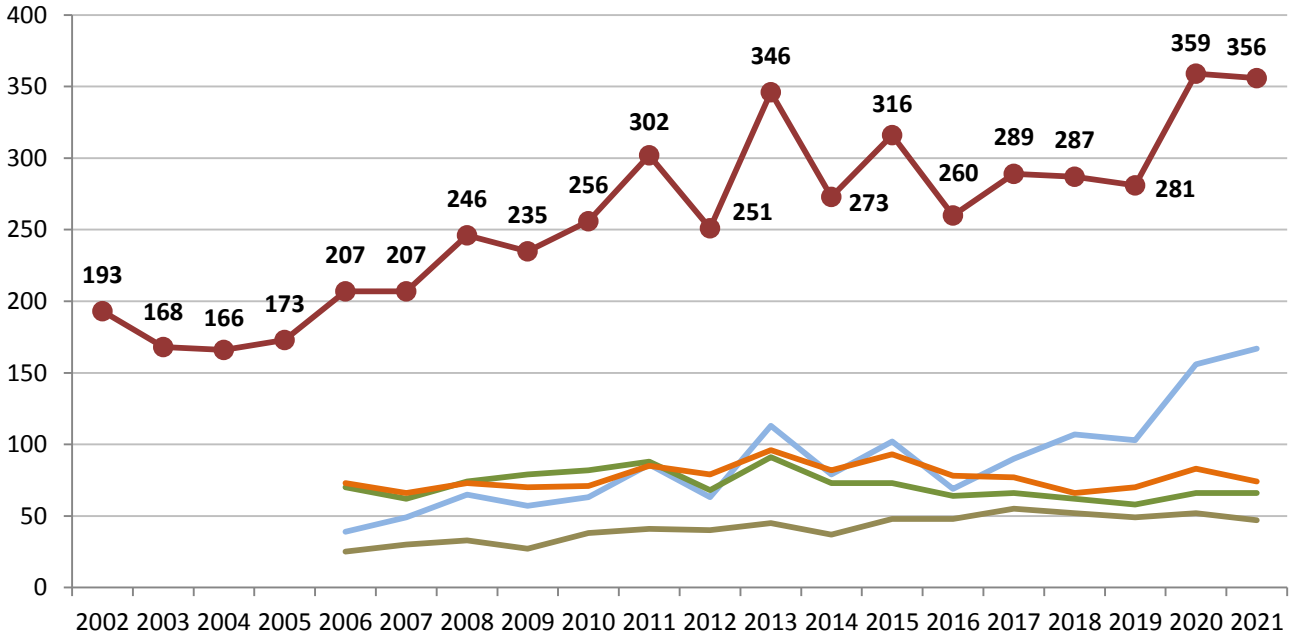
**Ringing recovery** Left leg green darvic with white 69K, Right leg N00620
**Originally ringed** as a pullus, THE AMOS, SKOMER ISLAND, PEMBROKESHIRE June 2005
**Previously recovered** as an adult, SKOMER ISLAND, PEMBROKESHIRE four times in 2009
**Previously recovered** as an adult, SKOMER ISLAND, PEMBROKESHIRE 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
**Previously recovered** as an adult with a chick, NORTH GULLY, SKOKHOLM 21st June 2020
**Recovered** as an adult, NORTH GULLY 8th April 2021
**Finding condition** Colour ring read in field
**Distance travelled** 4km at 163 degrees (SSE)
**Days since ringed** 5762 (approximately)

**Razorbill** *Alca torda* **Llurs**
**Very Abundant Breeder** Common or Abundant until 2007, numbers then increasing rapidly
35 pulli trapped, 1 retrapped
1931-1976: 9705 trapped, 2013-2020: 286 trapped, 7 retrapped, 4 controls

There were sightings on the last three days of February and on all but five March dates, with highs of 1929 on the 7th and 1665 on the 16th, but eight further dates with fewer than 13 noted; the majority were at sea, with 1038 on the 7th and 779 on the 8th the highest counts of birds ashore. There were three March dates on which the only Razorbills ashore were those occupying crevices in the Anticline, the Oystercatcher roost perhaps offering sufficient safety in numbers to allow for a landfall. Daycounts continued to fluctuate during early April, with highs of 1811 on the 8th (924 of

which were at sea) and 1816 on the 14th (1065 at sea), but lows of between zero and ten on six dates between the 2nd and 11th. The number on the cliffs increased steadily from 17th April and the first egg to be seen was being incubated at North Gully on the 24th; although five days later than the first of 2019 (an exceptionally early egg which was probably the result of unseasonably high sea surface temperatures) and one day later than the first of last year, this was earlier than any egg laid prior to 2019 and was five days earlier than the 2013-2020 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 eggs were produced during early May, with 76% of Neck plot pairs and 77% of North Gully plot pairs having eggs by the 7th.

**The total number of adult Razorbill in all six study plots 2002-2021 (as an average from ten visits) and the totals from the four largest plots since 2006 (as an average from ten visits).**




The weather between the 20th and 21st May was extreme, with southwesterly winds gusting at up to 69mph and the Mid Channel Rock Lighthouse Beacon off St Ann's Head registering an average wave

height of 11 metres and multiple, very unseasonable, waves of at least 16 metres. A check of the Neck plot on 22nd May revealed that 17 pairs (58.6%) had lost eggs since the 18th, whilst two pairs at North Gully lost eggs during the same period (6.5%). This was the second consecutive year in which a May storm has had a significant impact on the breeding Razorbills; the 2020 storm resulted in similar losses, with 60% of Neck pairs losing their eggs, but just one (or possibly two) of the North Gully eggs being lost. Inevitably such untimely losses impact the number of adults on ledges during the usual whole Island and study plot count period; the period following the egg losses again saw an increase in the number of adults present in some areas, however counts at the start of the survey period were down on those made in the week prior to the storm (perhaps due to females egg forming elsewhere or the abandonment of the colony by failed pairs which did not re-lay). Given these fluctuations 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 which saw 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 nine 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 (adults on ledges suitable for breeding), 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 2012-2021.**

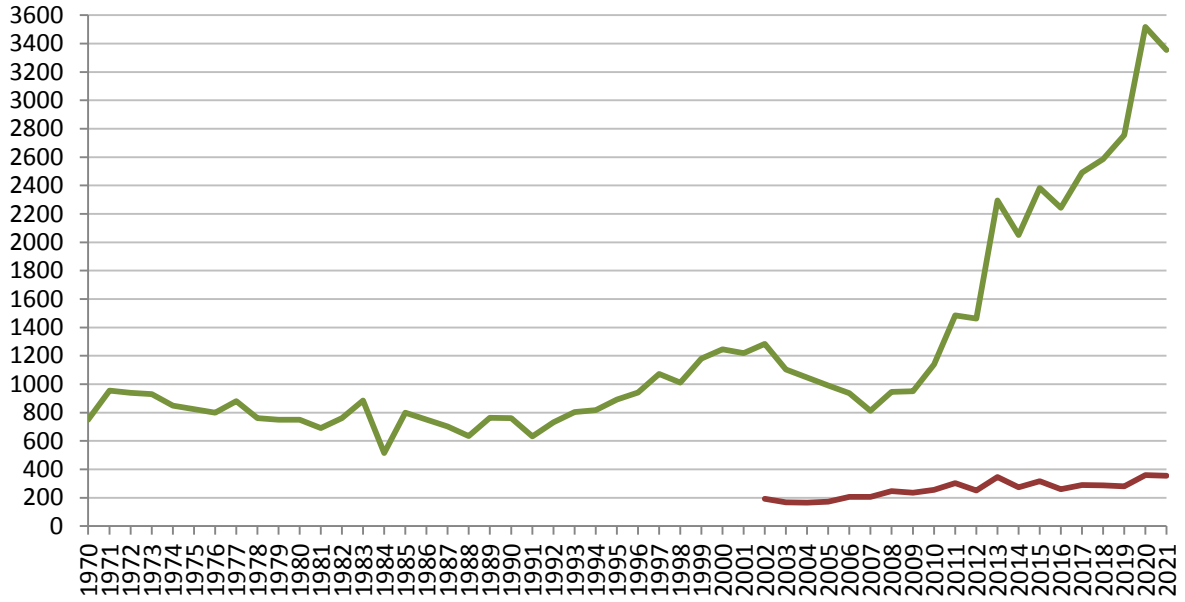
| | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
|---|---|---|---|---|---|---|---|---|---|---|
| **Island** | 1463* | 2294 | 2052 | 2382 | 2242 | 2491 | 2585 | 2755 | 3517 | 3356 |
| **Plots** | 251 | 346 | 273 | 316 | 260 | 289 | 287 | 281 | 359 | 356 |
| **Range** | 164-338 | 301-397 | 254-315 | 291-346 | 236-324 | 253-334 | 263-309 | 230-351 | 312-395 | 312-411 |
| **±SD** | | 30.54 | 19.96 | 15.78 | 26.58 | 25.61 | 13.25 | 40.82 | 30.72 | 34.06 |
| **Plot %** | 17.2* | 15.1 | 13.4 | 13.3 | 11.6 | 11.6 | 11.1 | 10.2 | 10.2 | 10.6 |

* There was no boat-based count in 2012.

The six study plots, established in 2002, were visited on ten dates between 26th May and 7th June when every adult in suitable breeding habitat was counted. The mean single visit total of 356 adults on ledges was three (0.8%) down on that logged last year but the second highest total to date, 20.1% up on the 2011-2020 mean (296.5 ±sd 35.1). The largest numerical increase was again seen at Little Bay where the mean rose by 7.1% from 156 to 167; this was a new high for this site. An average of two birds were present on the Steep Bay ledges, this becoming only the third year of the last nine in which birds were present on enough occasions to register (there was a mean of two in 2014 and one in 2016). The Middlerock mean remained at 66, this matching that logged in 2017 and 2020 as the highest since the 73 of 2015 (albeit being well down on a high of 91 in 2013). There were nine fewer birds logged on Guillemot Cliff, a total of 74 being the third lowest of the last nine years and well down on highs of 96 in 2013 and 93 in 2015. There were five fewer birds at North Gully, a total of 47 being the lowest since a 2014 mean of 37. A mean of one bird 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 and two in 2020 have been present regularly enough to register on the ten visit mean. The 84.5% 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 128 birds (328%) since 2006 (the blue line on the above graph). A smaller 88% 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 rough weather in 2020 and 2021 (as

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 Twinlet study plots are areas shared with Fulmars, this a species currently increasing on Skokholm as a whole; the total number of apparently occupied Fulmar sites in the Middlerock and Guillemot Cliff plots was six in 2013 and 12 in 2021, this increase perhaps leading to competition with Razorbills for space within the confines of the plot boundaries.

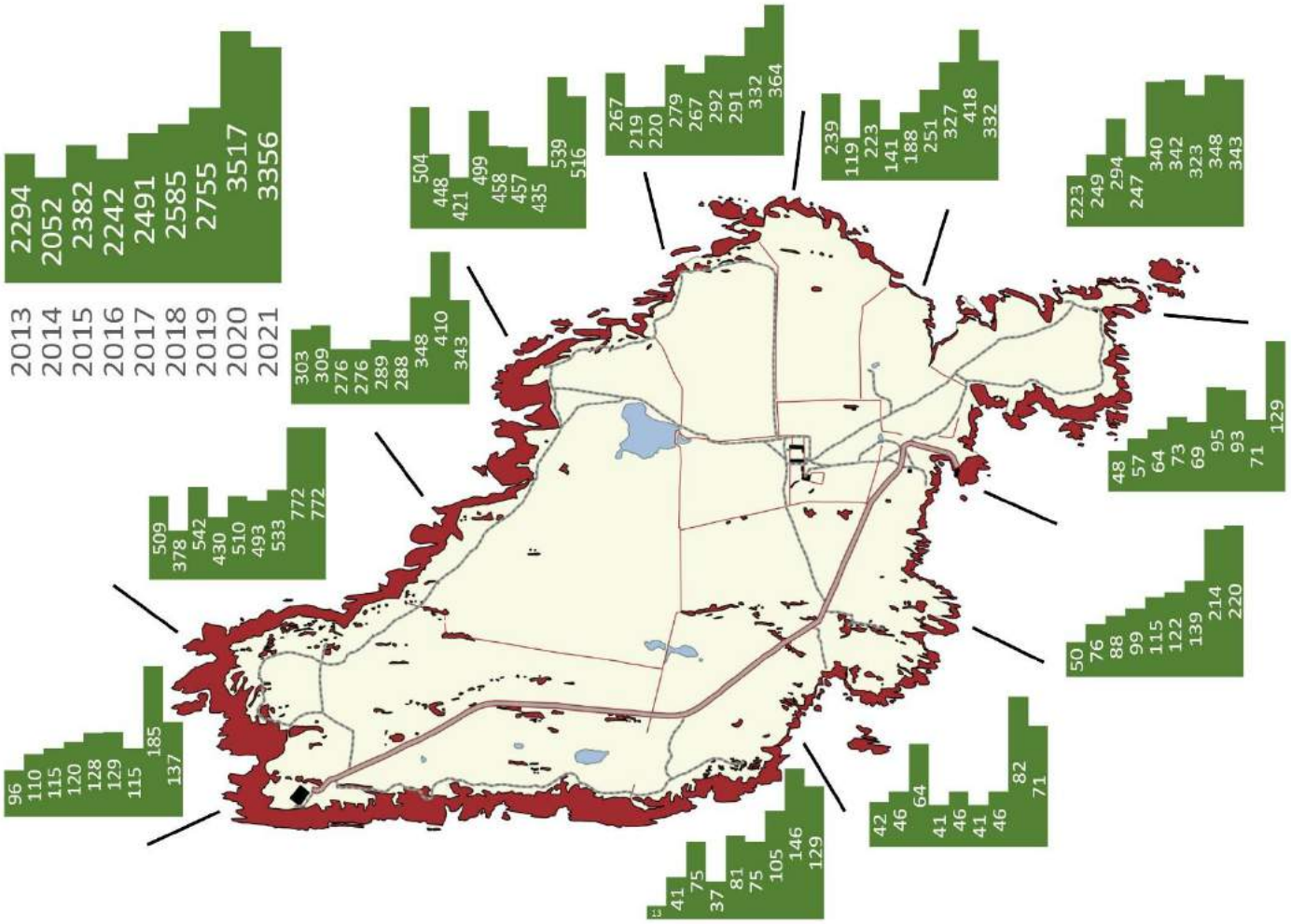
**The total number of Razorbills (adults on ledges suitable for breeding) recorded on Skokholm since 1970 and the number of birds within the study plots since 2002.**




Whole Island counts were made from the land between 28th May and 6th June, whilst a boat-based count was possible on 7th June. This was the ninth 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 2021 whole Island mean of 3356 adults in suitable breeding habitat was 4.6% down on the 3517 logged in 2020 but the second highest total yet recorded on Skokholm (44.2% up on the 2011-2020 mean of 2326.7 ±sd 599.4). The significantly higher numbers recorded in the last two years are perhaps in part due to the number of pairs impacted by huge seas shortly before the start of the survey period (see above), conditions which may also have changed the behaviour of non-breeding birds. Given that the ten visit study plot mean also declined (albeit only by 0.8%), the drop in overall numbers seen this year was likely genuine and not due to the fact that the whole Island count is based on fewer visits. Although any decline in numbers is cause for concern, similar drops were noted in 2014 and 2016, both followed by a record total the following year. Indeed it should be noted that some single visit counts (for example combined plot totals of 402 on 3rd June and 411 on 6th June) were the highest to date.

As can be seen from the map below, the number of adults present did not decline in all areas; there was an average of 32 more birds located in the vicinity of Little Bay and Little Bay Point, 58 more birds around the southerly portion of the Neck and six more birds between South Haven and Hog Bay. The average number of adults between Wardens' Rest and Fossil Bay matched the 2020 record. However there were 48 fewer in the vicinity of the Quarry, 67 fewer between Purple Cove and Twinlet, 23 fewer between the Jogs and the Dents, 86 fewer between Smith's and Far Bays, five fewer to the north of the Neck, 11 fewer around Crab Bay and 17 fewer along the South Coast.

**The distribution of Razorbills on suitable breeding ledges 2013-2021.**




Productivity monitoring was undertaken for a ninth 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 continued population growth despite low productivity estimates could be that the plots do not represent the Island as a whole. This is potentially the case at the exposed Neck plot where predation levels are often quite high and where, in recent years, extreme weather events have had a greater impact; although Razorbills nest in similarly exposed places elsewhere on Skokholm, an additional plot looking at cliff nesting pairs was established at North Gully in 2017 in an attempt to study birds in a somewhat more sheltered setting. There were thus three survey areas this year, one a cliff below the Neck Razorbill Hide where 29 incubating pairs were mapped between the 2nd and 16th May, one the ledges around North Gully where 31 pairs were mapped between 24th April and 18th May and one an area among the Bluffs boulders where 54 egg sites were marked on 7th May.

The first chick to be seen anywhere on Skokholm was found in the North Gully productivity plot on 27th May; this was four days later than the first of last year, but six days earlier than the 2013-2020 mean (which is 2nd June, with the earliest on 18th May 2019 and the latest on 15th June 2013). The North Gully plot saw ten egg stage failures (of which three pairs re-laid, one again failing at egg or small chick stage and two producing jumping age chicks), two failures at egg or very small chick stage (ledges were found empty, with no indication as to what had happened) and one failing at chick stage. There were 18 pairs successful at the first attempt. The resulting productivity value of 0.65

jumplings per pair was down on the 0.76 of last year and the 0.71 of 2019, but up on the 0.62 of 2018 and the 0.58 of 2017 (the 2017-2020 mean is 0.67 ±se 0.03). At the Neck there were 22 egg stage failures (including the 17 seemingly lost during the May storm), two chick stage failures and five pairs produced jumping age chicks at the first attempt; of the pairs which failed with their first egg, 12 re-laid, five of which again failed at egg stage, two of which failed at egg or small chick stage, three of which failed at chick stage and two of which produced jumplings (both of which departed between the 25th and 26th July). Thus only seven chicks attained jumping size at the Neck; the resulting productivity figure of 0.24 was very similar to the storm impacted 0.21 of 2020 and down on a 2013-2020 mean of 0.40 ±se 0.11 (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 0.44; this was down on a 2017-2020 mean of 0.56 ±se 0.06 and the lowest combined cliff estimate since the 0.36 of 2017.

Among the Bluffs boulders seven pairs failed at egg stage, ten pairs failed with eggs or small chicks (crevices were found empty, with no indication as to what had happened) and eight pairs failed with chicks (four went missing at between eight and ten days of age, three went missing at between 13 and 16 days and one was found dead at 16 days). Two pairs produced a second egg, both of which again failed at egg stage. Thus 29 pairs produced a jumpling, this equating to a productivity value of 0.54 per pair. The 2021 productivity estimate was down on the 0.71 of 2020, but matched both that of 2019 and a 2013-2020 mean of 0.54 ±se 0.05 (lows during the period were of 0.29 in 2015 and 0.44 in 2014, whilst 0.74 in 2016 was the only value up on that of last year). For a ninth year running, the last of the breeding attempts within the boulders were concluded before the last of the attempts on the cliffs. Of 20 chicks examined at the Bluffs, two had 'winter-plumage' white throats (below left photograph) and 18 had 'summer-plumage' black throats (below right photograph).

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 0.47 jumplings per pair and the latter 0.49. Primarily as a result of the disappointing productivity recorded at the Neck plot, the 2021 estimate was down on that seen in each of the last three years, but was close to a 2013-2020 mean of 0.49 ±se 0.06 (lows during

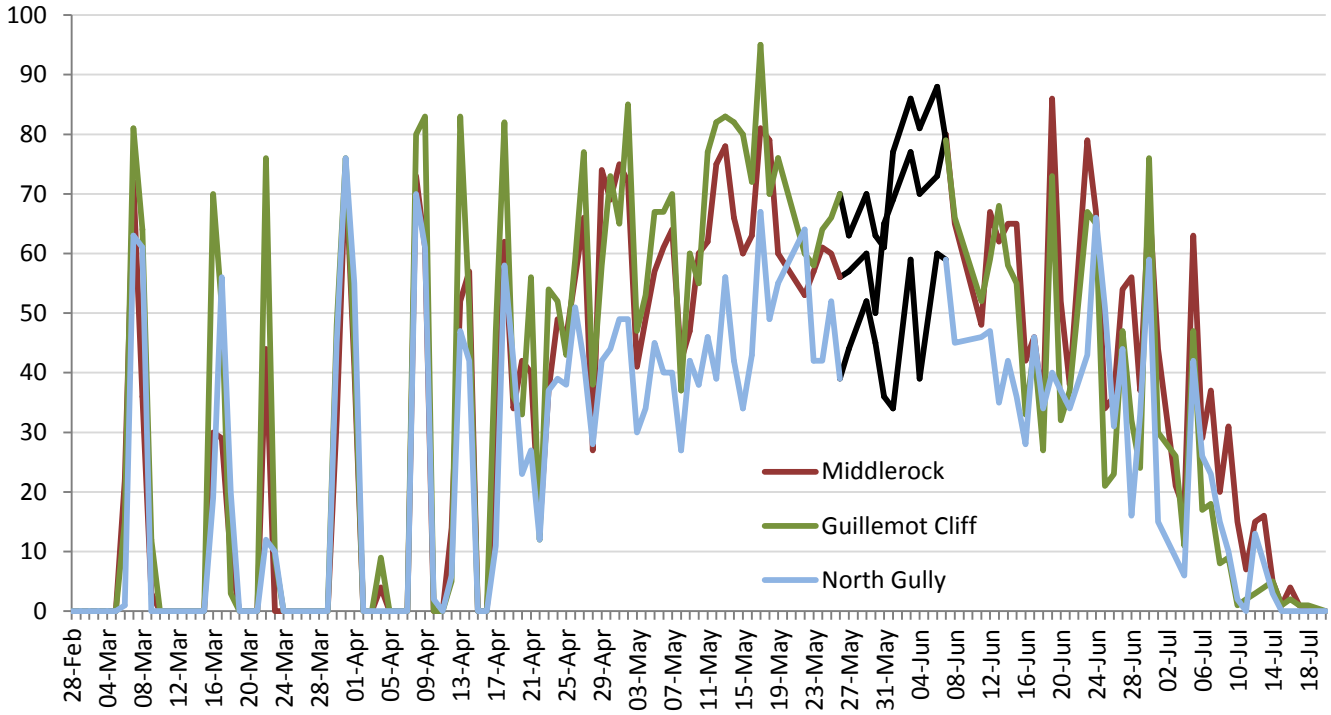
this period were of 0.23 in 2015 and 0.39 in 2016, both these calculated prior to the establishment of the less variable and more sheltered North Gully plot).


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 below). 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 14th June; although six days later than the first of last year (the earliest successful jumpling to date) and five days later than the first of 2019, this was three days earlier than the 2015-2020 mean (between 2015 and 2018 the first productivity plot chick jumped between the 20th and 26th June). The number of adults within the three plots declined during June, with only double-figure totals logged from 6th July (the 2014-2020 mean is 8th July, ranging between 30th June in 2019 and 17th July in 2014) and single-figure counts from 15th July (the 2014-2020 mean is 19th July, ranging between 9th July in 2019 and 27th July in 2014). Whereas all of the Bluffs study chicks had departed by 1st July, 12 of 29 attempts at the Neck plot and two of 31 attempts at the North Gully plot were still active on 6th July (these primarily second attempts following the May storm). The last North Gully chick jumped between the 18th and 20th July and the last two successful Neck plot chicks jumped between the 25th and 26th. Despite the early start to the 2021 breeding season, there were single-figure counts of adults ashore each day from the 25th until 29th July, with one to the west of the Jogs on the latter date the last to be seen; the 2013-2020 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 just four August dates (all between the 3rd and 8th), with a high of 14 on the 5th taking the bird-days total to 29; both the peak daycount and bird-days total were the lowest since those of 2016, the total well down on all-time highs of 392 in 2018, 158 in 2019 and 575 last year. Counts on just seven September dates, with a high of 16 on the 24th, led to a similarly disappointing bird-days total of only 32, this the lowest tally in this month for seven years; three of the four highest September bird-days totals have been recorded in the last five years, with a high of 1708 logged in 2017. Although October also began quietly, birds became more regular from the 20th, with highs of 164 on the 22nd, 104 on the 23rd and 67 on the 25th taking the bird-days total to 392; there have only been three higher daycounts and four higher totals in October (daycounts of

up to 763 led to a record total of 1224 in 2019). A daycount of 76 on the 24th was the second highest to be logged in November, only down on the 82 of 2016, whilst a bird-days total of 117 was the fourth highest tally in this month (between 167 and 228 were logged in each year between 2016 and 2018). 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 a ninth 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 1261 in September, 7951 in October, 3026 in November and 198 in the first five days of December, with a peak of 3569 on 3rd October which was the highest autumn daycount to date (the ten highest daycounts have come in the last eight years).

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

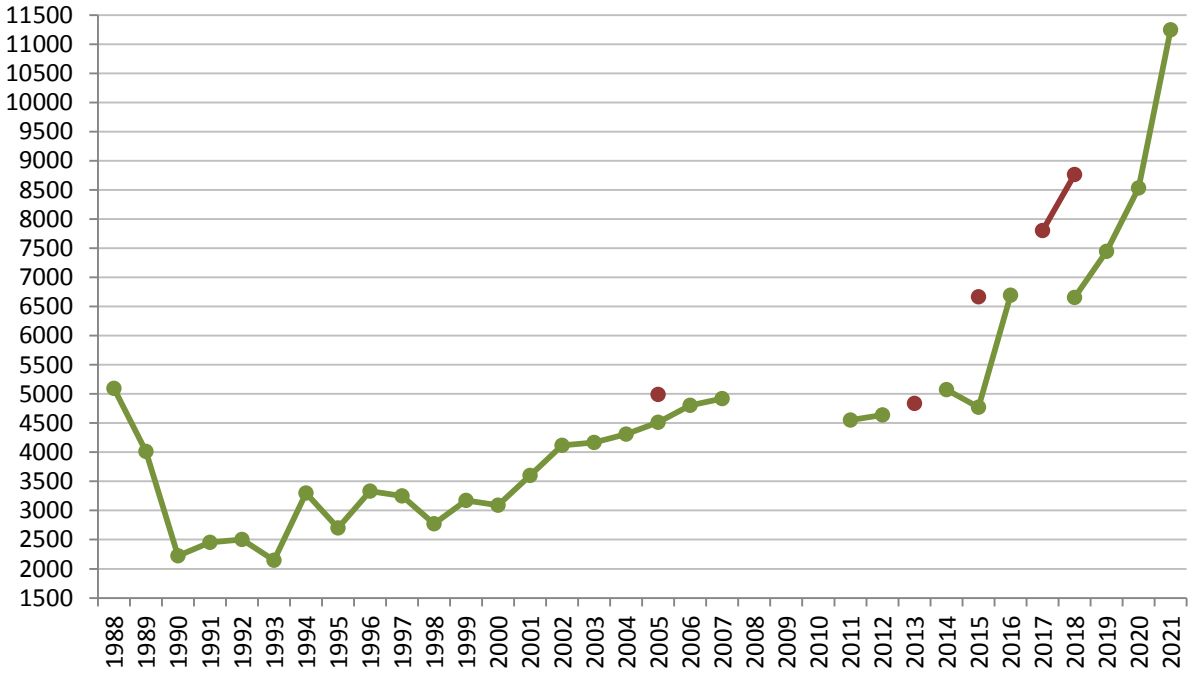



**Puffin** *Fratercula arctica* **Pâl**
**Very Abundant Breeder**
112 trapped, 4 retrapped, 217 resighted
1936-1976: 5412 trapped, 2011-2020: 560 trapped, 25 retrapped, 1625 resighted, 1 control

There were singles off Little Bay Point, North Haven and South Haven on the morning of 7th March, with 19 recorded at the latter site during the early afternoon (numbers reduced as the afternoon went on); this was the most to have been recorded this early in the season, with the only earlier sightings being of one on the 1st and four on the 6th in 2019. There were 11 present the following day and 204 on the 9th, although there were no further sightings for five days; these were all earlier than anything logged prior to 2019, with four on the 12th in 1982 the earliest pre-2019 March record. Following 48 on the 15th, there were sightings on each March date bar the 19th and 26th, with a mean daycount of 1698 and highs of 6531 on the 21st, 11,245 on the 22nd and 3810 on the 30th which took the March bird-days total to 29,098; the three highest March totals have occurred in the last three years, with 23,633 bird-days recorded in 2019 and 20,240 last year. The first two birds to be seen ashore were to the north of Spy Rock on 21st March, this five days earlier than the 2013-2020 first landfall mean; the latest landfall during this period was on 6th April in 2013, whilst landfalls on 19th March in 2019 and 17th March in 2020 are the only records earlier than that of this year. Between

2013 and 2019, daily counts were 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, however COVID-19 dictated staffing shortages meant that this was not an option in 2020 and 2021 (see the 2013-2019 Seabird Reports for charts showing spring attendance around the Neck). The impetus for the whole Island count on 22nd March was thus an assessment of the (remarkable) number of birds rafting in and around South Haven.

**The maximum Puffin daycount recorded each spring during the period 1988-2021. Green points represent counts made during March and April, maroon points counts made in May.**




The 22nd March survey produced a total of 11,245 birds (to the north there were 2133 on the sea, 309 in the air and 443 on land, to the south 3599 on the sea, 184 in the air and 1371 on land and around the Neck there were 2600 on the sea, 200 in the air and 406 on land); although numbers are still well down on Lockley's spring estimates of approximately 40,000, this was the highest post-War spring count, up on the 10,000 logged on nine occasions between 6th April 1950 and 22nd April 1953. 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. Monitoring work at the Crab Bay study plot revealed 76 active burrows in an area which

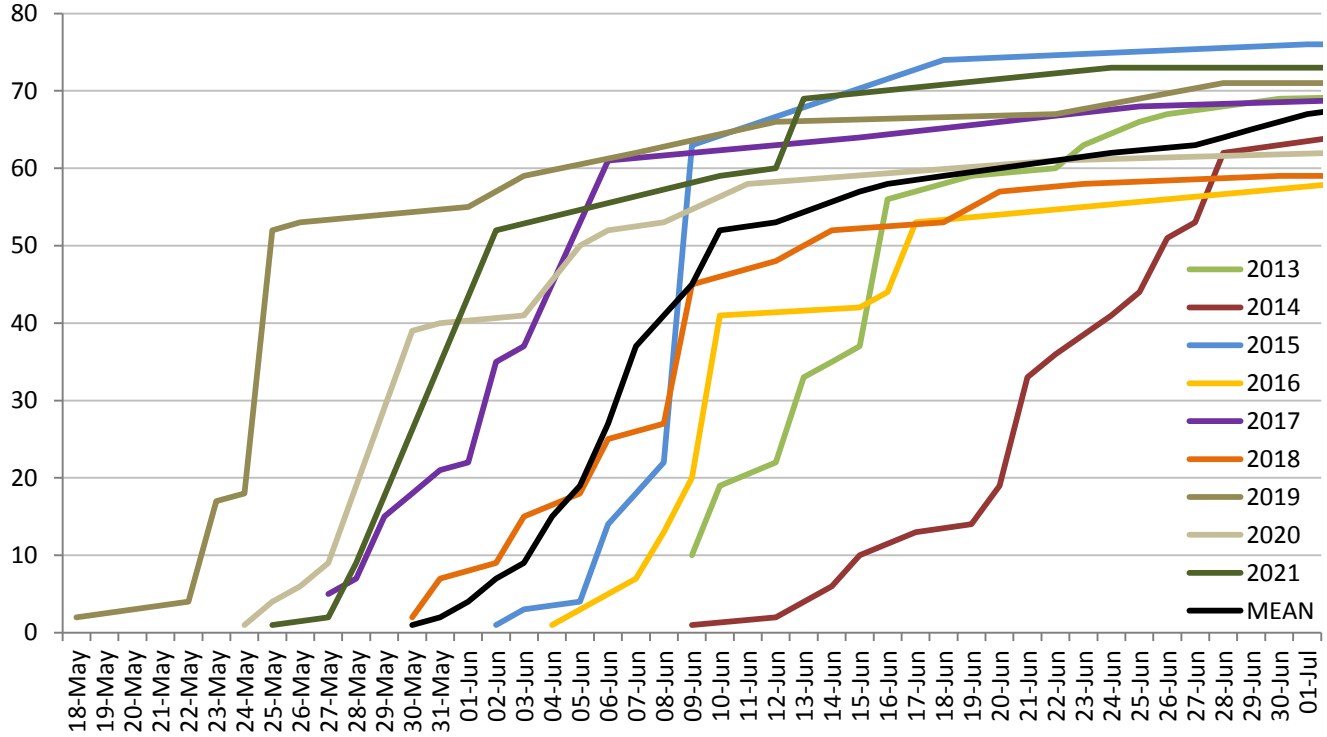
comprises approximately 10% of the colony and where less than half of occupied burrows were study burrows; we might thus predict a very rough minimum of 1520 pairs for Crab Bay (as active burrow distribution is apparently quite even). A predicted Crab Bay total of 3040 individuals is close to the 2961 counted during the 22nd March whole Island count, however this is rarely the case; there were 1637 birds counted in Crab Bay in 2020 (when monitoring work suggested 2880 should be present) and 1851 in 2019 (when monitoring work suggested 3000 should be present).


A productivity plot established at Crab Bay in 2013 was used for a ninth 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, 71 were seen to be occupied and were visible throughout the season (67 in 2020); productivity estimates are based on observations of these burrows. Chick provisioning was first witnessed on 21st May, with deliveries made to one Crab Bay and two South Haven burrows; these were three days earlier than the first of last year and four days earlier than the 2013-2020 mean (the earliest in this period was logged on 14th May in 2019 and the latest on 3rd June in a post-wreck 2014). The mean 2013-2020 first fish delivery to the Crab Bay plot is 30th May, this five days after the whole Island mean (in 2020 the first plot delivery was on the same date as the first delivery anywhere, whereas in 2013 it was ten days later); this year saw a fish delivery to the plot on 25th May, this one day later than the first of last year but five days earlier than the mean (see the graph below for the first plot delivery dates logged in previous years). The cumulative total of provisioned burrows again increased rapidly; over 71% of burrows had been provisioned within nine days of the first fish arriving, these with chicks eight days earlier than the 2013-2020 mean. The 2021 chick feeding period was two to 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; the three earliest chick provisioning periods between 2013 and 2021 have occurred in the last three years, with the start of the 2021 provisioning period being the third earliest to date. Two active burrows (2.82%) were not seen to be provisioned with fish and it is assumed that these failed at egg stage (the 2013-2020 mean is 6.10%, with a high of 7.79% in 2013 and a low of 3.28% in 2018).

Although the study plot was visited regularly following the first recorded fish delivery, 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 five daylight hours watches were performed in each year between 2014 and 2019, a COVID-19 dictated staffing shortage meant that the five 2020 watches each lasted from 0430-1700hrs only (approximately five fewer hours than usual); this year saw a return to watches lasting all of the daylight hours.

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




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 were counted as fledged when they had reached as little as 20 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 2021 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 misses fledglings in some years, with apparently successful chicks known to hatch after the second watch (which were thus recorded on only one of three watches and assumed to have failed). Nevertheless this more standardised monitoring suggests that a 2021 productivity figure of 0.80 was similar to that of recent years, indeed it matched that of 2017 as the highest of the last nine (the 2013-2020 mean is 0.76 ±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 2021 data suggests that, of the 71 monitored attempts, perhaps as few as 44 (61.97%) were potentially successful (which equates to a productivity figure of 0.62 fledglings per pair); the 2013-2020 mean ad hoc productivity figure is 0.56 ±se 0.02, with a high of 0.64 in 2016 and 2020 and a low of 0.49 in 2013. At least 47 attempts saw a chick reach a minimum of 26 days (66.2% or 0.66 chicks per pair, see third table below); this figure is down on the 0.72 logged in 2019 and 2020.

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

| No. of deliveries | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| No. of burrows 2 June | | 8 | 17 | 6 | 12 | 2 | 2 | 1 | | | | | | | |
| No. of burrows 13 June | 1 | 5 | 7 | 7 | 8 | 16 | 7 | 2 | 4 | 2 | 2 | | 1 | | |
| No. of burrows 24 June | 1 | 4 | | 9 | 4 | 10 | 6 | 11 | 2 | 2 | 1 | 3 | 3 | | 5 |
| No. of burrows 7 July | | 9 | 6 | 5 | 2 | 4 | 5 | 6 | 1 | 3 | 1 | 1 | 2 | 1 | |
| No. of burrows 13 July | | 5 | 1 | 1 | 1 | 3 | 2 | | 1 | 1 | 1 | 1 | | 2 | 1 |

**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. |
|---|---|---|---|---|---|---|---|---|---|---|
| **2021** | 25 May | 24 Jul | 38 | 23 (2/6 - 24/6) | 11 | 20 (24/6 - 13/7) | 8 | 42 (2/6 - 13/7) | **0.80** (57 of 71) | 0.62 |
| **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 daylight watches.**

| Days | 1-5 | 6-10 | 11-15 | 16-20 | 21-25 | 26-30 | 31-35 | 36-40 | 41-45 | 46-50 |
|---|---|---|---|---|---|---|---|---|---|---|
| No. of burrows | 10 | | 1 | 1 | 10 | 3 | 8 | 21 | 14 | 1 |

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

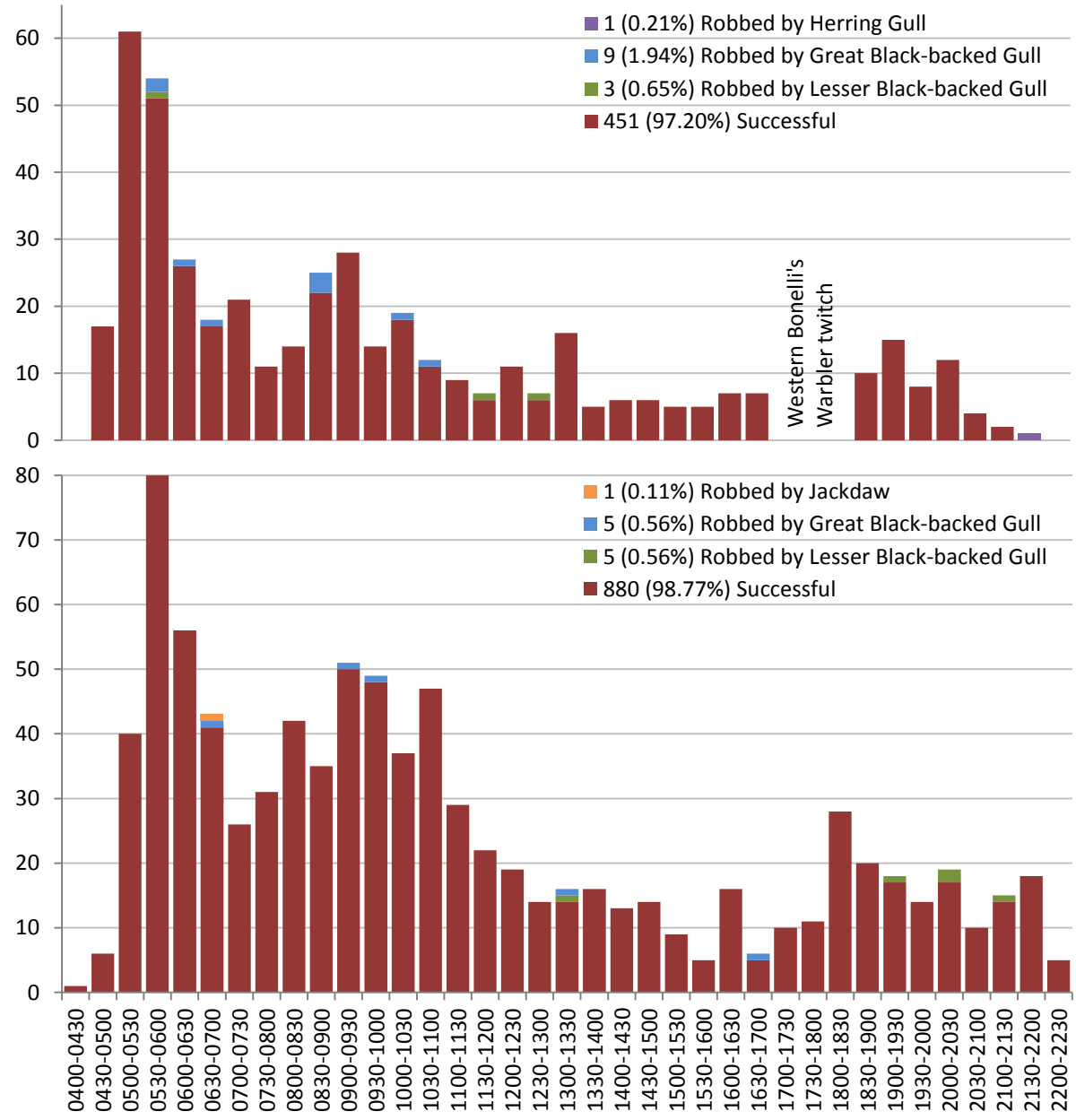
| | | Watch 1 | Watch 2 | Watch 3 | Watch 4 | Watch 5 | Total |
|---|---|---|---|---|---|---|---|
| **2021** | Number of deliveries | 464 | 891 | 1262 | 813 | 394 | **3824** |
| | Number parasitised | 13 | 11 | 9 | 11 | 5 | **49** |
| | Percentage parasitised | 2.80 | 1.23 | 0.71 | 1.35 | 1.27 | **1.28** |
| **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** |

*watches stopped at 1700hrs.

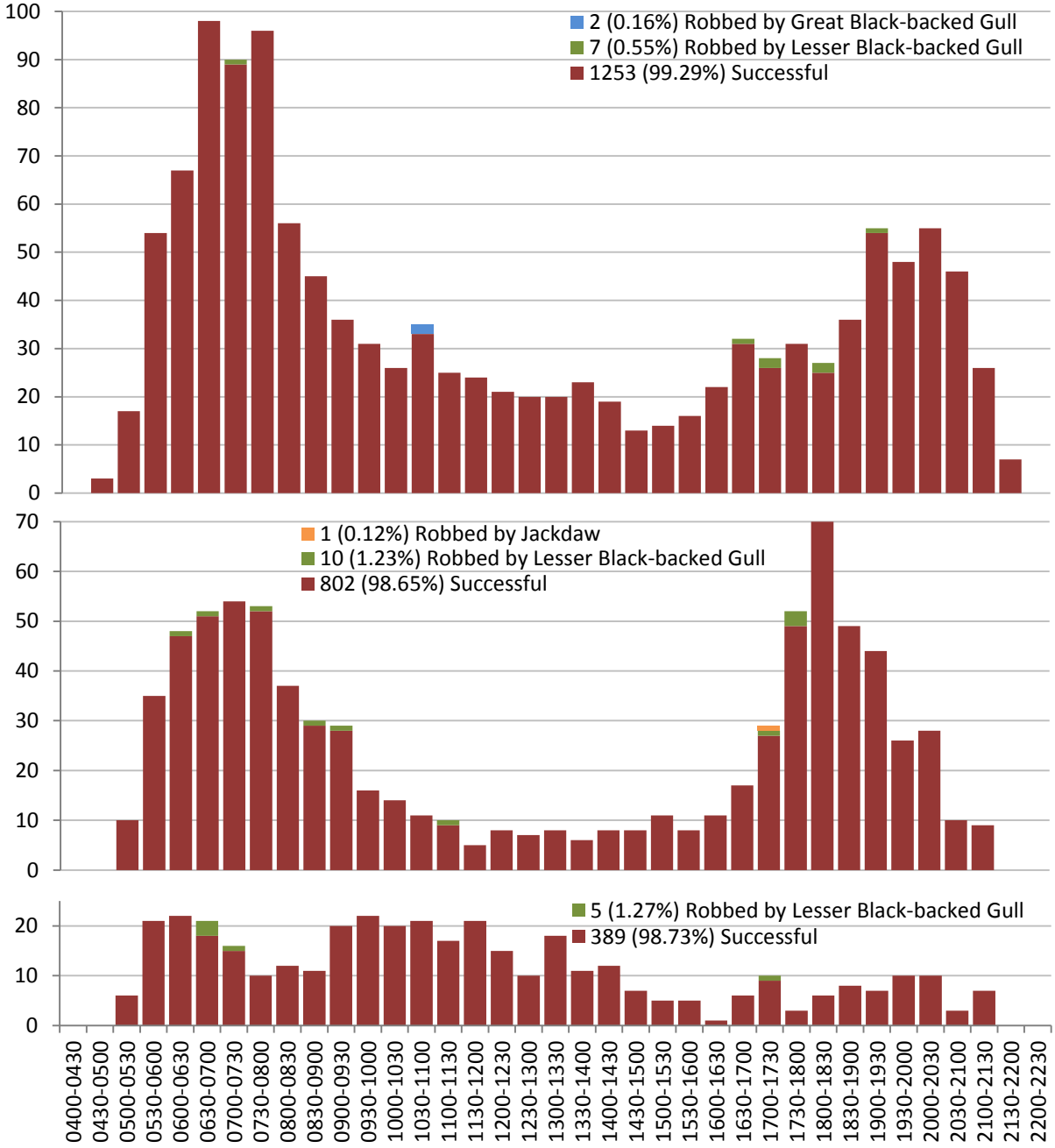
The five daylight watches were also used to monitor kleptoparasitism. The study plot was again confined to the area of the 100 numbered burrow stakes at Crab Bay. On 2nd June 464 Puffins arrived to the study area with fish and of these 13 (2.80%) were successfully robbed. On 13th June 891

arrived and 11 (1.23%) were robbed. On 24th June 1262 arrived and just nine (0.71%) were robbed. On 7th July 813 arrived and 11 (1.35%) were robbed. On 13th July 394 arrived and five (1.27%) 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 1.28% was the lowest of the last nine years, down on a 2013-2020 mean of 3.97%. The last five 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 40.3% in the last seven years), although higher 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 Jackdaws successfully robbed fish twice both in 2020 and this year.

**The number of chick provisioning attempts during daylight on the 2nd and 13th June 2021, along with the number of times that gulls and corvids successfully robbed the fish.**



**The number of chick provisioning attempts during daylight on 24th June and the 7th and 13th July 2021, along with the number of times that gulls and corvids 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 and 106 between 2016 and 2019; a ringing team could not be safely assembled in 2020 due to the COVID-19 pandemic, whilst a further 40 adults were colour marked 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 14 were not seen for two years (including two which went missing for two years twice), seven were not seen for three years and two confirmed this year had not been seen for four and five years respectively. We now know, for example, that the 154 birds seen in 2013 was only 92.8% of the number actually alive and that when 219 were seen last year, at least 242 were alive. A 2020-2021 survival figure of 89.67% is thus likely to increase in the future. With ten 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 2021 has varied between 79.72% (in 2014) and 96.51% (in 2013), with only the 2014 return rate being below 89% and a 2012-2020 mean of 91.78% ±sd 5.06. A flaw with this survival estimate is that colour marks were added to Puffins caught in flight, birds 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 2013-2020 mean of 92.70% ±sd 5.40. 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.

**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 | 38 | 35 | 47 | | | | | 199 | |
| **% survival** | 91.86 | 97.44 | 94.59 | 88.68 | | | | | 92.56 | **92.56** |
| Seen in 2017 | 71 | 35 | 31 | 44 | 19 | | | | 200 | |
| Alive in 2017 | 79 | 38 | 32 | 44 | 20 | | | | 213 | |
| **% survival** | 100.00 | 100.00 | 91.43 | 93.62 | 86.96 | | | | 95.95 | **96.98** |
| Seen in 2018 | 69 | 34 | 28 | 40 | 19 | 20 | | | 210 | |
| Alive in 2018 | 75 | 37 | 30 | 40 | 20 | 22 | | | 224 | |
| **% survival** | 94.94 | 97.37 | 93.75 | 90.91 | 100.00 | 91.67 | | | 94.51 | **94.84** |
| Seen in 2019 | 65 | 33 | 27 | 36 | 17 | 20 | 21 | | 219 | |
| Alive in 2019 | 68 | 35 | 28 | 37 | 19 | 22 | 28 | | 237 | |
| **% survival** | 90.67 | 94.59 | 93.33 | 92.50 | 95.00 | 100.00 | 90.32 | | 92.94 | **93.30** |
| Seen in 2020 | 60 | 31 | 23 | 33 | 15 | 18 | 22 | 17 | 219 | |
| Alive in 2020 | 63 | 33 | 25 | 36 | 17 | 20 | 26 | 22 | 242 | |
| **% survival** | 92.65 | 94.29 | 89.29 | 97.30 | 89.47 | 90.91 | 92.86 | 78.57 | 91.32 | **92.83** |
| Seen in 2021 | 57 | 30 | 23 | 28 | 16 | 16 | 25 | 22 | 217 | |
| **% survival** | 90.48 | 90.91 | 92.00 | 77.78 | 94.12 | 80.00 | 96.15 | 100.00 | 89.67 | **89.67** |

Ad hoc records again mirrored the whole Island count in suggesting that the number of birds on Skokholm is increasing; one on 18th May, which exited and then entered a burrow near 3A in the

Crab Bay Manx Shearwater plot, was the first grounded bird to be seen inland of the Lighthouse Track for many decades, whilst one which flew over the Well Heligoland towards Orchid Bog on 28th May was unusual. Although the main colonies were again crowded on the 14th and 15th July, there had been no obvious non-breeding loafs on the 13th and few had arrived that evening. Crab Bay was almost devoid of surface birds on the evening of the 19th, although there were more around South Haven and the Neck and substantial offshore rafts. A two hour watch on the morning of 24th July recorded only three fish deliveries to study plot burrows and the last four-figure daycount was logged the following day (the majority of which were at sea). Raft counts remained in the hundreds until 5th August (29th July in 2020 and 2nd August in 2019) and no more than 25 were noted on each date from the 6th. The last two fish deliveries to be seen this year were made to South Haven burrows on 11th August, this two days later than the last of 2020 but one day earlier than the 2013-2020 mean; the latest last delivery recorded during this period was on 23rd August in 2014, whilst one on 4th August 2019 was the earliest. The only other sightings were of birds at sea, with two on 12th August, one on the 14th and two in Broad Sound on the 21st which were the last of the year.

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

One east off the Lighthouse on 3rd April was presumed to be one of the two which went west two minutes later; these were the first spring birds since 2017 and took the all-time April bird-days total to 36 (with highs of eight in 1967 and ten in 2016). Four northwest on 22nd November were the first of the autumn, these followed by two southeast on the 23rd and four east on the 29th which were the last of the year; a November bird-days total of ten was only down on the 11 of 1990 and took the all-time bird-days tally for this month to 40. An annual bird-days total of 12 was up on a 2013-2020 mean of 4.5 and matched that of 1967 as the fourth highest to date, only down on the 19 of 1990, the 15 of 1992 and the 14 of 2016. The number of bird-days logged is inevitably impacted by how long staff remain on the Island towards the end of the year; although there have been birds in every month bar July, 80 of 185 bird-days have been noted during 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 (3rd September 2021) **Latest** 30th May 1983 (4th May 2021)

One heading north over the Neck on the afternoon of 13th April was nine days later than the first of last year and just the 13th to be logged in this month, six of which have occurred since 2014. A

summer-plumaged bird west off the Lighthouse on the morning of the 4th was the tenth to be logged in May and the first since 2017 (there have been nine later spring bird-days, all recorded in May). One which headed east then west through Broad Sound on 3rd September was four days later than the first of last autumn and the 19th to be seen in this month; the only earlier autumn sightings are of one on 11th August 1991 and one on the 3rd and 4th August 2019. There were no October birds, the all-time bird-days total remaining at 17 (including five since 2014), and no November birds, the all-time total remaining at 28 (including 15 since 2015). The last of the year went west through Broad Sound on 2nd December. A 2021 bird-days total of four was down on a 2013-2020 mean of 6.4, this a period which saw all-time highs of 24 in 2019 and nine in 2020 (the former tally including an unprecedented daycount of 18 on 2nd December).

**Storm Petrel** *Hydrobates pelagicus* **Pedryn Drycin**
**Abundant Breeder** a 2016 whole Island survey predicted 1910 occupied sites
1052 trapped (including 41 pulli), 223 retrapped, 54 controls
1933-1976: 18,473 trapped, 2011-2020: 5307 trapped, 409 retrapped, 219 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. Indeed the only at sea sighting this year was of one heading east off the Lighthouse at 0915hrs on 2nd September. With the exception of a small number of incubating adults visible in shallow crevices or in nest boxes, all other 2021 sightings came at night, although birds occasionally called from holes during the day and vocal responses were elicited for monitoring purposes. Although the sites traditionally used for productivity monitoring were freshly scented from late April, it was not until 17th May that birds were first heard calling diurnally; this was the latest first daytime record in eight years, 13 days later than the 2013-2020 mean (the earliest during this period was heard on 23rd April in 2017). All of the productivity sites were empty on 9th June, suggesting that the 2021 breeding season was indeed a late one; this was mirrored at other Irish Sea colonies and on the Molène Archipelago (Cadiou, *pers. comm.*). The infrared viewing equipment again proved popular, producing peak counts from the Quarry of at least 80 on the night of 13th June and of at least 100 on 4th July.

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 insufficient staff to safely survey the boulder areas in 2020, however a check of the boxes and accessible crevices used for productivity monitoring 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 in 2020. We were again joined by two Long-term Volunteers this year, this allowing the survey work to be completed in the usual period; ten visits were made to the study areas between 11th June and 10th July. An MP3 recording of male song was played into every crevice encountered along the transects, both numbered (and therefore used previously) and unmarked, with each active crevice being recorded and marked if new. It was first noted in 2013 how some marked crevices no longer fell within the two metre wide transects, an observation which prompted regular checks to assess the drift caused by (typically) small scale rock movements (and almost certainly in a small number of cases by erroneous measurements early in the project); it should be noted in future surveys that marked crevices which were once within the two metre transects now lie outside of the survey area. The playback census this year again focused on the area delineated by marked burrows, although the results were then divided into those which fell within the two metre transects and those which fell just outside (see table below).

**The total number of apparently occupied crevices (located over ten visits) responding to a recording of male song at each of the seven study sites. Numbers in parenthesis are the totals from the 2m wide Quarry transects (as stipulated in the project guidelines) as opposed to the more wayward crevices monitored since the project's inception. The mean is that from 2010-2019.**

| Year | North Pond Wall | Little Bay Wall | North Haven Gully | Quarry transect 1 | | Quarry transect 2 | | Quarry transect 3 | | Quarry transect 4 | | Quarry total | | Total | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **2021** | 9 | 17 | 16 | 17 | (5) | 15† | (8)† | 14 | (10) | 43 | (22) | 89 | (45) | 131 | (87) |
| **2019** | 10 | 23 | 12 | 18 | (7) | 18† | (9)† | 13 | (8) | 44 | (20) | 93 | (44) | 138 | (89) |
| **2018** | 6 | 13 | 11‡ | 15 | (5) | 15† | (10)† | 12 | (8) | 49 | (30) | 91 | (53) | 121 | (83) |
| **2017** | 7 | 20 | 14‡ | 15 | (5) | 13† | (7)† | 10 | (9) | 47 | (27) | 85 | (48) | 126 | (89) |
| **2016** | 6 | 15 | 17 | 9* | (4)* | ** | ** | 11 | (8) | 41 | (26) | 61 | (38) | 99 | (76) |
| **2015** | 7 | 17 | 17 | 14 | (5) | 21 | (9) | 12 | (7) | 42 | (25) | 89 | (46) | 130 | (87) |
| **2014** | 9 | 12 | 13‡ | 14 | (5) | 18 | (9) | 18 | (12) | 37 | (22) | 87 | (48) | 121 | (82) |
| **2013** | 8 | 15 | 22 | 14 | (4) | 15 | (8) | 10 | (7) | 46 | (27) | 85 | (46) | 130 | (91) |
| **2012** | 5 | 9 | 21 | 12 | (5) | 8 | (4) | 10 | (5) | 33 | (17) | 63 | (31) | 98 | (66) |
| **2011** | 7 | 5 | 19 | 11 | (5) | 13 | (8) | 10 | (7) | 25 | (14) | 59 | (34) | 90 | (65) |
| **2010** | 4 | 9 | 18 | 8 | (5) | 15 | (12) | 11 | (8) | 30 | (17) | 64 | (42) | 95 | (73) |
| **Mean** | **6.9** | **13.8** | **16.4** | **13.0** | **5.0** | **15.1** | **8.4** | **11.7** | **7.9** | **39.4** | **22.5** | **77.7** | **43.0** | **114.8** | **80.1** |

* Transect 1 was only visited on four occasions in 2016 due to safety concerns.

** Transect 2 was not visited in 2016 due to a rock fall.

† Transect 2 was shortened in 2017 due to the 2016 rock fall.

‡ There was substantial scouring in the winters of 2013-14 and 2016-17 and in October 2017.

Between 59 and 93 responses were elicited at the Quarry sites using MP3 playback in each of the years between 2010 and 2019, although a substantial rock slide in 2016 significantly reduced the area which could be surveyed that year; Quarry transect two, which held between four and 12 responding birds, was almost entirely destroyed in 2016 and Quarry transect one was undercut on its southern edge, rendering both transects too dangerous to survey (see the 2016 Seabird Report for photographs and further details). It would seem from the records that the 2016 Quarry rock fall was by far the largest such event for over 35 years. Visits to the Quarry in 2017 established that there had been no further significant slides on any of the transects; the decision was made to reinstate transect one entirely and to use the upper section of transect two, a situation which has remained the same since. It was decided in 2017 that all of the data previously collected for transects one and two would be compared directly with future years; no adjustments have thus

been made for the fact that transect two was shorter from 2017 onwards and that transects one and two were missed in 2016. Although it was again apparent that there had been some small winter rock slides, particularly in the lower third of transect four, there were no safety concerns this year.

There is a general consensus that the number of pairs utilising the 18th century herringbone walls on Skokholm has declined (Vaughan and Gibbons, 1996; Vaughan, 2001; Thompson, 2003; Sutcliffe, 2010), perhaps due to a loss of suitable nest sites as vegetation and soil fills gaps in the collapsing walls. However standardised survey work over the last 12 years suggests that there have been no further declines, although clearly there is some variation in the number of responses elicited each year (perhaps in part due to fluctuations in the number of transient, non-breeding birds, rather than to changes in the number of breeding pairs (Brown and Eagle, 2017)). This year saw 21.2% fewer wall responses than in a record 2019, however a combined North Pond Wall and Little Bay Wall total of 26 was the third highest to date, 25.6% up on the 2010-2019 mean (20.7 ±sd 6.6). It would seem that the walls population can still be cautiously regarded as stable.

The huge swell generated by Storm Ophelia in October 2017, the remnants of the easternmost major Atlantic hurricane on record, caused yet another scouring event in North Haven Gully. Nest boxes installed by Whittington in 2014, the access ladder to the lower portion of the slope and the central section of boulder scree which traditionally held many active crevices were all destroyed, whilst the painted marker stones were again moved from their original locations. This was the third major change to the North Haven landscape in five years, a series of events which almost certainly contributed to a 38.9% decline in the number of occupied crevices located between 2010 and 2018. No further significant changes to the North Haven landscape have been observed since, although a small rock fall above the upper east portion of the gully has created additional sites. Nevertheless, recent weather events releasing soil from further up the gully have seemingly reduced the overall number of open fissures suitable for nesting. How such a loss of available nest sites affects the Skokholm population as a whole is unclear; it would seem likely that nest sites are available away from North Haven and that the birds were not impacted directly (as they were predominantly absent during the scouring events), however the impact of looking for new nest sites on adult survival and productivity is something of an unknown. There were 16 active sites discovered in North Haven Gully this year, this four more than in 2019 and a total close to the 2010-2019 mean of 16.4 ±sd 3.8, but a tally 9.1% down on the 2010-2017 mean and 20.0% down on the 2010-2013 mean (the first big scouring event during this study was in the winter of 2013-2014).

The ephemeral nature of Storm Petrel nest sites was also evident at the Quarry where there were further small scale movements, particularly along transect four, although these rock slides did not seemingly impact the number of crevices available overall. The transect one total was two down on that of 2019, although five responses matched that logged in seven previous years and the 2010-2019 mean. The transect two total was one down on that of 2019 but was also close to the mean (8.4 ±sd 2.2), this despite the fact that the transect was shortened in 2017. The transect three total was two up on that of 2019 and the 2010-2019 mean (7.9 ±sd 1.8), indeed only in 2014 were there more responding sites in this area. Although there have been more responses in five years, the transect four total was two up on that of 2019 and almost matched the 2010-2019 mean (22.5 ±sd 5.2). The overall Quarry total of 45 was the second lowest since 2016 (when a major rock fall reduced the survey area) and the third lowest since 2012, however it was one up on that of 2019 and fell slightly above the ten year mean (43.0 ±sd 6.8).

**The number of crevices which have at some point been occupied over the 11 year study (a total of 360), subdivided to show how many years the crevices have been apparently occupied for and the percentage of crevices occupied for a particular number of years. Crevices in the lower half of transect two, not visited after the 2016 rock fall, are not included in this table.**

| | Quarry Transects | The Walls | North Haven Gully | Total | % of total |
|---|---|---|---|---|---|
| 1 year of apparent occupancy | 57 | 39 | 30 | **126** | 35.00 |
| 2 years of apparent occupancy | 28 | 7 | 20 | **55** | 15.28 |
| 3 years of apparent occupancy | 26 | 6 | 6 | **38** | 10.56 |
| 4 years of apparent occupancy | 16 | 7 | 12 | **35** | 9.72 |
| 5 years of apparent occupancy | 20 | 6 | 3 | **29** | 8.06 |
| 6 years of apparent occupancy | 16 | 7 | 2 | **25** | 6.94 |
| 7 years of apparent occupancy | 12 | 2 | 1 | **15** | 4.17 |
| 8 years of apparent occupancy | 10 | | | **10** | 2.78 |
| 9 years of apparent occupancy | 12 | 3 | | **15** | 4.17 |
| 10 years of apparent occupancy | 3 | 1 | | **4** | 1.11 |
| 11 years of apparent occupancy | 6 | 1 | 1 | **8** | 2.22 |
| **Total** | **206** | **79** | **75** | **360** | |

Overall there were 87 responses elicited this year, two fewer than in 2019 (the loss of seven sites in the walls not quite offset by five additional sites across the Quarry and North Haven). The total matched that of 2015 as the fourth highest to date, this 8.1% up on the ten year mean (80.1 ±sd 9.6). It still seems likely that, over the last decade at least, the Skokholm study population has been stable, a conclusion which is probably applicable to the Island population as a whole. This is positive news following what may have been a significant population decline between 1996 and 2010 (Sutcliffe and Vaughan, 2011; Wood *et al*., 2017). One of the most important variables highlighted this year was again nest site availability within the study areas; birds can only react to the changing landscape and maintain a stable population if further nest sites open up as others are lost. It is clear that some Storm Petrel nest crevices are short lived (as shown in the table above, just over a third of those found over the course of this study have only been occupied during a single year), however stable sites are also in existence; over 21% of the active crevices located during the last 11 years have shown signs of occupancy in six or more years and 2.22% of crevices have contained a calling bird in every year. Although changes in the positioning of rocks will mean that some crevices were only available for a single year, it is tempting to suggest that some of the crevices occupied only once are perhaps unsuitable nest sites (although they contained a calling bird, such sites may have never actually supported a breeding attempt).

The proportion of known active crevices which respond to a recording of male song during any single visit unsurprisingly fluctuates; there are several reasons for this, including the chance presence of

birds of different sexes, individual variation in response rate, nest site positioning (which will influence how occupants hear the stimulus) and breeding status (non-breeders are perhaps more likely to leave a crevice unattended, to occupy multiple crevices during the study period or to respond at a different rate to breeding birds, whilst breeding status could also change during the survey period). The walls saw an average of 8.9 (34.2%) of the 26 active sites respond on any single visit, although the actual number varied between four and 17. At North Haven a mean of 5.9 (36.9%) of 16 active sites responded each visit, although the actual number was between one and ten. At the Quarry a mean of 28.6 (32.1%) of 89 active sites responded, but this was between 18 and 39 on any particular date. Despite this significant variation between dates, the mean response rate at all three sites fell within the relatively tight ranges observed between 2014 and 2019 (see table below), although in all three cases the rate was above the mean. An average response rate for all sites of 33.1% was the highest to be observed in seven years, up on a range of between 27.1% and 31.0% recorded between 2014 and 2019. The use of these response rates to produce a correction factor remains the best way to predict the number of birds present in a large area when ten visits are not logistically feasible (for example during the whole Island census). Based on the data collected over the last seven years, the number of active sites present in an area is likely to be in the region of 3.38 times more than the number encountered on a single visit. However the variation seen in this year's figures is a reminder of how difficult it is to assess the population of a species which usually cannot be seen.

**The percentage of known active crevices which responded to male song during any single visit, averaged across all ten visits, and the 2014-2019 mean (the resulting correction factors are given in parenthesis).**

| Year | The walls | North Haven | Quarry | Rock fall | Average |
|---|---|---|---|---|---|
| **2021** | 34.2 (2.92) | 36.9 (2.71) | 32.1 (3.11) | 32.9 (3.04) | 33.1 (3.02) |
| **2019** | 31.2 (3.20) | 35.8 (2.79) | 30.1 (3.23) | 30.8 (3.24) | 30.9 (3.24) |
| **2018** | 22.6 (4.42) | 31.8 (3.14) | 32.6 (3.06) | 32.5 (3.07) | 31.0 (3.23) |
| **2017** | 21.9 (4.58) | 30.9 (3.23) | 28.1 (3.55) | 28.5 (3.51) | 27.1 (3.69) |
| **2016** | 40.0 (2.50) | 25.9 (3.86) | 23.3 (4.30) | 23.9 (4.18) | 27.7 (3.61) |
| **2015** | 28.7 (3.48) | 37.4 (2.68) | 28.9 (3.46) | 30.4 (3.29) | 30.1 (3.33) |
| **2014** | 36.2 (2.76) | 40.0 (2.50) | 26.2 (3.82) | 26.4 (3.79) | 28.1 (3.56) |
| **Mean** | **30.1 (3.32)** | **33.6 (2.97)** | **28.2 (3.55)** | **28.8 (3.48)** | **29.2 (3.43)** |

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 2020 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 in 2019), 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 three 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 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 in 2020, only two young fledged; 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. Given the poor productivity witnessed in 2020 (and 2019) it was decided that there would be no Petrel Station playback census in 2021 (to allow for a productivity check in a year without a potentially disturbing survey).

Visits to the Petrel Station during the chick provisioning period revealed that 19 boxes had contained a Storm Petrel at some point this year (eight boxes showed signs of occupancy in 2018, with 13 in 2019 and 12 in 2020). Only nest scrapes were present in 14 of these boxes, with five pairs having produced eggs (four pairs produced eggs in 2018, with nine in 2019 and eight in 2020). Two of these eggs were abandoned, one in box 42 (which has contained an egg stage failure in each year between 2019 and 2021) and one in box 92 (a new site). Chicks fledged from boxes 11 and 64 for a third consecutive year, whilst a chick fledged from box 12 for the first time (a response was elicited from box 12 during the 2020 playback survey, however it was later found to contain an empty scrape); there were no fledglings in 2018, whilst two fledged in both 2019 and 2020. Petrel Station productivity was thus 0.60 fledglings per pair, this a new high for this site and more consistent with that previously observed elsewhere. It is unclear whether this increase in productivity was due to reduced disturbance or the fact that this site may now contain older, more experienced birds. A camera in box 11 captured scenes of scrape creation, mating (on 4th June, image above), egg incubation and chick feeding (the lens eventually becoming obscured by faeces). The egg was produced at some point between the evenings of the 12th and 14th June and hatched between the evenings of the 19th and 20th July; the incubation period was between approximately 35 and 38 days.

There were 20 sites discovered this season where an incubating bird was evident early enough in the nesting period to allow for a productivity estimate (this equalling that of 2015, 2018 and 2020 as the largest post-2012 sample, up on a mean of 16.9); 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); there was no such evidence this year, with hatched eggshell first found near the Cottage Garden Wall on 26th July (although the Petrel Station camera

revealed an earlier chick (see above)). Of the 20 monitored nests, one definitely failed at egg stage and two failed at either egg or small chick stage (but neither could be located). There was only one chick stage failure, with a soggy corpse found at a very wet site on 12th August. The 16 remaining chicks were all followed through to fledging, the resulting productivity value of 0.80 fledglings per pair being the highest of the last eight years (the 2014-2020 mean is 0.58 ±se 0.04, with a high of 0.74 in 2019 and a low of 0.45 in 2020). It is unclear why productivity was so high this year, although predominantly dry conditions no doubt benefitted small chicks left alone in relatively exposed sites.

Although only small numbers of accessible chicks are ringed each year on Skokholm, the tape luring of adult birds in South Haven is giving some indication as to their post-fledging survival (this coupled with a small number of controls from elsewhere). Of four birds ringed as chicks in 2013, one has been found subsequently (25.0%), whilst three of 11 2014 chicks (27.3%), four of 17 2015 chicks (23.5%), one of six 2016 chicks (16.7%), one of seven 2017 chicks (14.3%), one of ten 2018 chicks (10.0%) and four of 23 2019 chicks (17.4%) have been encountered again (the controls being a 2015 ringed chick retrapped in Cornwall in 2018, a 2016 chick retrapped on the nearby mainland in 2019 and a 2018 chick retrapped in Cornwall and then Wexford this year). Nine of the retrapped chicks were first encountered two summers after ringing (including one also seen three summers after ringing) and six were first encountered three summers after ringing (including one also seen after four summers and seven summers). Of the four 2019 ringed youngsters encountered in South Haven this summer, 2746611 was particularly notable, this the first ever chick to fledge the Petrel Station.

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, five in 2019 and three 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 22 Short-eared Owl bird-days logged this season, this down on a 2013-2020 mean of 37.3 and highs during this period of 59 in 2015 and 76 in 2017. The remains of 39 Storm Petrels were located this year, with 37 adults found between 5th June and 5th September (with 23 in and around the Quarry, seven around Wallsend, two both along Little Bay Wall and in Winter Pond Gully and singles near the Bluffs, Windmill Gully and the Knoll) and probable fledglings found near the Petrel Station on 15th September and 1st October. 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 in 2020 and the two there this year were left in situ to see if they would be found by mice; all eight were still present in the winter of the year in which they were deserted.

Adult Storm Petrels were lured to the traditional South Haven netting site on 12 nights between 13th July and 22nd August; this was five more nights than last year and one more night than the 2013-2020 mean. The largest catch was of 267 birds on the night of 16th July; this was the largest single catch of the last nine years, up on a 2013-2020 mean of 184 and a high during that period of 252 in 2017. Of 1284 adults handled in South Haven this year, 21.3% were already wearing a ring (the mean during the period 2013-2020 was 10.2%, with a high of 12.7% in 2017 and a low of 5.4% in 2014), including two ringed in 2013, four ringed in 2014, one ringed in 2015, three ringed in 2016, four ringed in 2017, six ringed in 2018, 12 ringed in 2019 and 18 ringed last year, whilst 54 (4.21%) had been ringed elsewhere (the mean during the same period was 4.24%, with a high of 5.68% in 2013 and a low of 3.21% last year). Additional to those listed below, we received news of ten birds ringed at Wooltack Point (4km to the NNE) retrapped on Skokholm (with nine retrapped after between six and 24 days and one retrapped after 370 days), three bird ringed on Skokholm and retrapped at Wooltack (after between one and five days), three birds ringed on Skomer Island (4km to the NNW) retrapped on Skokholm (after five, seven and 350 days) and nine birds ringed on Skokholm and retrapped on Skomer (with six retrapped after between four and 12 days and singles retrapped after 725, 1824 and 1825 days). Since ringing fully recommenced in 2013 we have now received news of 442 Storm Petrels either ringed on Skokholm and found elsewhere or ringed elsewhere and controlled on Skokholm; of these 280 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** 2473714
**Originally ringed** as an adult, HARTLAND POINT, DEVON 5th July 2018
**Recovered** as an adult, SOUTH HAVEN, SKOKHOLM 17th July 2021

**Distance travelled** 95km at 326 degrees (NNW)
**Days since ringed** 1108

**Ringing recovery** 2547504
**Originally ringed** as an adult, LITTLE SALTEE, WEXFORD, IRELAND 4th August 2021
**Recovered** as an adult, SOUTH HAVEN, SKOKHOLM 11th August 2021
**Distance travelled** 102km at 119 degrees (ESE)
**Days since ringed** 7
Additionally 2769827 and 2769899, ringed as adults at Little Saltee on 30th June and 23rd July, were controlled in South Haven on the 18th and 28th July after 18 and five days respectively. 2740295, 2746874, 2758576, 2758632, 2758765, 2758793 and 2758898, ringed as adults in South Haven on 22nd July 2018, 17th July 2020 and 17th July, 17th July, 18th July, 18th July and 25th July 2021, made the reverse journey, reaching Little Saltee on 20th July, 22nd July, 2nd August, 2nd August, 22nd July, 22nd July and 1st August after 1094, 370, 16, 16, four, four and seven days respectively.

**Ringing recovery** 2593655
**Originally ringed** as an adult, POINT LYNAS, ANGLESEY 10th July 2021
**Recovered** as an adult, SOUTH HAVEN, SKOKHOLM 13th and 18th July 2021
**Distance travelled** 203km at 200 degrees (SSW)
**Days since ringed** 3 and 8

**Ringing recovery** 2650052
**Originally ringed** as an adult, ANNAGH HEAD, MAYO, IRELAND 8th July 2010
**Recovered** as an adult, SOUTH HAVEN, SKOKHOLM 11th August 2021
**Distance travelled** 429km at 132 degrees (SE)
**Days since ringed** 4052

**Ringing recovery** 2685006
**Originally ringed** as an adult, SOUTH HAVEN, SKOKHOLM 16th July 2013
**Recovered** as an adult, ABER DYSYNNI, TYWYN, GWYNEDD 6th August 2021
**Finding condition** Dying on beach following stormy weather
**Distance travelled** 128km at 39 degrees (NE)
**Days since ringed** 2943

**Ringing recovery** 2698934
**Originally ringed** as an adult, EYEMOUTH, BERWICKSHIRE 3rd August 2019
**Recovered** as an adult, SOUTH HAVEN, SKOKHOLM 25th July 2021
**Distance travelled** 509km at 205 degrees (SSW)
**Days since ringed** 722

**Ringing recovery** 2725355
**Originally ringed** as an adult, LUNGA, TRESHNISH ISLES, ARGYLL AND BUTE 25th June 2019
**Recovered** as an adult, SOUTH HAVEN, SKOKHOLM 2nd August 2021
**Distance travelled** 537km at 172 degrees (S)
**Days since ringed** 769
2746296, ringed as an adult in South Haven on 27th July 2019, made the reverse journey, reaching Lunga on 2nd July after 706 days. Perhaps surprisingly, there had been no exchanges with the western Scottish islands until this year (when there were three).

**Ringing recovery** 2726178
**Originally ringed** as an adult, HOT POINT, THE LIZARD, CORNWALL 31st July 2017
**Recovered** as an adult, SOUTH HAVEN, SKOKHOLM 14th July 2021

**Distance travelled** 193km at 358 degrees (N)
**Days since ringed** 1444

**Ringing recovery** 2727608
**Originally ringed** as an adult, ST JUSTINIAN, ST DAVIDS, PEMBROKESHIRE 22nd July 2020
**Recovered** as an adult, SOUTH HAVEN, SKOKHOLM 22nd July 2021
**Distance travelled** 21km at 174 degrees (S)
**Days since ringed** 365
Additionally 2727639, ringed as an adult at St Justinian on 12th August 2020, was controlled in South Haven on the 25th and 28th July after 347 and 350 days. 2727647, ringed as an adult at St Justinian on 16th June 2021, was controlled in South Haven on 18th July after 32 days.

**Ringing recovery** 2738355
**Originally ringed** as an adult, CALF OF MAN, ISLE OF MAN 18th July 2020
**Recovered** as an adult, SOUTH HAVEN, SKOKHOLM 24th July 2021
**Distance travelled** 263km at 187 degrees (S)
**Days since ringed** 371
Additionally 2738454, ringed as an adult at the Calf of Man on 15th August 2020, was controlled in South Haven on 22nd July after 341 days.

**Ringing recovery** 2740001
**Originally ringed** as an adult, SOUTH HAVEN, SKOKHOLM 14th July 2018
**Recovered** as an adult, BARDSEY ISLAND, GWYNEDD 15th June 2021
**Distance travelled** 124km at 17 degrees (NNE)
**Days since ringed** 1067
Additionally 2746822 and 2758631, ringed as adults in South Haven on 13th July 2020 and 17th July 2021, were controlled at Bardsey on 5th July and 4th August after 357 and 18 days respectively. 2765900 and 2773009, both ringed as adults at Bardsey on 4th July, made the reverse journey, reaching South Haven on the 14th and 27th July after ten and 23 days respectively. 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 33 occasions since 2013, with nine at Porth Iago and eight at the Calf of Man, Gwennap Head and Little Saltee the next highest tallies.

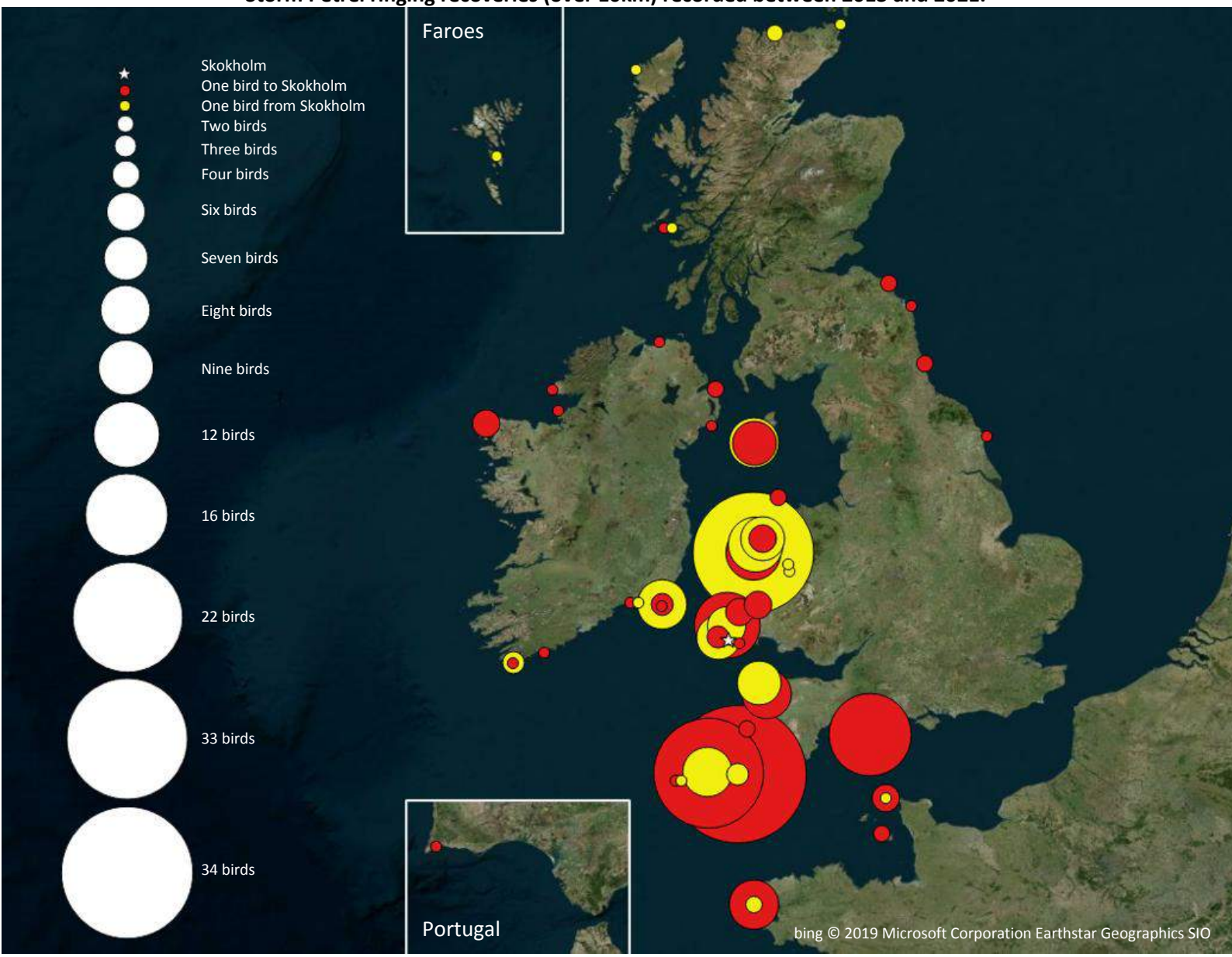
**Ringing recovery** 2740060
**Originally ringed** as an adult, SOUTH HAVEN, SKOKHOLM 14th July 2018
**Recovered** as an adult, BAY OF SANNICK, HIGHLAND 10th August 2021
**Distance travelled** 786km at 11 degrees (N)
**Days since ringed** 1123
One of two Skokholm ringed birds to be encountered along the north coast of Scotland this year.

**Ringing recovery** 2740805
**Originally ringed** as an adult, SOUTH HAVEN, SKOKHOLM 29th August 2018
**Recovered** as an adult, MANGARSTADH, ISLE OF LEWIS, WESTERN ISLES 14th July 2021
**Distance travelled** 730km at 351 degrees (N)
**Days since ringed** 1050
The first Skokholm ringed Storm Petrel to be encountered on the Outer Hebrides.

**Ringing recovery** 2740813
**Originally ringed** as a chick, SKOKHOLM 5th September 2018
**Recovered** as an adult, GWENNAP HEAD, PORTHGWARRA, CORNWALL 6th June 2021
**Recovered** as an adult, LITTLE SALTEE, WEXFORD, IRELAND 30th June 2021

**Distance travelled** 188km at 189 degrees (S) and 102km at 299 degrees (WNW)
**Days since ringed** 1005 and 1029
One of ten birds ringed as chicks in 2018. Additionally 2746232, 2746926 and 2758255, ringed as adults in South Haven on 23rd July 2019, 17th July 2020 and 14th July 2021, were controlled at Gwennap Head on 18th July, 7th June and 18th July after 726, 325 and four days respectively.

**Storm Petrel ringing recoveries (over 10km) recorded between 2013 and 2021.**




**Ringing recovery** 2746298
**Originally ringed** as an adult, SOUTH HAVEN, SKOKHOLM 27th July 2019
**Recovered** as an adult, EILEAN NAN RON, HIGHLAND 10th July 2021
**Distance travelled** 764km at 5 degrees (N)
**Days since ringed** 714

**Ringing recovery** 2754666
**Originally ringed** as an adult, GWENNAP HEAD, PORTHGWARRA, CORNWALL 6th July 2019
**Previously recovered** as an adult, SOUTH HAVEN, SKOKHOLM 13th August 2019
**Recovered** as an adult, SOUTH HAVEN, SKOKHOLM 17th July 2021

**Distance travelled** 188km at 9 degrees (N)
**Days since ringed** 742
Additionally 2761282, 2761404, 2761423, 2761447 and 2761457, ringed as adults at Gwennap Head on 10th July, 18th July, 18th July, 18th July and 18th July, were controlled in South Haven on 22nd July, 3rd August, 28th July, 3rd August and 2nd August after 12, 16, ten, 16 and 15 days respectively.

**Ringing recovery** 2758218
**Originally ringed** as an adult, SOUTH HAVEN, SKOKHOLM 14th July 2021
**Recovered** as an adult, DEEP POINT, ST MARY'S, ISLES OF SCILLY 25th July 2021
**Distance travelled** 211km at 200 degrees (SSW)
**Days since ringed** 11

**Ringing recovery** CIJ P10751
**Originally ringed** as an adult, BURHOU ISLAND, ALDERNEY, CHANNEL ISLANDS 19th July 2003
**Recovered** as an adult, SOUTH HAVEN, SKOKHOLM 3rd August 2021
**Distance travelled** 307km at 316 degrees (NW)
**Days since ringed** 6590
Additionally P17179 and P17366, ringed as adults at Burhou Island on the 17th and 19th July 2020, were controlled in South Haven on 2nd August and 17th July after 381 and 363 days respectively.

**Ringing recovery** FRP SE39043
**Originally ringed** as an adult, LE CONQUET, FINISTÉRE, FRANCE 12th August 2020
**Recovered** as an adult, SOUTH HAVEN, SKOKHOLM 18th July 2021
**Distance travelled** 375km at 355 degrees (N)
**Days since ringed** 340
This is the eighth 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). A further two French controls reached South Haven this year, although the ringing details are yet to be shared.

**Fulmar** *Fulmarus glacialis* **Aderyn-drycin y Graig**
**Fairly Common Breeder** first bred in 1967
1 pullus trapped
1968-1976: 19 trapped, 2017-2019: 5 pulli trapped

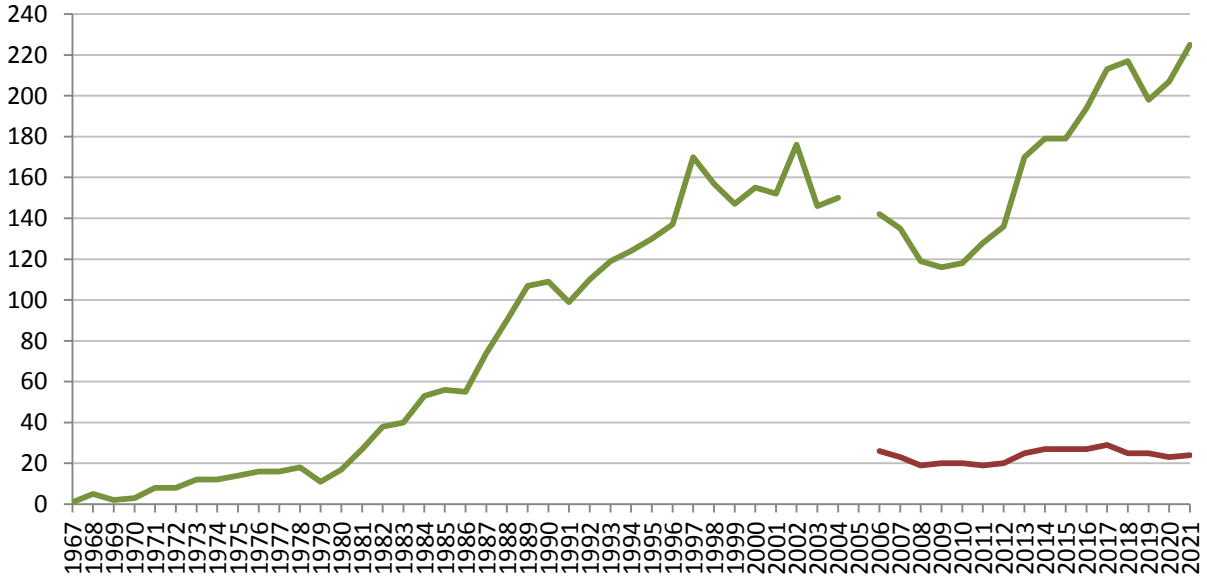
Birds were on the cliffs from when staff returned on 26th February, with at least some also ashore on every March date; between 2016 and 2020 there was at least one March date each year on which birds were entirely absent from the cliffs, with a mean of 2.4 days and a high of four days last year. A 16th to 31st March daycount mean of 78.7 was the second highest of the last nine years, up on a 2013-2020 mean of 58.7 (there was a high of 85.0 in 2018 and a low of 34.5 in 2013), whilst a peak daycount of 264 on the 25th was a new March record. Daycounts during the first week of April failed to exceed 58, this including lows of 19 on the 2nd and 16 on the 3rd, although six three-figure daycounts took the April bird-days total to 2268 (this down on a 2013-2020 mean of 2508.8). With the exception of 142 on the 4th (119 of which were at sea), no more than 67 were logged each day between the 2nd and 13th May (there were 148 present by the 16th), this pre-laying exodus mirroring that seen in recent years. The first egg to be seen was at Rat Bay on 16th May, this the same date as the first of 2019 and 2020 but otherwise the earliest this decade; the 2013-2020 first egg mean is 20th May, with the latest during this period logged on the 28th in 2014 (following prolonged and severe storms during the preceding winter). There were two more eggs at Rat Bay two days later.

**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 2012-2021.**

| | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
|---|---|---|---|---|---|---|---|---|---|---|
| **Island** | 136* | 170 | 179 | 179 | 194 | 213 | 217 | 198 | 207 | 225 |
| **Plots** | 20 | 25 | 27 | 27 | 27 | 29 | 25 | 25 | 23 | 24 |
| **Range** | (16-25) | (22-28) | (23-29) | (26-29) | (25-29) | (26-31) | (23-27) | (23-27) | (19-27) | (21-27) |
| **±SD** | | 2.07 | 1.79 | 1.14 | 1.26 | 2.00 | 1.26 | 1.35 | 2.27 | 1.90 |
| **Plot %** | 14.7* | 14.7 | 15.1 | 15.1 | 13.9 | 13.6 | 11.5 | 12.6 | 11.1 | 10.7 |

* There was no boat-based count in 2012.

**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 26th May and 7th June. Although this was a period dominated by gentle winds from the easterly quarter, a storm

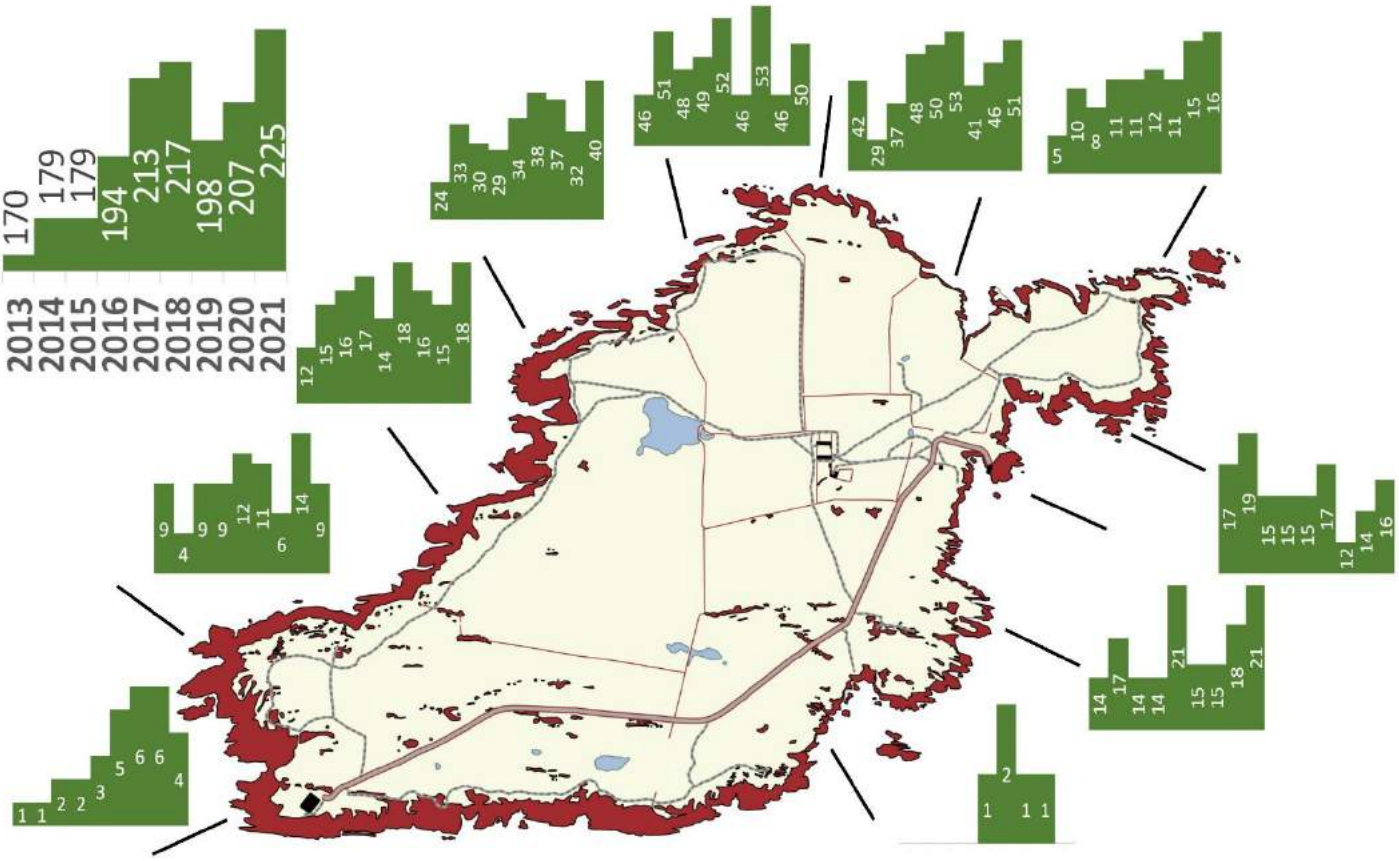
between the 20th and 21st May had impacted the breeding auks and gulls (when gusts peaked at 69mph and waves averaging 11 metres occasionally reached 16 metres). It was not confirmed if Fulmars were affected, however two egg stage failures (one at Rat Bay and one at Peter's Bay) were discovered following the storm. As was perhaps the case last year, it is possible that this storm event may have impacted ledge attendance, resulting in the higher than average standard deviation observed this year (only in 2012 and 2020 has the range of totals across the ten visits been wider). A 2021 average of 24 apparently occupied sites was one up on last year and matched a 2006-2020 mean of 23.67 ±sd 3.35, but was five down on the 2017 record and two down on the 2013-2020 mean (26.00 ±sd 1.85).

The mean total at Little Bay was 13, 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, 16 in 2016 and 14 between 2018 and 2020; quite why the total declined here is unclear, particularly given that the number of apparently occupied sites in the area which includes this plot increased by four to a total up on the 2013-2020 mean (see map below). The Middlerock mean increased from five to seven, this a new high for this plot, whilst the Guillemot Cliff mean increased from four to five, this matching the mean logged in each year between 2014 and 2019. Up until the 2017 season, only these three plots had contained Fulmars, however a hollow in the top third of the North Gully auk colony was occasionally occupied in three of the years between 2017 and 2020 (the overall mean was only changed in 2017); there were no Fulmars seen in the North Gully plot this year.

The whole Island counts undertaken between 26th May and 7th June yielded an average of 225 apparently occupied sites, this an 8.7% increase on the 207 logged last year and the highest tally to date (a total 23.6% up on a 2011-2020 mean of 182.10 ±sd 30.56). Nevertheless there was a decline in numbers in three of the coastal sections, with five fewer sites noted around Wardens' Rest and the Bluffs, two fewer sites in the vicinity of the Quarry and Head Bay and no birds around Crab Bay for the first time since 2016. Counts between Little Bay and Little Bay Point, between Far and Smith's Bays and in Peter's Bay were all up, but down on those logged in previous years. The counts from Hog Bay and between Purple Cove and Twinlet were both up on last year and matched the highest means to be recorded in these areas. An additional occupied site along the north coast of the Neck led to a new high for this area, whilst a mean increase of eight apparently occupied sites (the largest increase observed in any area this year) led to a new high for the area between the Dents and the Jogs. The 2021 whole Island count includes approximately 40 pairs which would be difficult or

impossible to see from the Island itself (birds seen from a boat to the west of North Gully, in Little Bay, on the Little Neck and in hidden crevices between Smith's 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 10.7% this year; this is 21.9% down on the 2011-2020 mean (13.7% ±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 (perhaps due to a lack of space for expansion, although, as mentioned above, up to six more pairs have been resident in the Little Bay plot previously). 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 somewhat 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 2013-2021.**




From 16th May, 67 incubating adults were selected for productivity monitoring (11 at Twinlet, 13 at North Gully and the Dents, 16 in Little Bay, 11 on Little Bay Point, six at Rat Bay and ten 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). There were three early egg stage failures, with pairs at Rat Bay and Peter's Bay losing eggs after ten days and one day respectively (possibly due to the May storm) and one egg going missing after approximately 17 days. A further attempt failed after approximately 30 days and one failed following a full 55 days of incubation (the egg was alone for a day before it went missing). An additional 22 failures became apparent at the time when 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

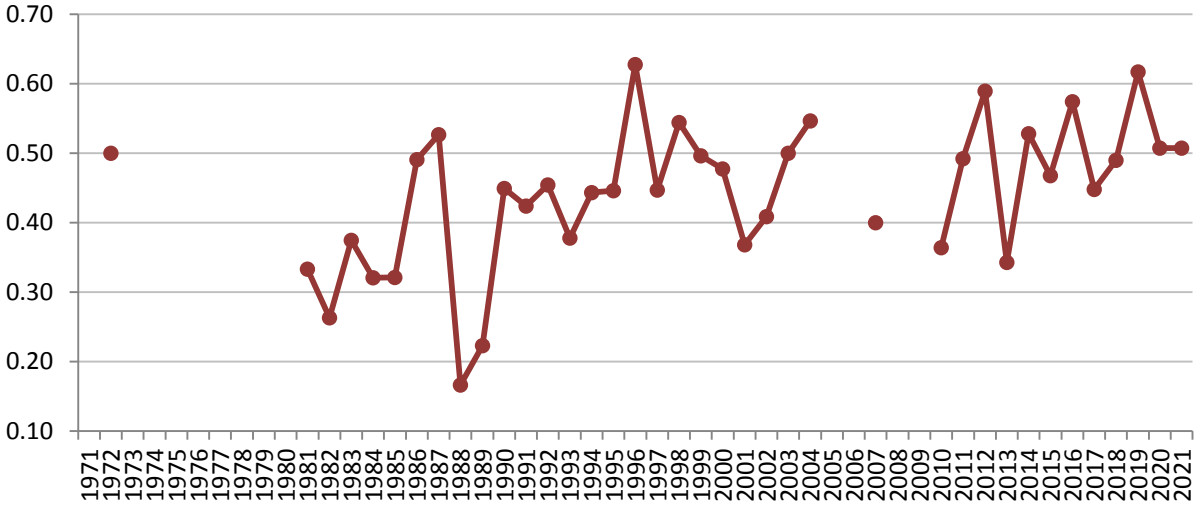
four early chick stage failures, with hatched eggshell present at a Dents site where a chick was not seen, one at Little Bay Point going missing after three days, one in Little Bay going missing after six days and one on Middlerock going missing after seven days (the adult present at the latter site had been heavily oiled by a neighbouring pair). There were two large chick stage failures this year, both of which were in Peter's Bay; one chick died at approximately 45 days (the body remained on the ledge for eight days prior to going missing) and one died between the 3rd and 4th September at approximately 59 days (the decomposing body was still present on 1st October). Similar large chick failures were observed in 2014, 2015 and 2018.

Of the 67 monitored breeding attempts, 34 (50.75%) 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 matched both that of last year and a 2011-2020 average of 0.51 ±se 0.02 (but was down on four of the last ten years). The last eight years have seen productivity above the long-term average, with a 2013 estimate of 0.34 fledglings per pair being the last to fall below the mean. An above average productivity estimate, coupled with a record number of apparently occupied sites, leads to a predicted 114 Skokholm fledglings in 2021; this is the second highest predicted total to date, only down on the 122 of 2019 (when there were only 198 apparently occupied sites but monitored productivity was 0.62 fledglings per pair). Poor productivity at Peter's Bay in 2013, 2014, 2015, 2017, 2018 and 2020 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), in 2018 it was 0.36 (compared with 0.49) and in 2020 it was 0.33 (compared with 0.51). The 2016 season saw 0.54 fledglings per pair, a total virtually identical to the overall value of 0.57 and 2019 saw 0.60 fledglings per pair, a total virtually identical to the overall value of 0.62. Seven of the ten pairs monitored at Peter's Bay failed this year, the productivity value of 0.30 fledglings per pair again being down on that observed elsewhere; one failed just one day after the egg was seen (perhaps due to the May storm), four failed at the time when neighbouring eggs were hatching (but no nest contents were observed) and there were two late chick stage failures (see above). 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.

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). The only similar observation this year came from Middlerock where the loss of a young chick coincided with one of the parents being heavily oiled by a neighbour (this at the same site where a previous egg stage failure was due to an interaction with neighbours on the same, somewhat higher, ledge).

**Fulmar productivity (total number of fledged chicks per monitored pair) in each year that it has been calculated between 1972 and 2021. The 1972-2021 mean is 0.44 ±se 0.02 fledglings per pair.**




The first two fledglings of the year had departed natal ledges in Little Bay and on Little Bay Point by 22nd August, this one day later than both the first of last year and the 2013-2020 first fledgling mean (the earliest during this period had departed on the 18th in 2019 and the latest on the 25th in 2013). All but one of the remaining 32 productivity plot fledglings departed over the following 15 days, with one lingering on Guillemot Cliff for a further 31 days; the first 25% had fledged by 25th August (one day earlier than the 2014-2020 mean), 50% had departed by 27th August (two days earlier than the 2014-2020 mean) and 75% had departed by 31st August (one day earlier than the 2014-2020 mean). The last had left by 22nd September, this 16 days later than the 2014-2020 mean and the latest plot departure of the last eight years (the earliest last fledgling during this period had departed by 3rd September in 2017, the previous latest by the 10th in 2015); interestingly the late 2021 fledgling was

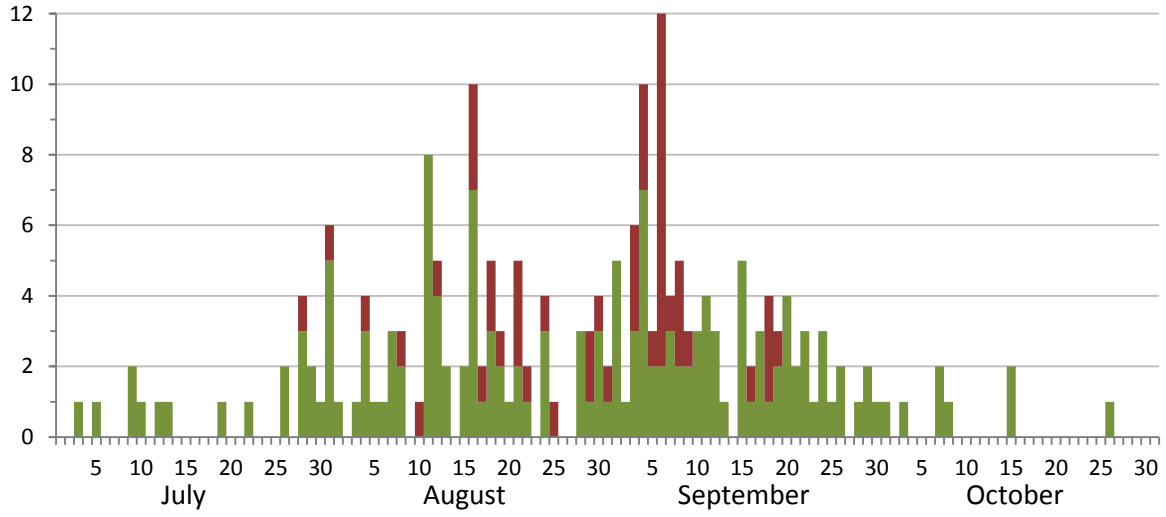
not wholly the result of a late hatching, indeed it had first been seen as a hatchling on 20th July meaning that it was on its natal ledge for 64 days (this a period typically closer to 51 days). The number of birds around the cliffs again dropped rapidly as the fledglings departed, although there were September highs of 65 on the 3rd, 61 on the 4th and 57 on the 11th. Daycounts between the 12th and 17th September ranged between one and 13 (not including the chick), with the only Fulmar seen on the 18th being the late youngster. Four were at sea on the 19th, these the last to be seen prior to the departure of the Guillemot Cliff fledgling at some point between the 21st and 22nd; the latest bird to be seen ashore between 2014 and 2020 was present on the 15th in 2019, with the 2014-2020 mean being 11th September and the earliest last bird being logged on the 6th in 2017. The only other September sightings were of one on the 23rd, three on the 26th, two on the 27th and one on the 30th.

Seawatching during October produced only a single on the 5th, ten on the 30th and three on the 31st; a bird-days total of 14 was down on that logged in each October between 2013 and 2017 (including a record 185 in the former year), the 79 of last year and a 2013-2020 October bird-days mean of 51.1. There were November records on all but three dates, although the number of birds present varied considerably; there were 12 three-figure daycounts during the month (a new record, up on the ten of last year), with peaks of 226 on the 16th, 220 on the 20th and 217 on the 30th (the maximum of which was the third highest November count, down on a high of 283 logged on the 28th in 2019), but lows of between two and 18 on six dates (in addition to the three days on which birds were absent). A November bird-days total of 2683 was a new high, up on the 2222 of 2020 and the 2006 of 2019. Three birds returned to the cliffs on 3rd November, this the earliest return of the last nine years but just four days earlier than the 2013-2020 mean; one ashore on the 4th in 2019 was the earliest landfall during this period, with one on the 11th in 2015 the latest. There were birds ashore on 23 further November dates (five more than last year), including highs of 168 on the 16th, 180 on the 19th and 155 on the 20th and 30th (the peak was down on a record 189 counted on the 28th in 2019). There were sightings on each December date prior to the departure of staff on the 5th, with a high of 163 on the 3rd (including 89 ashore), but just two on the 5th and between 22 and 28 on the remaining three dates (only four of which were on land).

**Sooty Shearwater** *Ardenna grisea* **Aderyn Drycin Du**
**Scarce** recorded most autumns from July onwards and occasionally Uncommon
**Earliest** 3rd July 1968 (8th August 2021) **Latest** 26th October 1994

One shearing west at 1915hrs on 8th August was the only record this year, this becoming the seventh consecutive year and the 42nd year with a sighting (GE).

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



A lone bird-day was down on a 2013-2020 mean of 3.3, this a period which saw highs of five in 2016, 2018 and 2020 and of seven in 2019 (the all-time bird-day highs are the 19 of 1987, the 16 of 1989 and the 22 of 2011). Indeed this southern hemisphere breeder remains a surprisingly scarce Skokholm species, now with 24 bird-days logged in July, 77 in August, 97 in September (including a record daycount of ten on the 6th in 2011) and eight in October.

**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
1664 trapped (including 127 pulli), 594 retrapped, 3 controls
1928-1976: 171,509 trapped, 2012-2020: 13,018 trapped, 5555 retrapped, 25 controls

A minimum of 150 offshore on 11th March was the first record of the year and the highest seawatch total to have been recorded so early in the season. It was not until the night of the 13th that significant numbers were coming ashore and it was not until the 24th that birds were heard calling from burrows during the day (this six days later than last year). As in the majority of previous years, seawatching during April resulted in some surprisingly small counts; although a peak of 8300 on the evening of the 28th was up on a 2013-2020 mean of 6811, minimums of 2000 on the evenings of the 27th and 29th were the only other four-figure counts (a daycount of 21,600, recorded during Storm Hannah in 2019, is the highest April count to date). The two highest May counts, namely the 16,340 logged on the 3rd and the 12,700 logged on the 21st, were made in southwesterly winds of at least gale force; the 2013-2020 mean May peak is 14,979, with a high of 28,200 counted during a southwesterly gale in 2018. June was calm, indeed the wind rarely exceeded 20 knots, with the four peak daycounts of at least 10,000 logged between the 20th and 30th being of birds rafting on calm evenings; the mean 2013-2020 June maximum is 20,803, with highs during this period of 24,750 in 2020 and 72,000 during heavy rain and a near gale in 2019. An even calmer July saw the lowest peak counts of the last seven years, with a high of 10,800 on the 5th being down on a 2013-2020 mean of 23,376 and a record 45,016 logged in 2018. Heavy rain and a stiff southeasterly on 5th August brought the highest count of the year, although a total of 16,360 was the lowest August peak of the last decade, down on a 2013-2020 mean of 44,448 and the all-time high of 87,520 logged last year.

**The number of Manx Shearwaters breeding in the study plots encountered the following year and the number to have been found by 2021 (which were actually alive the following year).**

| | Birds found the next year | | Birds found by 2021 | |
|---|---|---|---|---|
| Birds breeding in 2020 | 253 of 328 | 77.13% | | |
| Birds breeding in 2019 | 245 of 308 | 79.55% | 253 of 308 | 82.14% |
| Birds breeding in 2018 | 247 of 296 | 83.45% | 265 of 296 | 89.53% |
| 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% |

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 328 breeding adults bearing rings in 2020, 253 were found this year (77.13%); this was the second lowest next-year return rate of the last eight years, down on a 2014-2020 mean of 80.45% (only 76.38% of 2017 birds were encountered in 2018, this following the ravages of Storm Ophelia which destroyed several study burrows). The next-year return rate is not an accurate estimate of survival as there is 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 (which included one not seen until 2020, see table above). This year saw

four birds encountered which had not been seen since 2018 (raising the minimum survival figure for the period between the 2018 and 2019 breeding seasons from 88.18% to 89.53%) and eight birds which had not been seen since 2019 (raising the figure for the period between 2019 and 2020 from 79.55% to 82.14%). Given that we are still encountering birds not seen for up to six years, it is likely that many of the figures given above will again be revised upwards in the future; nevertheless a 2014-2019 mean return rate of 87.73% is already fractionally up on that seen elsewhere.

There is a discrepancy in return rates dependent on the breeding success of the previous year; of 230 birds successful with their 2020 breeding attempt, 195 were found in 2021 (84.78%), whereas only 58 of 98 unsuccessful birds returned (59.18%). Of 82 birds which went missing in 2021, 46 (56.10%) had either failed with their 2020 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 seven 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 13 of 82 marked birds were in the same burrow this year as that in which they bred in 2013 (15.9%), whereas in the more stable Quarry Track and Crab Bay colonies five of 18 birds (27.8%) and 17 of 41 birds (41.5%) 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 many breeding tunnels change annually; clearly some lose their suitability as nest sites. Of the 29 birds encountered in all nine years between 2013 and 2021, five have fledged a chick in every year (EY41695 and EY41711 in Crab Bay burrow 8, EY41685 and EY41754 in Quarry Track burrow 6 and EY41636 in Lighthouse burrow 1). Of the remaining 24 birds, three have fledged young on 66.7% of occasions, nine have fledged young on 77.8% of occasions and 12 have fledged young on 88.9% of occasions; that the vast majority of these birds are exhibiting above average productivity is no doubt reflected in their continued use of the same stable burrows.

There were six adults encountered in the Lighthouse Plot which had been ringed as chicks, this taking the total number of individuals ringed as plot chicks and subsequently found in the plots to 11. Of these, FB46145 (ringed in LH19 in 2017), is unusual in that it bred successfully this year at just four years of age (in LH21, just two metres from its natal burrow). Two further birds have been

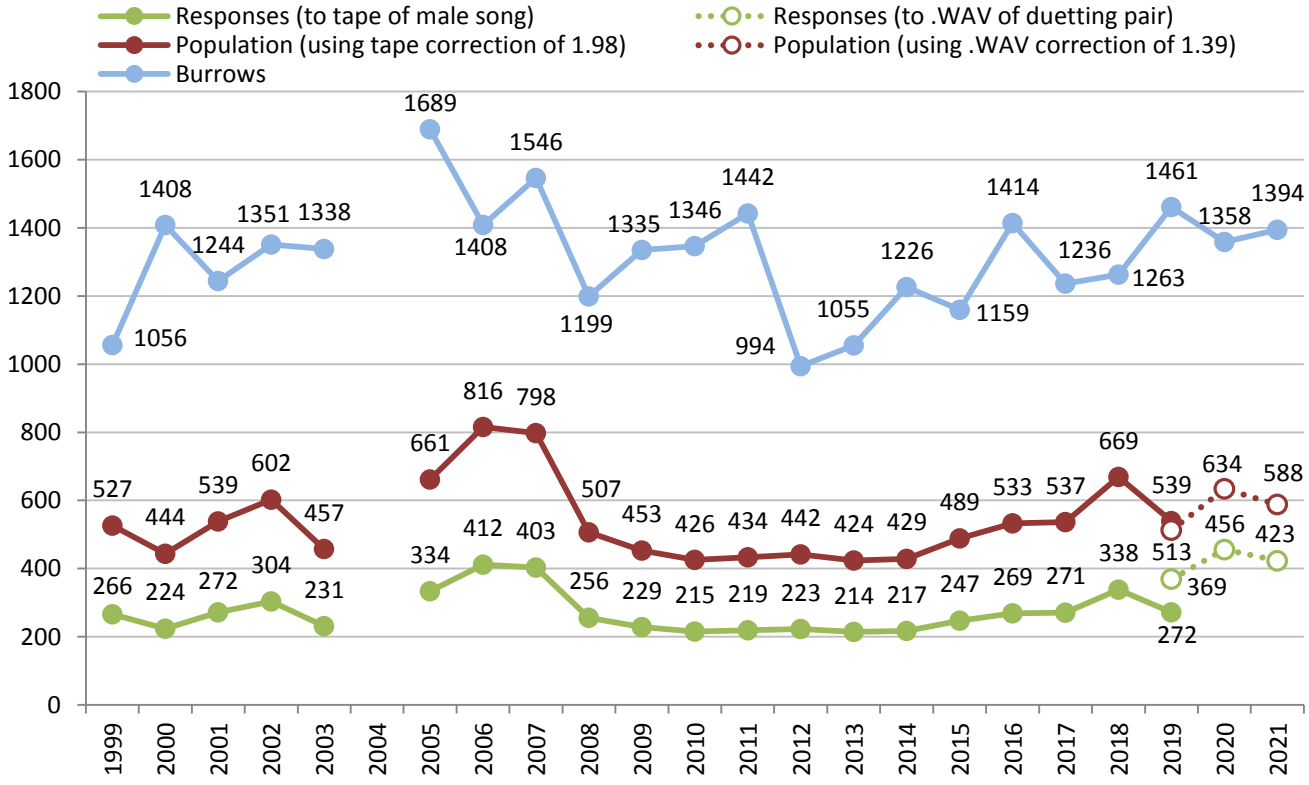
found as four year olds, although one of these did not breed until it was six (it was unsuccessful this year in the burrow it had occupied in 2019 and 2020) and one seemingly did not breed until it was seven (a successful 2020 attempt in the burrow it occupied in 2017). Four birds were first found after five years, two of which bred successfully, one of which bred unsuccessfully and one of which did not produce an egg. Three birds were first found at six years of age, one of which bred successfully (and has since failed once and succeeded once), one of which failed (and was not seen again) and one of which did not produce an egg (a bird which bred successfully the following year). Finally, one was first encountered as a seven year old when it successfully fledged a chick (although this bird also went missing the following year). Thus one was first known to breed at four years of age, three were first known to breed at five, three were first known to breed at six, three were first known to breed at seven and one has not been found with an egg.

The study burrows facilitate an accurate assessment of breeding success on Skokholm. There were 128 burrows at the Lighthouse occupied by a pair which produced an egg, ten burrows contained an egg along the Quarry Track and 22 pairs produced an egg inland of Crab Bay. There were thus 160 burrows this year from which productivity could be assessed (although down on the 168 of last year, this was the second highest total to date, up on a 2014-2020 mean of 156). Of these, 12 definitely failed at egg stage; two eggs were found damaged and ten were found abandoned. An additional 17 pairs failed at egg or very small chick stage (but neither eggs nor dead chicks were found). There were three early chick stage failures, with one burrow found to contain a hatched shell but no chick and two found to contain down but no chicks; the missing youngsters 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. The only larger chick stage failure occurred in Lighthouse burrow 58 where two (previously unencountered) adults were found alongside the body of a chick with a 147mm wing chord; it was unclear whether this was a case of infanticide, although one of the adults had a bill covered in the chick's down. A chick was assumed to be of fledging size when its wing length was 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 127 chicks which reached this size in 2021. Productivity was thus 0.79 fledging-sized chicks per breeding pair (79.38% of pairs produced a fledging-sized chick); this was up on the 0.68 of last year, up on a 2013-2020 mean of

0.71 ±se 0.02 and was the second highest productivity estimate of the last nine years (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, none of the 127 fledglings ringed in the study plots were found eaten this year (one of 115 was found in both 2020 and 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 221mm by 25th September.

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 10,057 birds ringed along the transect between 2013 and 2021 (4256 of which were ringed as fledglings), 2346 have been retrapped or found dead on Skokholm subsequently (with these recaptured individuals accounting for 3892 separate handlings).

**The total number of burrows, responses (to tape 1999-2019 and to .WAV 2019-2021) and the corrected population estimates for the 7000m² sampled annually since 1999.**




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 22 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 in 2020 and 2021 meant that there was not time to conduct both a tape and a .WAV playback census; 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.

This year saw each of the nine plots visited between 29th May and 3rd June. The 7000m$^2$ (seven plots) monitored since 1999 contained 36 more burrows than last year, the total being the third highest of the last ten years and 6.3% up on the 1999-2020 mean (1310.86 ±sd 167.31). 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). An increase in the number of burrows present was also seen at the plot started in 2006, where there were 72 more, however there were 18 fewer at the plot started in 2015. 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.

There were 423 responses elicited in the original 7000m$^2$ using the .WAV recording, this 33 (7.2%) down on the 2020 total. Although there were two more responses in the plot near the Helipad and 17 more in the plot above the Dip, there were between four and six fewer responses at three sites, 15 fewer at the Neck plot (an area shared with an expanding Puffin population) and 23 fewer in the fragile Spy Rock plot (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 588 occupied burrows across the seven plots (see chart above). Any comparison with the numbers predicted using the

male only tape playback should clearly be a cautious one, although given that the 2019 .WAV population estimate was below the 2019 tape estimate, it could perhaps be concluded that we are not overestimating the population when using the .WAV correction any more than when using the tape correction. It would appear that the population in this area remains similar to, or above, that seen in previous years, this despite the 2021 decline in the number of responses. The 1000m$^2$ plot visited since 2006 produced ten fewer responses than last year. The 670 occupied burrows predicted across the 8000m$^2$ using the .WAV recording was down on the 730 of last year, but up on the 2019 .WAV estimate of 606 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, 2018 and 2020 (although this again relies on a cautious comparison of .WAV and tape playback results). There were seven fewer responses to the .WAV recording at the Table plot first visited in 2015, the predicted population being the lowest to date (ten down on that of 2020). 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 rather constant supports the conclusion that the population is stable (see above).

**The estimated number of pairs in the 8000 square metres sampled 2007-2021.**

| 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 954 | 620 | 525 | 499 | 495 | 501 | 521 | 477 | 533 | 588 | 584 | 739 | 655 | 730 | 670 |

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 carcases 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. The corpses are 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 bodies). 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 Manx Shearwater corpses found between 1957 and 1983 from Gynn (1984) plus data from 1984 to 1991 and 2014 to 2021. 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** | **2021** | |
| **Corpses** | 1915 | 2703 | 4271 | 4123 | 3782 | 3449 | 3270 | 2707 | 4091 | 3237 | |
| **GBBGU** | 16 | 20 | 84 | 83 | 93 | 93 | 93 | 86 | 83 | 80 | |

As might be expected with a larger Great Black-backed Gull breeding population, the number of corpses marked over the last eight years has been the most ever. However the average number of corpses per Great Black-backed Gull pair was only 40.5 in 2021; this has only been lower in six previous years (including three of the last five), with all-time lows of 30.8 in 1959 and 27.6 in 1970

(there were 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 drop in the number of adult corpses found this year; a total of 2132 was 29.1% down on that logged in 2020 and 11.5% down on the 2014-2020 mean (2408.14 ±sd 500.32), the increased human presence brought about by relaxing COVID-19 restrictions perhaps reducing the amount of time in which gulls could hunt undisturbed. It is often suggested that the majority of eaten shearwaters are younger, less experienced non-breeders, those which spend longer on the surface as they prospect for burrows and mates. However the 100 ringed birds found predated in 2021 again do little to support this theory (see below table and the 2018-2020 seabird reports); 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 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 | 2021 |
|---|---|---|---|---|---|---|---|---|
| **Adults** | 2931 | 2702 | 2299 | 2071 | 2228 | 1618 | 3008 | 2132 |
| **Juveniles** | 1287 | 1324 | 1398 | 1289 | 971 | 1043 | 970 | 967 |
| **Puffinosis** | 53 | 97 | 85 | 89 | 71 | 46 | 113 | 138 |
| **Total** | **4271** | **4123** | **3782** | **3449** | **3270** | **2707** | **4091** | **3237** |

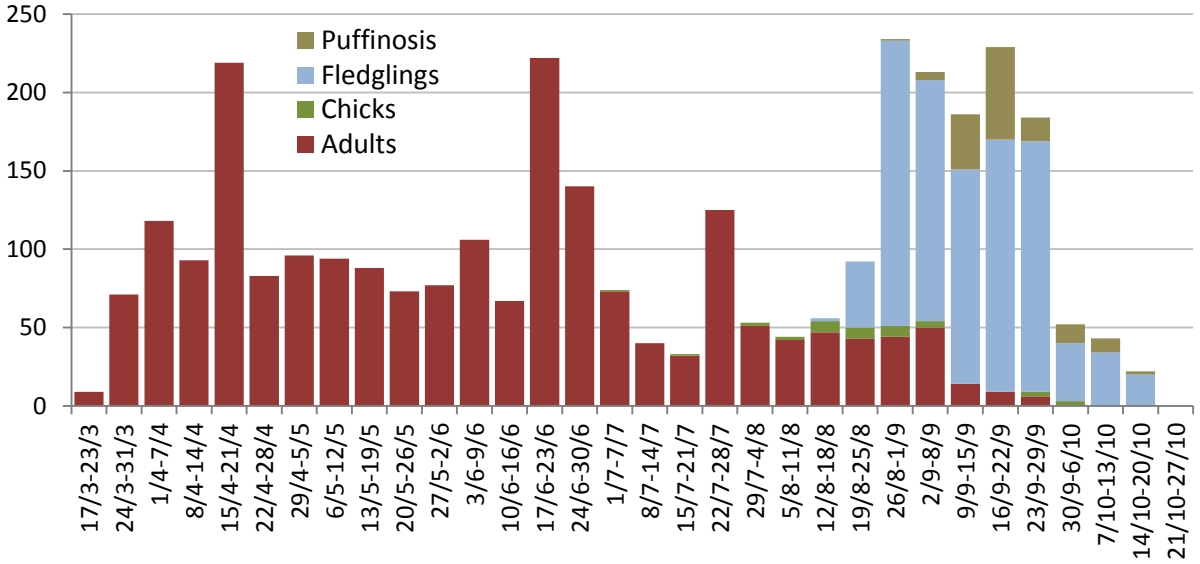
**When the 100 ringed shearwaters found eaten in 2021 were marked. Note that the pre-2013 birds were controls ringed elsewhere and that intensive ringing on Skokholm recommenced in 2013.**

| Adult 2012 | Fledged 2012 | Adult 2013 | Fledged 2013 | Adult 2014 | Adult 2015 | Fledged 2015 | Adult 2016 | Fledged 2016 |
|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 10 | 4 | 12 | 12 | 2 | 7 | 3 |
| **Adult 2017** | **Fledged 2017** | **Adult 2018** | **Fledged 2018** | **Adult 2019** | **Fledged 2019** | **Adult 2021** | **Fledged 2021** | |
| 3 | 1 | 8 | 3 | 2 | 1 | 2 | 28 | |

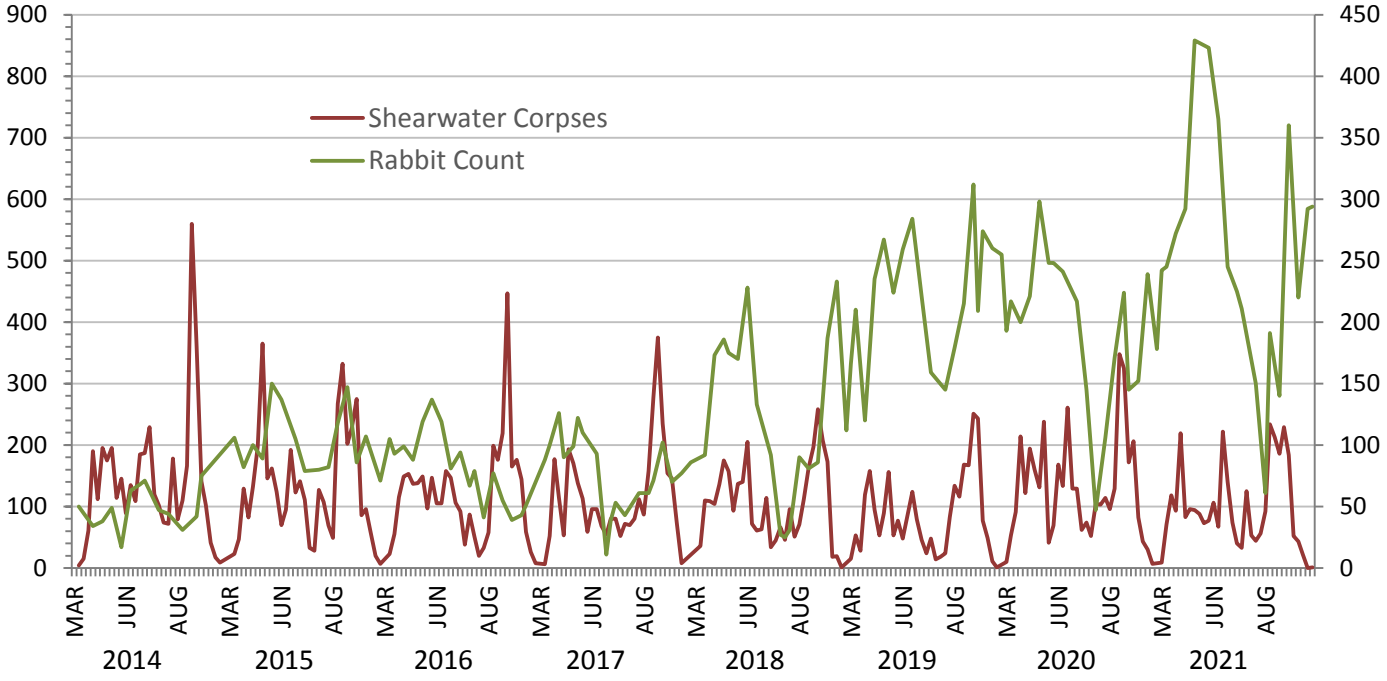
The data from the last eight years lends some support to the theory that Rabbit numbers influence Manx Shearwater predation (by providing an alternative food source for the gulls), with the North Plain Rabbit count being considerably lower in 2014, when shearwater mortality was at its highest, and progressively higher during 2018 and 2019, the period during which fewer shearwater carcasses

were located (see second chart below). This year saw the highest Rabbit numbers of the last eight years, this coinciding with the second lowest number of corpses and the lowest number of juvenile corpses to be found during the same period. However the 2020 data did not fit this pattern, with the highest number of adult Manx Shearwater corpses being found in a year with a high Rabbit population (although, as mentioned above, a COVID-19 dictated reduction in disturbance may have given the gulls longer to hunt). One potential issue with this comparison is that North Plain Rabbit counts are probably not representative of the whole Island, with the effects of Viral Haemorrhagic Disease seemingly differing in different parts of the Island at the same time. 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 17th March until 27th October 2021.**




**The total number of Manx Shearwater carcasses found each week 2014-2021 and the number of Rabbits counted in the North Plain census plot during the same period (secondary axis).**




The first fledgling had departed on 17th August, this one day earlier than the first of last year and five days earlier than the 2013-2020 first fledgling mean (birds gone by the 18th in 2019 and 2020 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 Billy's Dyke on the 30th, one day 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 eight years has ranged between 46 and 138 (see above table); unlike eaten 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.

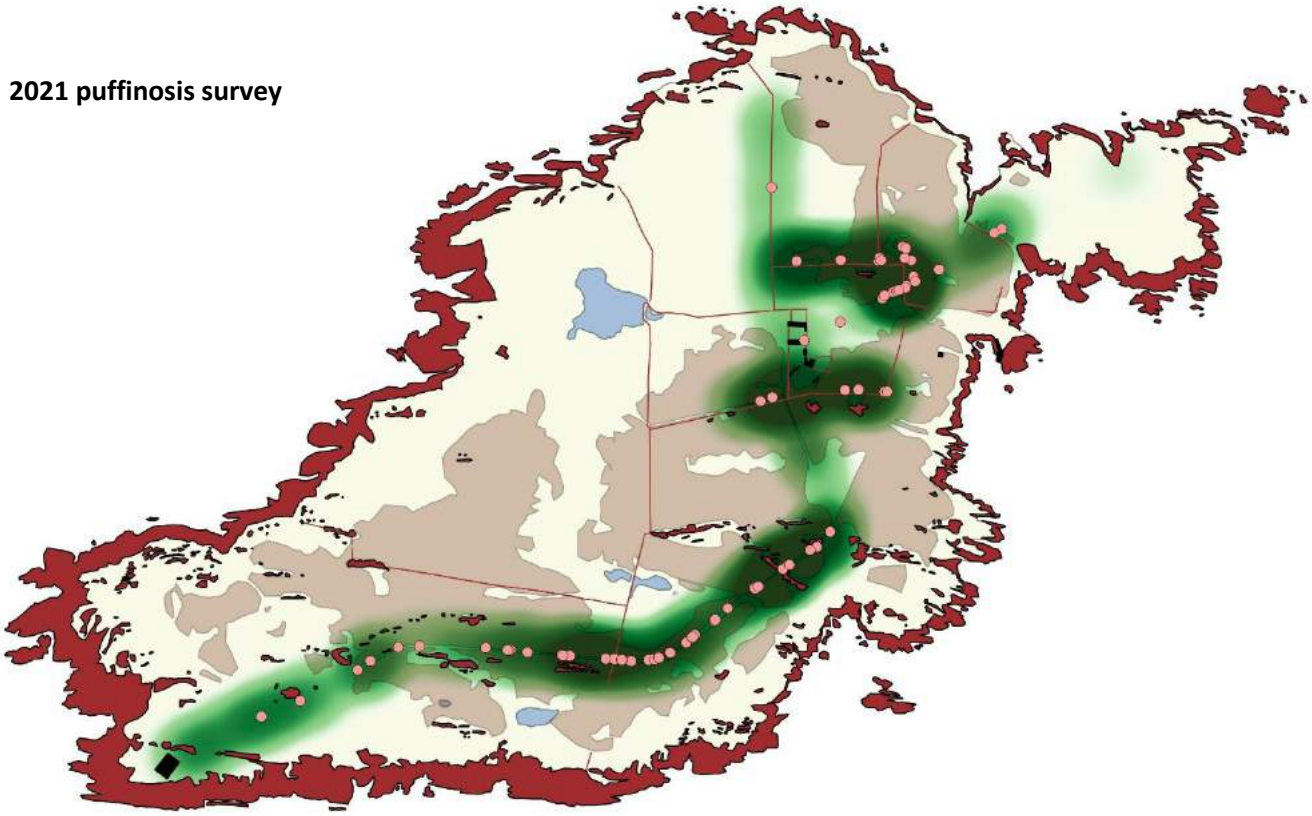
**The number of fledgling Manx Shearwaters encountered along the transect between 2016 and 2021, the number which showed signs of puffinosis and the percentage of encountered birds made up of those showing signs.**

| 2021 | 1st-2nd | 4th-5th | 7th-8th | 11th-12th | 13th-14th | 16th-17th | 18th-19th | 20th-21st | Total |
|---|---|---|---|---|---|---|---|---|---|
| Birds | 147 | 143 | 228 | 152 | 111 | 75 | 29 | 16 | **901** |
| Puffinosised | 9 | 10 | 16 | 14 | 11 | 9 | 10 | 4 | **83** |
| % Puffinosised | 6.1 | 7.0 | 7.0 | 9.2 | 9.9 | 12.0 | 34.5 | 25.0 | **9.2** |
| **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** |

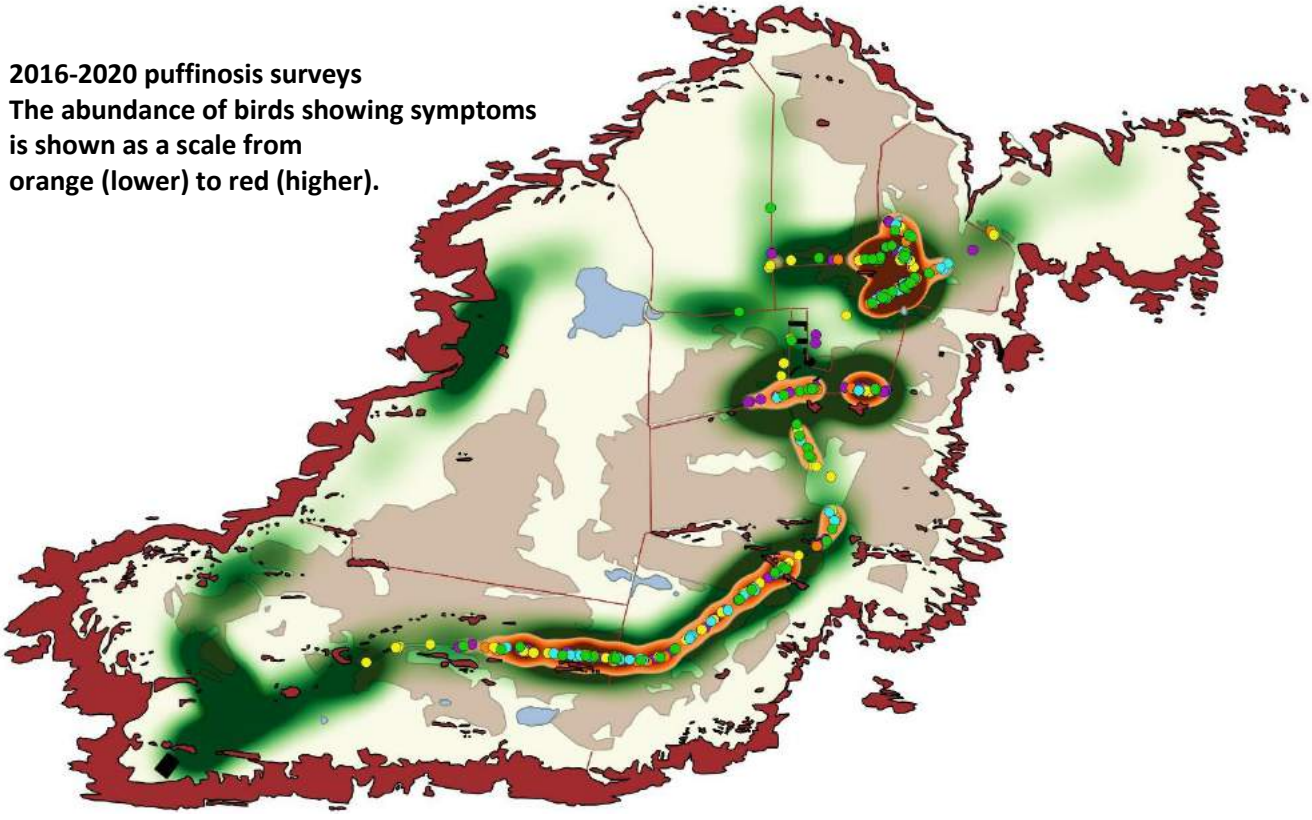
The number of shearwater fledglings located along the transect is likely to be different between years, not just because of fluctuations in productivity, but more critically due to differences in the weather and moon cycle which influence their surface behaviour. In total over the eight visits there were 40 fewer fledglings encountered this year than in 2020, with a total of 901 being 10.2% up on the 2015-2020 mean (817.57 ±sd 181.86). Although the count of apparently infected birds was one down on last year, the percentage of birds showing signs was fractionally up, albeit the third 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 a drier northerly route, which held 270 fledglings over eight 2020 nights, only produced 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 lower map below).

**The 2021 and 2016-2020 puffinosis surveys. Manx Shearwater fledgling density is shown in green, with the darker areas holding more birds (the northern footpath between Middle Heath and the Table was only surveyed in 2020). Each puffinosised bird encountered over the eight visits is marked by a circle, pink in 2021, lime in 2020, blue in 2019, yellow in 2018, orange in 2017 and purple in 2016. The 2018 Bracken distribution is also shown.**

**2021 puffinosis survey**



**2016-2020 puffinosis surveys**
**The abundance of birds showing symptoms is shown as a scale from orange (lower) to red (higher).**



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 four years is that they all proved to be comparatively dry breeding seasons. That the proportion of infected birds was lowest in the four years between 2018 and 2021, the same four years which have seen the lowest totals of predated juveniles (see above table), is intriguing; 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 seven year study, was not significantly higher than in 2016 and 2017 when the proportion of puffinosised birds was lower.

Of the 127 study plot fledglings, 63 (49.6%) had departed by 4th September and 104 (81.9%) had departed by the 11th. Although birds were occasionally calling at night until 8th October, the last grounded adult to be encountered along the transect was a 2018 fledgling retrapped on 13th September, this four days later than the last of 2020 but five days earlier than the last of 2019. The 423 counted at sea on the afternoon of 26th September was the highest daycount ever logged this late in the season (1043 on the 23rd in 2017 is the latest higher count). There were seawatching records on all but one October date to the 7th, with a high of 17 on the 6th, and juveniles were either seen after dark or found freshly eaten on all but one further date to the 16th. A freshly eaten juvenile in North Haven on 20th October was five days later than the last of 2020 (but two days earlier than the last live fledgling recorded in 2019), and up to two birds were seen at sea on each date between the 25th and 27th. Despite regular seawatching, the only November record was of a very freshly eaten, still partially downy, fledgling at Migration Rocks on the 22nd; this remarkably late record is the latest Skokholm youngster to date, eight days later than a live fledgling encountered in 2014. One heading west through Broad Sound on the 1st was the first December record for Skokholm, this five days later than one in 1991 and seven days later than singles in 1991 and 2020.

**Ringing recovery** EA12116
**Originally ringed** as an adult, LIGHTHOUSE STUDY BURROW 154, SKOKHOLM 22nd May 2019
**Previously recovered** as an adult, LIGHTHOUSE STUDY BURROW 154, SKOKHOLM 26th May 2020
**Previously recovered** as an adult, LIGHTHOUSE STUDY BURROW 154, SKOKHOLM 30th May 2021
**Recovered** as an adult, PRAIA DE ATALAIA, ARACAJU, SERGIPE, BRAZIL 13th September 2021
**Finding condition** Found alive on beach and taken to a rehabilitation centre
**Distance travelled** 7618km at 204 degrees (SSW)
**Days since ringed** 858
This individual, paired with EA12107 in all three years, failed at small chick stage in both 2019 and 2020 and at egg stage this year. It will be fascinating to see if it survives the rehabilitation process. 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 2020. 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.

**Ringing recovery** EX93715
**Originally ringed** as a chick, SKOMER ISLAND, PEMBROKESHIRE 16th September 2012
**Recovered** as an adult, SOUTH POND, SKOKHOLM 30th March 2021
**Finding condition** Dead, eaten by Great Black-backed Gull
**Distance travelled** 4km at 163 degrees (SSE)
**Days since ringed** 3117

**Ringing recovery** FB36198
**Originally ringed** as an adult, BARDSEY ISLAND LIGHTHOUSE, GWYNEDD 28th June 2012
**Recovered** as an adult, SKOKHOLM 5th July 2021
**Finding condition** Dead, eaten by Great Black-backed Gull
**Distance travelled** 122km at 196 degrees (SSW)
**Days since ringed** 3294
On overcast nights, prior to its conversion from white to red light, Bardsey Lighthouse attracted thousands of disorientated shearwaters towards its shores.

**Ringing recovery** FB42559
**Originally ringed** as an adult, MANX SHEARWATER TRANSECT, SKOKHOLM 5th July 2013
**Previously recovered** as an adult, SHEARWATER TRANSECT, SKOKHOLM 29th May and 5th June 2014
**Previously recovered** as an adult, SHEARWATER TRANSECT, SKOKHOLM 4th and 6th August 2015
**Recovered** as an adult, SKOMER ISLAND, PEMBROKESHIRE 1st May 2021
**Finding condition** Intentionally captured
**Distance travelled** 4km at 343 degrees (NNW)
**Days since ringed** 2857

**Ringing recovery** FB46680
**Originally ringed** as a chick, LIGHTHOUSE STUDY BURROW 23, SKOKHOLM 15th August 2019
**Recovered** as an adult, BARDSEY ISLAND, GWYNEDD 12th July 2021
**Finding condition** Intentionally captured
**Distance travelled** 123km at 16 degrees (NNE)
**Days since ringed** 697
This is an early landfall for a bird which fledged shortly before 5th September 2019.

**Balearic Shearwater** *Puffinus mauretanicus* **Aderyn Drycin y Baleares**
**Scarce to Uncommon** first recorded in 1960
**Earliest** 15th May 1997 (8th August 2021) **Latest** 14th November 2019 (3rd October 2021)

Two heading west within 15 minutes of each other on the morning of 8th August were nine days earlier than the 2013-2020 first bird mean; there have been 29 earlier bird-days, including one in May and 16 in July (the most recent of which were on 17th July 2015 and 27th July 2017). A single west on the evening of 13th August was the last of the month and the 87th August bird-day to date

(19 of which have occurred since 2013). An all-time September bird-days total of 112 was not added to, however singles in Broad Sound on the 2nd and off South Haven on the 3rd took the all-time October tally to 40; there have been 33 later bird-days, including just one in November. Although up on the three of last year, an annual bird-days total of five was down on a 2013-2020 mean of 6.5 and all-time highs of 21 in 1990, 15 in 1994, 29 in 2011 and 15 in 2016.

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

Considering that approximately 36,011 pairs are present on Grassholm (JNCC, 2015), this only 14km to our west and the third largest east 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). A 2021 bird-days total of 11,469 was up on the 10,147 of last year (the lowest tally since 2012), but down on a 2013-2020 mean of 16,275.8, this probably due in part to the COVID-19 dictated reduction in guest numbers observed this year (there were recent highs of 19,695 in 2013 and 20,558 in 2018).

**The total number of Gannet bird-days logged each month, along with the maximum monthly daycount and the date on which the 2021 peak was recorded. Counts from 2017 to 2020 are included for comparison.**

| | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov |
|---|---|---|---|---|---|---|---|---|---|
| **2021** | 208 | 451 | 685 | 639 | 1452 | 3340 | 2684 | 1780 | 211 |
| **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 |
| **2021** | 36 | 46 | 161 | 198 | 468 | 549 | 662 | 236 | 36 |
| **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 |
| | 30th | 3rd | 4th | 8th | 30th | 8th | 19th | 4th | 29th |

Numbers followed the same general pattern as seen in previous years, with counts steadily increasing until an early autumn high. August proved to be the most productive month for the sixth time in ten years, with three of the five highest daycounts coming during this period. Three of the five highest daycounts, namely the 468 of 30th July, the 549 of 8th August and the 438 of 12th August,

occurred on days with winds gusting at force seven or above from the westerly quarter, however the 482 of 9th August passed in gentle southwesterlies and the 662 of 19th September were noted during only moderate westnorthwesterlies. Although October counts were unsurprisingly down on those logged during September, both a peak daycount of 236 on the 4th and a bird-days total of 1780 were record highs (a daycount of 215 on the 14th was the third highest October tally). 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. However there were no birds found on land for a second consecutive year and one heading west over Little Bay Point on 24th May was the only flyover noted. A minimum of 95 circling off the Lighthouse in thick mist on 9th June was reminiscent of the 195 seemingly disorientated birds seen doing likewise in mist on 18th June last year. An apparent adult with a broken wing was off North Gully on 3rd July and a weak juvenile seen off the Little Neck on 14th October was probably the bird present in North Haven the following day.

**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 2019 bird-days total was the highest since the 2013 peak, although a daycount maximum of 15 was nine down on that of 2013. The number of daycounts from the Neck, where the majority of Shag are usually to be found, was reduced in 2020 due to COVID-19, however a peak of 15 suggested that numbers had not changed significantly from the preceding year.

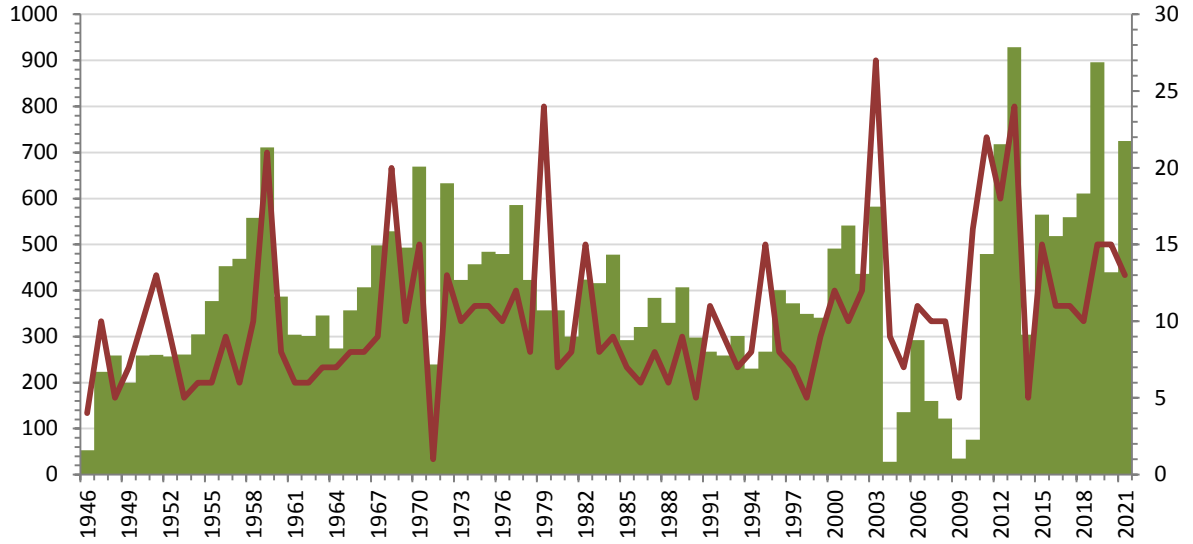
**The total number of Shag bird-days logged each month, along with the maximum monthly daycount and the date(s) on which the 2021 peak was recorded. Counts from 2017 to 2020 are included for comparison.**

| | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov |
|---|---|---|---|---|---|---|---|---|---|
| **2021** | 56 | 39 | 62 | 26 | 57 | 140 | 143 | 105 | 76 |
| **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 |
| **2021** | 6 | 4 | 6 | 4 | 10 | 13 | 12 | 9 | 8 |
| **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 |
| | 1st & 16th | 3 dates | 24th | 7th | 30th | 10th & 20th | 3rd | 11th | 2nd & 23rd |

Although we welcomed guests for the majority of the 2021 season, reduced numbers due to the COVID-19 pandemic (particularly during April and May) no doubt again impacted recording as fewer visits were made to the area of the Neck which overlooks the Stack (a site which often holds loafing *Phalacrocorax*). Nevertheless both the March bird-days total and peak daycount were the highest since 2013. The peak April daycount was the second lowest since 2013, whilst the April bird-days total was the fourth lowest and the May and June totals were the third lowest. Numbers increased in July, with the bird-days total almost matching the 2013-2020 mean and the peak daycount being

the highest since the crash. The August bird-days tally was the third highest since 2013 and both the bird-days total and the peak daycount in September were the second highest. The October total was the highest since 2013 and the peak equalled that of last year as the second highest, whilst the peak November daycount equalled that of 2019 as the highest ever (although this no doubt reflects a lack of recorders in some of the years which had seen more birds present earlier on). A 2021 bird-days total of 725 was the second highest since 2013, however the peak August daycounts of 13 were down on a post-crash high of 15 logged in 2015, 2019 and 2020. 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 2019 (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.

**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).**




**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, in South Haven and in Crab Bay, a COVID-19 dictated reduction in observer numbers no doubt impacted records for a second consecutive year (primarily due to a reduction in the number of visits made to the area of the Neck which overlooks the Stack). An annual bird-days total of 590 was nevertheless up on a 2013-2020 mean of 578.3, albeit being down on the 725 of 2018 and the 867 of 2019. As is typically the case, spring passage was not as pronounced as that which is observed in autumn, indeed the only counts of more than two flying birds were of eight north on 22nd March and three north on 30th March. There were 14 autumn dates when three or more seemingly passage birds were noted, this two more than last year (the 2013-2020 mean is 12.6, with a high of 17 dates in 2019); as previously noted by both Betts (1992) and Thompson (2007), the vast majority of passage birds were again heading in a southeasterly direction. The peak counts of autumn passage birds were lower than of late, with highs of 13 southeast on 23rd August and 22 southeast on 21st October being down on the high noted in six of the last eight years (and matching that of 2017), down on peaks of 97 in 2013 and 51 in 2016 and down on a 2013-2020 mean of 41.5 (the only daycount up on that of 28th September 2013 is the 107 logged on 12th September 2003). The majority of birds seemingly head inland for the winter months, indeed there were only 14 bird-days logged throughout November, whilst the only sightings during the first five days of December were of singles in Mad Bay on the 2nd and at the Stack on the 3rd.

**The total number of Cormorant bird-days logged each month, along with the maximum monthly daycount and the date on which the 2021 peak was recorded. Counts from 2017 to 2020 are included for comparison.**

| | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov |
|---|---|---|---|---|---|---|---|---|---|
| **2021** | 50 | 47 | 33 | 41 | 74 | 143 | 117 | 68 | 14 |
| **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 |
| **2021** | 8 | 7 | 4 | 7 | 8 | 17 | 11 | 22 | 3 |
| **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 |
| | 22nd | 14th | 6th | 30th | 16th | 23rd | 12th | 21st | 22nd |

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

A first-winter bird which settled at the Lighthouse, the Dip and the Bog on the 11th became just the 26th April bird-day, six of which have been logged since 2015. There was again no May sighting; the last of 30 Grey Heron to be noted in this month was in 2003. Two on the 1st, which went over the Helipad before settling on the North Coast, made this the ninth consecutive June with a record, although a flyover on the 7th and lone juveniles at North Pond on the 20th and over the Lighthouse on the evening of the 26th were the only other sightings during the month; the 2013-2020 June bird-days mean is 5.3, 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). Flyover singles on the 5th and 18th led to the lowest July bird-days total since 2015, this well down on highs of 18 in 1987 and 16 in 1989. Birds were present on five August dates, with singles on the evenings of the 10th and 24th, one along the North Coast on the morning of the 26th presumed to be that seen at the Lighthouse that afternoon and singles over the Farm on the evenings of the 29th and 31st; the bird-days total was down on a 2013-2020 August mean of 6.5 and highs of 26 in 1981, 20 in 1990 and 17 in 2019.

One stood on the Lighthouse Rocks, early on the morning of the 12th, was the only September sighting, a lone bird-day matching that of 2018 as the lowest September tally this decade, down on a

2013-2020 mean of 9.0 (although this period included all-time highs of 16 in 2014 and 21 last year). One on the afternoon of the 8th and two heading south together the following afternoon were the only October records, this taking the all-time October bird-days total to 59 (26 of which have been in the last nine years). One west over North Gully on the 4th and one arriving in from the sea on the 10th made this only the third November with more than a single bird-day (there were three in both 1928 and 1930). A cumulative 2021 total of 19 bird-days was the lowest since 2013, down on the 35 of last year (21 of which were in September) and a 2013-2020 mean of 27.9 (there were highs during this period of 37 in 2017 and 35 in 2019 and 2020 and all-time highs of 42 in 1981 and 41 in 1988).

**Great White Egret** *Ardea alba* **Crëyr Mawr Gwyn**
**Vagrant** two previous records

One on 11th October, picked up as it headed northwest over the Hills, continued out towards Grassholm (GE *et al*.). This was the third for Skokholm following a flyover on 5th July 2019 and one on 15th October last year which arrived from the northeast at dusk and spent a short time on North Pond before being flushed north by Canada Geese. 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, five singles in 2019 and 14 sightings of up to three birds last year; this increase in records has been mirrored elsewhere in Wales, meaning that Great White Egret no longer fits the assessment criteria of either the Welsh Birds Rarities Committee or the Pembrokeshire Rarities Committee.

**Little Egret** *Egretta garzetta* **Crëyr Bach**
**Rare** 32 previous records, usually of singles but with eight together on 25th September 2014

Two flew south past the Quarry before heading southeast to sea on 31st May. The following day saw a group of seven heading south over the middle of the Island, birds which had previously been seen from the Wick on Skomer and which were erroneously identified as Great White Egret; a review of photographs taken at the time confirm that they were Little Egret, this the second largest flock to be seen from Skokholm following that logged in 2014 (and only the seventh sighting of multiple birds). One which arrived on the morning of 16th October spent the remainder of the day exploring Home Meadow, North Plain, Orchid Bog and North Pond. An annual bird-days total of ten matched that of a record 2014 (which included the daycount of eight), with four in 2016, 2017 and 2020 being the next highest totals. The first for Skokholm joined the Bread Rock Lesser Black-backed Gulls on 18th

May 1983, this followed by three on 10th October 1993, two on 1st May 1997 and records in 15 subsequent years. Little Egrets have been seen in every month between March and December inclusive, now with one record in March, two in April, six in May, four in June, ten in July, four in August, two in September, three in October, two in November and one in December (all tallying 54 bird-days).

**Osprey** *Pandion haliaetus* **Gwalch y Pysgod**
**Rare** singles in the Septembers of 1966 and 1988 and 16 records from 1992 including seven in spring
**Earliest** 2nd April 2012 (27th August 2021) **Latest** 21st September 1996 (31st August 2021)

One south over the Well at 1100hrs on the 27th was just the second August record for Skokholm following one on the 20th in 2014 (RDB). The third circled off the Lighthouse at 0745hrs four days later (GE). There have now been four birds in April, three in May, three in August and ten in September, with nine of these 20 records occurring in the last eight years.

**Sparrowhawk** *Accipiter nisus* **Gwalch Glas**
**Uncommon Visitor** occurring in all months, but more frequent outside of the breeding season
1 trapped
1936-1974: 7 trapped, 2013-2019: 9 trapped, 1 retrapped

Sightings of a female on the 21st, 22nd and 26th March were perhaps all of the same individual which took a Stonechat along the Well Stream. Following an unsexed bird on the 4th, there were April sightings of a female on three dates between the 9th and 12th, one on the 16th and 17th considered different to the earlier female and a female on the 30th; a total of seven April bird-days was the highest since the 19 of 2006. A first-summer female ringed on 4th May was perhaps that seen on the 5th and 6th, whilst there were further sightings of a female on the 13th, 15th, 18th and 24th, a male heading north towards Skomer on the 24th and an unsexed bird on the 25th, the latter the last of the spring; a total of nine May bird-days was only down on the ten of 1993. A spring bird-days tally of 19 was up on a 2013-2020 mean of 5.0 and matched that of 1982, 1997 and 2006 as the fourth highest to date, only down on the 37 of 1993, the 20 of 1996 and the 26 of 2000. A female on 27th July was 18 days earlier than the 2013-2020 first of autumn mean and the earliest autumn arrival since one on the 21st in 2001. Singles on seven August dates from the 17th were noted as female on six dates, with an unsexed bird logged on the last day of the month, whilst numbers peaked in September for a ninth consecutive year, with singles on 11 dates recorded as female on seven occasions and unsexed

on four and females on the 18th and 23rd definitely being juveniles; the August bird-days total was down on a 2013-2020 mean of 10.4 and the September tally was the lowest of the last nine years, down on all-time highs of 30 in 2000, 28 in 2014 and 26 in 2015 and a 2013-2020 mean of 19.3.

Both a female and a male were present on 1st October, this one of only two 2021 dates with multiple birds, whilst singles on five further October dates were either female or unsexed and took the bird-days total to a slightly below average seven. A first-winter male on 3rd November was the last of the year and the 30th bird-day to be logged in this month. An autumn bird-days total of 27 was the second lowest of the last nine years and down on a 2013-2020 mean of 39.3, although this was a period which saw 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 (24th July 2021) **Latest** 4th November 2018 (19th September 2021)

There were no spring sightings, with a juvenile over the Farm at 1100hrs on 24th July the first of the year; of 27 previous spring bird-days, 14 have been logged this century, with the majority occurring in May. A juvenile quartering the Bog on 16th September regularly dropped into clearings between the Bracken, whilst a juvenile heading southwest on the afternoon of 19th September was the last of the year. Three 2021 bird-days was down on the record of 13 set in 2018, but matched that of last year and a 2013-2020 mean of 3.4. There have now been sightings in 24 years, including eight of the last ten, with at least 41 individuals accounting for 72 bird-days, 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 (8th October 2021) **Latest** 21st April 2019

There were no spring sightings for the first time since 2015; of 22 previous bird-days logged in either March or April, 16 have been recorded since 2013. A ringtail on the evening of 8th October was thus the first of the year, this three days earlier than the first of last year; although there have been 34

earlier autumn bird-days, including 23 in September and 27 since 2017, this was six days earlier than the 2013-2020 first autumn bird mean. The only other October record was of a ringtail on the 30th, this perhaps the same bird seen on the 1st, 2nd, 5th, 13th, 14th and 17th November. Although a 2021 bird-days total of eight matched that of 1970 as the 12th highest to date, it was the lowest of the last seven years, down on a 2013-2020 mean of 20.0 and a high of 46 logged in 2018.

**Red Kite** *Milvus milvus* **Barcud Coch**
**Rare** approximately 23 previous records of up to two birds, but becoming Scarce or Uncommon

The first of the year went over on the morning of 21st March, this one day earlier than the first of last year; there have now been ten March bird-days, with annual sightings since 2017 and the firsts during this period all arriving between the 21st and 25th. The only other spring records were of flyover singles on the 3rd and 13th April; all eight April bird-days have been logged since 2015. A total of three spring bird-days was down on an unprecedented nine recorded last year, albeit the second highest spring tally to date. Interestingly an analysis of primary wear showed that all of the birds photographed in spring 2020 were different, rather than sporadically returning individuals.

One on 3rd September was the earliest autumn record for Skokholm and the sixth bird-day to be logged in this month; there have been no sightings between 6th June (a bird seen in 2000) and September. One over on the morning of the 15th was the seventh bird-day to be logged in October. November saw singles over on the morning of the 2nd, on the afternoon of the 15th, at midday on the 19th and on the morning of the 22nd, these the first to arrive in this month. An autumn bird-days total of six was a new high, up on the four of 2018, whilst an annual total of nine matched that of last year as the highest to date, taking the all-time tally to 37; there have now been annual records since 2015, these accounting for 34 bird-days, with two in 2012 and one in 2000 being the only other sightings. An increase in the Pembrokeshire breeding population is inevitably going to lead to an increase in the number of Skokholm birds, although an open sea crossing to the Island is seemingly not appealing to a species which is still much more regular on the mainland and islands just offshore.

**Buzzard** *Buteo buteo* **Bwncath**
**Scarce Breeder and Uncommon Visitor**
1936-1957: 6 trapped, 2013-2018: 8 pulli trapped

Although a pair yet again held territory in Wreck Cove from February and toured widely, this proved an unobtrusive species which was not recorded every day. There were 14 spring dates when the daycount exceeded the two Skokholm breeders, this the highest tally since the 15 of 2013 and up on a 2013-2020 mean of 7.4 dates; three were logged on one date in March, five dates in April, two

dates in May and two dates in June, four were logged on the 3rd and 29th April and on 16th May and five were present on 1st May. The peak spring daycount matched that of 25th March 2019 as the highest since the six of 16th April 2015, the latter matching that of 6th April 1988 as the highest in spring since nine on 24th May 1955 (nine were also logged on 26th April 1949, with 12 on 10th April 1940 and ten on 20th May 1955 the only higher spring daycounts). For a third 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. Three eggs were still present on 16th May, although only two chicks were in the nest on the 30th. Two young had fledged by 6th July and both lingered in the vicinity of Crab Bay until at least 26th 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 2019, 2021 productivity was again up on a 2013-2020 mean of 1.5 (although the Wreck Cove pair managed to fledge young in each year between 2013 and 2018, only in 2015, when two fledged, did they produce anything more than a singleton). A record of three adults on 15th July was the only indication of a post-breeding arrival from elsewhere, a peak autumn daycount of four on 11th October potentially referring to the Skokholm pair and their young.

**Short-eared Owl** *Asio flammeus* **Tylluan Glustiog**
**Uncommon** described in 1936 as a 'rare visitor', listed by Thompson as Scarce and has bred once 1957-1969: 5 trapped, 2017: 3 pulli trapped

One over North Plain on the 21st was the first March sighting since 2019 and the 52nd March bird-day, 15 of which have occurred since 2013. Singles on the 6th, 16th, 20th and 29th were the only April records, this taking the all-time tally to 71, 37 of which have occurred since 2013. There were daily sightings between South Pond and Home Meadow from the 4th to 7th May, with singles over the Farm on the 12th and 13th taking the May bird-days total to six, this the fourth highest tally to date. One was along the Lighthouse Track on the night of 12th June and a moulting adult was flushed from near South Pond six days later, although Storm Petrel remains found on eight dates suggested a more regular presence; a June bird-days total of two was typical for a non-breeding year, indeed all June totals have been of eight or less bar the 21 logged in 2017. 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 on vole-free Skokholm. One near the Lighthouse on the 4th was the only July sighting, although fresh Storm Petrel remains found on six later dates revealed a continued presence. Likewise Storm Petrel remains found on six dates were the only signs of a typically unobtrusive August presence. Two calling around the Lighthouse on the night of 3rd September was the sole 2021 record of multiple birds, one was over North Plain on the night of the 16th and one was over the Neck on the evening of the 22nd; there were Storm Petrel remains found on four dates, including a fledgling near the Quarry on the 15th. One on the evening of 10th October dive-bombed a Moorhen at Orchid Bog and one was near South Pond before dawn on the 16th, a pellet below the Petrel Station on the 1st being the only other sign of an October presence. One flew from the Neck to Gull Field on 3rd November and one along the Lighthouse Track on the night of the 16th was the last of the year. A 2021 bird-days total of 22 was the third lowest of the last eight years, down on a 2013-2020 mean of 37.3 and highs of 72 in 1989, 59 in 2015 and 76 in 2017. Despite the seemingly lower numbers, a minimum of 39 eaten Storm Petrels was up on a 2013-2020 mean of 29.7 and only down on totals during this period of 51 in 2016 and 98 in the breeding year of 2017, this highlighting just how inconspicuous Short-eared Owls can be.

**Wryneck** *Jynx torquilla* **Pengam**
**Scarce Migrant** regular in autumn, rare in spring with only nine records of up to two birds
**Earliest** 3rd April 1995 (6th April 2021) **Latest** 12th November 2014 (4th October 2021)
2 trapped
1949-1975: 11 trapped, 2013-2018: 5 trapped, 2 retrapped

One found feeding in Winter Pond Gully on 6th April was still present the following day (IB *et al*.). There have been spring records in nine previous years, most recently with two from 7th April 2015 and with at least six lingering for more than a day; one in 1995 remained for a further five days, one in 2007 for a further four and one of the 2015 birds remained for eight additional days.

One which flew to the West Knoll and into the Top Tank Bracken on 28th August was the first in an unprecedented autumn. A second had been suspected on the 28th and two were confirmed on the 29th when there were synchronous sightings at South Pond and at the West Knoll. The only bird seen

on the 30th was mist netted in the Courtyard, however two were at Sugar's Delight on the 31st and a third was probably present. There have been nine previous August bird-days logged over five years, now with sightings in four of the last five years and with birds arriving on the 23rd in 2017 and on the 25th in 2019 the only earlier autumn records. There were sightings on all but one September date to the 17th, with four on the 2nd (when birds were near Winter Pond, at South Pond, on the Knoll and north of Home Meadow), four on the 5th (when birds were at Migration Rocks, Boundary Hill and the West Knoll at the same time as one was trapped in the Library Net), one at Windmill Rocks on the 8th (this the furthest northwest of the sightings) and three on the 10th, 15th and 16th (with one of the birds on the latter date wearing a ring). A tired, unringed bird along the West Knoll Wall on the afternoon of 28th September was seemingly a new arrival, this perhaps the bird present at East Bog on the 3rd and 4th October which was the last of the year. A September bird-days total of 35 was a new high, up on peaks of 15 in 1986, 13 in 2013 and ten in 2014, whilst an October total of two was down on six previous years, including a high of seven in 1992 and 2013. Although sightings of a ringed individual in 2014 showed that birds can go missing for up to nine days and can tour widely, it seems likely that there were more than the minimum of five individuals logged this autumn. There have now been 264 bird-days including the first on 6th May 1938, all in 40 years and with at least 18 individuals accounting for 105 bird-days in the last nine years. The 45 bird-days logged this year was a new high, up on the 17 of 1986, the 20 of 2013 and the 16 of 2014.

**Great Spotted Woodpecker** *Dendrocopos major* **Cnocell Fraith Fwyaf**
**Vagrant** only five previous records
3 trapped
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. Nevertheless 2021 proved a record year, with a juvenile trapped at the Well on 3rd September (one on 20th September 2011 was the earliest record prior to this), a first-winter female trapped there on 10th October and another first-winter female found in the Courtyard and later trapped at the Well six days later (one on 15th October 2020 was the latest record prior to this). The first for Skokholm arrived on 27th September 2010 and a second was seen on 12th October that year, these followed by the 2011 bird, one on 7th October 2018 and the lone 2020 female. Damage found at the base of the Well willows suggested that the 2020 individual may have been attempting to extract Lunar Hornet Moth larvae; no such damage was found this year.

**Kestrel** *Falco tinnunculus* **Cudyll Coch**
**Uncommon** recorded in all months but more regular during the post-breeding period
1936-1973: 8 trapped, 2013: 1 trapped

Primarily due to a disappointing autumn, it proved a below average year for a species which often breeds on the nearby mainland but which is yet to nest on Skokholm. Nevertheless sightings of a single on five dates from the 17th led to the second highest April tally since 1989. There were no May records for the fourth time this decade, however singles on the 1st, 17th and 22nd made this just the eighth year this century with birds in June. Singles noted on four dates between the 19th and 24th produced the third highest July total since 2007, albeit a tally well down on the 19 of 2018 and the 12 of 2019. Singles on seven August dates from the 10th likewise led to the third highest tally since 2003, although the total was well down on the 27 of 2015, the 16 of last year and all-time highs of 52 in 1989 and 47 in 1995. As is typically the case, Kestrel were encountered more frequently in September, with birds noted on 17 dates, however the two logged on the 19th was the only daycount of more than one; there have been 52 higher September bird-day tallies, with a 21st century peak of 52 in 2014 and all-time highs of 73 in 1975 and 69 in 1992.

Following one on the 1st, there were further sightings of a single on all but one October date from the 10th, this becoming just the second October of the last decade in which multiple individuals have not been confirmed; an October bird-days total of 22 was the second lowest of the last nine years, down on a 2013-2020 mean of 34.9, a high during this period of 51 in 2016 and an all-time high of 70 in 1975. Although an observer presence throughout the month will have increased the total in comparison to those logged in years with an earlier staff departure, up to two birds (on the 21st and 29th) noted on 27 November dates led to a bird-days total of 29, this the second highest tally yet recorded in this month (there was a high of 33 last year but no birds at all in 2019, this despite a staff

presence throughout the month in both years). Two were seen each day from 2nd December until the departure of staff on the 5th, with one on the 5th seen carrying a Starling. A total of 96 bird-days were recorded in 2021, this down on a 2013-2020 mean of 103.88 ±sd 29.27 and the third lowest total logged during this period (up on the 81 of 2017 and the 47 of 2019, but down on highs of 127 in 2015 and 143 last year); the highest annual totals are the 211 of 1973, the 152 of 1974, the 180 of 1975 and the 199 of 1989). The largest Skokholm daycounts remain the five noted in September 1975, August 1989 and September 2014, whilst the highest monthly totals are the 73 of September and 70 of October 1975 and the 69 of September 1992.

**Merlin** *Falco columbarius* **Cudyll Bach**
**Uncommon** recorded in every month but with only four June and 11 July bird-days
1 trapped
1949-1976: 9 trapped, 2013-2017: 4 trapped

Whenever it was possible to ascertain the sexes of the birds present, all of the sightings made over 13 March dates were of females, with the UHF radios vital for confirming the presence of two on the 6th and 24th; a March bird-days total of 15 matched that of 1991 as the third highest to date, a tally only down on the 25 of 1959 and the 16 of 2017. Sightings on 24 April dates were of unsexed birds on five dates, of females on 11, of males on four, of two females on the 13th and 15th and of a male and a female on the 3rd and 10th; an April bird-days total of 28 was only down on the 30 logged in both 2018 and 2019. Singles on 17 May dates to the 25th were unsexed on four dates and definitely female on 12, with a first-summer on the 10th the only male logged; a total of 17 May bird-days was up on a 2013-2020 mean of 2.4 and only down on the 29 of 1968. There have been 15 later May or June bird-days, most recently with one on 29th May 2013 and with four in 1968 and five in 1982.

It proved the fourth successive year without an August record, the first of autumn not arriving until 19th September, this eight days earlier than the first of last autumn but two days later than the 2013-2020 first of autumn mean (the earliest during this period was logged on 15th August in 2017). What was probably the same bird was present the following day, this the only other September sighting; a bird-days total of two was close to a 2013-2020 September mean of 2.8. Sightings on 17 October dates from the 9th included a first-winter female trapped at the Well on the 13th, two females on two dates, a male and a female on four dates and a male and two females on the 21st; an October bird-days total of 26 was only down on the 30 of 1967, the 28 of 2017, the 38 of 2019 and the 28 of last

year. Daycounts of three have only been noted on 12 previous occasions (once in October 2020, five times in October 2019, once in April and four times in November 2017 and once in September 1977), whilst a record four were seen on 7th October 1968 and 23rd October 2018. Singles noted on 22 November dates were sexed as female on 13 dates, male on three dates and were unsexed on six; the 18 bird-days logged in both 2017 and 2019 was the previous November high. A female on the 3rd and 4th December was the last seen prior to the departure of staff. Five of the six highest annual bird-day totals have come in the last five years; a 2021 tally of 112 was only down on the 118 of 1968 and was up on the 105 of 2017, the 84 of 2018, the 104 of 2019 and the 74 of last year.

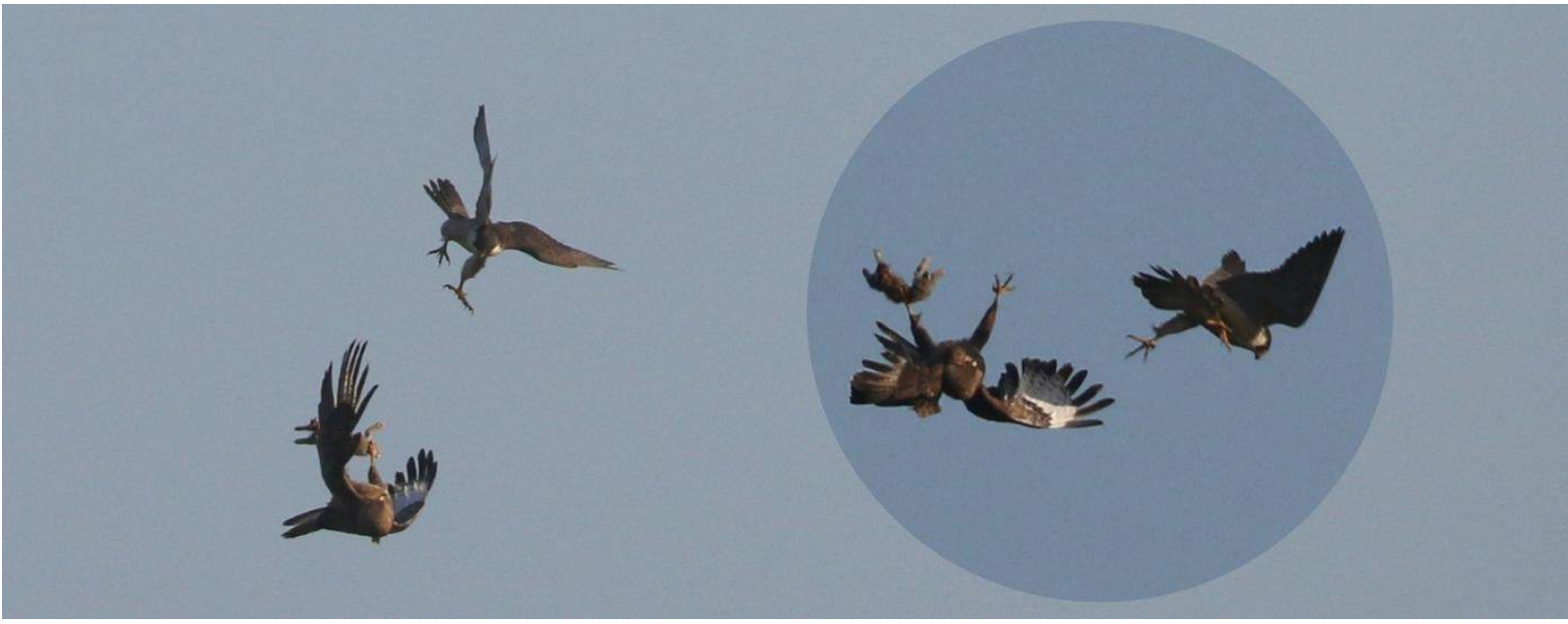
**Hobby** *Falco subbuteo* **Hebog yr Ehedydd**
**Rare** recorded in each month between April and October
**Earliest** 23rd April 2019 (25th April 2021) **Latest** 9th October 2012 (3rd September 2021)

One heading east over East Bog on 25th April was just the third to be logged in this month and made this the third consecutive year with a sighting (RDB). The only other record was of one which flew east over the Red Hut on 3rd September, this the first autumn sighting since one in 2012 and taking the all-time bird-days total to 30 (RD). Hobby have been recorded in 15 previous years, all but three of which have occurred since 1986 (with further singles logged in September 1959 and in the Junes of 1975 and 1982). Prior to this year there had been two records in April, eight in May, four 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
2013-2020: 4 pulli trapped, 1 control

Although the only adults confirmed during the 2021 breeding season were the pair which attempted to nest on a traditional ledge at the Bluffs, additional birds were logged on at least ten occasions between 19th March and 5th June (this 16 fewer dates than last year). An unsexed second calendar-year bird was hunting Jackdaws on 19th March and one had a Puffin in South Haven on 9th April, a second calendar-year male noted on three dates between the 1st and 15th April was perhaps the second male seen on four dates between 30th March and 15th May, a second calendar-year female was present on 28th April and a female chased by the adult male on 5th June was seemingly not his

mate. 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 2021 breeding attempt failed; the pair were active around the Bluffs throughout March and April, with the female sat at a traditional ledge on 9th March, however a visit on 7th May revealed an empty scrape and a visit on 31st May revealed a destroyed scrape. An adult male encountered at the Table on 4th April was thought to be the breeding bird and was metal ringed; Peregrine pulli were last ringed on Skokholm in 2016, although it is of course possible that this bird was ringed elsewhere (a colour ringed female seen to take Puffins at Crab Bay on the 29th and 30th May 2020 had been ringed as a chick in south Devon in 2018).



**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 | 2021 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Pairs | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 1 | 1 | 1 | 1 |
| Site | NH | Bl | SC | SC | Bl | Bl | Bl | Bl | Bl | Bl | Bl | Bl SC | NB SC | Bl | Bl | NB | Bl |
| Fledglings | 0 | 2 | 1 | 2 | 1 | 0 | 4 | 2 | 3 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 |

Sightings on 15 July dates were of singles bar the two logged on the 15th, 19th and 25th, however at least five different individuals visited during the period, with a second calendar-year female noted on the 1st, a second calendar-year male on the 10th and a juvenile male on the 15th, the latter 16 days earlier than the first visiting juvenile of last year. At least four individuals accounted for sightings of up to two birds on 17 August dates, this including the first juvenile female of the autumn on the 21st; an August bird-days total of 19 was the second lowest this decade, down on a 2013-2020 mean of 37.0 and highs of 63 in 1993 and 61 in 2016. A juvenile on the 2nd provided the only one of 19 September bird-days not attributable to the breeding pair; the September tally was the lowest this decade, down on a 2013-2020 mean of 45.0 and all-time highs of 55 in 2014, 56 in 2015 and 60 in 2016. Similarly a juvenile female on the 12th was the only non-adult confirmed during sightings of up to two birds on 13 October dates to the 22nd; an October bird-days total of 15 was the second lowest this decade, down on a 2013-2020 mean of 32.8 and highs of 56 in 2015 and 53 in 2016. A non-adult

on the 14th was the only November sighting not attributable to the breeding pair and there were no Peregrine seen between 30th November and 5th December inclusive.

**Chough** *Pyrrhocorax pyrrhocorax* **Brân Goesgoch**
**Scarce Breeder and Uncommon Visitor** bred in 1928 and then annually since 1992
1964: 1 trapped, 2020: 1 trapped

Spring survey work revealed four breeding pairs, this a new Skokholm record up on the three found in three previous years. A Steep Bay pair were nest building from 8th March and the first faecal sac was logged on 26th May, a Peter's Bay pair were exhibiting incubation changeovers in early May and a faecal sac was deposited at Spy Rock on 31st May, a Dip Gully pair were changing over on incubation duties in April and collecting food in late May and a pair at a new site in the Quarry were found nest building from 2nd April and emerged with a faecal sac on the early date of 7th May. There were nine dates in March when it was apparent that birds were present in addition to the eight Skokholm breeders, with highs of 13 logged on the 3rd and 14 on the 9th and 18th. There was only one April date on which more than eight were logged, although the nine noted on the 14th probably included two visiting birds. There were two such dates in May, with 16 on the 30th including a flock of eight in wing moult and 11 the following day including a flock of seven, and two such dates in June, with ten on the 19th and nine on the 28th. The Steep Bay pair were seen with two fledglings on 30th June and four were confirmed the following day; fledglings were first seen at this site on 16th June in 2020, on 17th June in 2016 and 2019, 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 three by 5th July, these 11 days later than last year. The Dip Gully pair were alarming at the nest site on 2nd June, however there was no indication that any young fledged; this was the third year of the last four in which a pair at this site has been unsuccessful (there were no young observed in 2018 or 2020, whilst fledglings were first seen on 26th June in 2019). The Quarry pair were only seen feeding together from 2nd June; there was no sign of fledged young.

**The number of Chough pairs, the total number of fledged young and productivity 2005-2021.**

| 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 4 |
| 3 | 1 | 5 | 4 | 3 | 2 | 4 | 0 | 2 | 3 | 2 | 5 | 8 | 2 | 5 | 6 | 7 |
| 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 | 1.8 |

A total of seven 2021 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 1.75 fledglings per pair was the second lowest of the last six years and down on a 2013-2020 mean of 1.90 ±se 0.39. The only July daycount in excess of the 15 Skokholm birds was the 16 logged on the 16th. Birds from the four Skokholm territories were regularly seen together during August and September, with daycount highs of 13 on the 10th, 17th and 20th August, 14 on 29th September and of 15 on 13th August not indicative of arrivals from elsewhere. By contrast it proved a record breaking October, with nine daycounts of 16 or more and highs of 35 on the 9th (with a dawn flock of 33 together at the Lighthouse at the same time as two were present on Home Meadow), 29 on the 10th and 14th and 26 on the 15th; the peak daycount was a new Skokholm record (up on all-time highs of 32 in September 1965, 26 in September 2007 and August 2017 and 30 also in August 2017), whilst a bird-days total of 380 was 149 up on the October record set last year (a total of 411 in August 2017 is the only higher tally in any month). There were no flocks seen in November, with sightings on all but two dates being of pairs or singles and tallying no more than seven; a November bird-days total of 130 was down on each of the previous three years and an all-time high of 172 logged last year. Daily December sightings until the 4th peaked at six on the 3rd.

**Jackdaw** *Coloeus monedula* **Jac-y-Do**
**Uncommon Breeder and Fairly Common Visitor**
31 trapped, 9 retrapped
1936-1976: 89 trapped, 2011-2020: 135 trapped, 30 retrapped

It has always proven difficult to assess the number of breeding Jackdaw due to semi-colonial nesting, their secretive habits and hidden nests. Following their colonisation in 1965, counts 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 25 pairs during the period 2011 to 2020. This year saw at least 26 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 (2) and near Little Bay Point (4). There were additional lone pairs at Middlerock, Smiths Bay and near Frank's Point. Daycounts again suggested that there were more present during the breeding season than were found nesting, although birds were seen arriving from the mainland on occasion. There were seven retrapped during the season which had been ringed in previous years, with two ringed as adults in 2020, one ringed as a juvenile in 2019, one ringed as a juvenile, one ringed as a first-summer and one ringed as an adult in 2018 and EZ53574, ringed as an adult female on 4th August 2017 and retrapped on 20th November after 1570 days; the current British longevity record stands at 6231 days (17 years, 22 days).

**The total number of Jackdaw bird-days logged each month, along with the maximum monthly daycount and the date(s) on which the 2021 peak was recorded. Counts from 2017 to 2020 are included for comparison.**

| | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov |
|---|---|---|---|---|---|---|---|---|---|
| **2021** | 2620 | 1933 | 1335 | 1728 | 1479 | 1867 | 497 | 829 | 952 |
| **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 |
| **2021** | 149 | 155 | 102 | 93 | 83 | 120 | 73 | 80 | 134 |
| **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 |
| | 21st | 3rd | 30th | 4th | 31st | 23rd | 21st | 12th & 16th | 13th |

There were early indications that there would be more breeding pairs than at any point in the last 40 years, with six March daycounts up on the previous high of 115 (logged in 2019) and peaks of 141 on the 18th, 149 on the 21st and 136 on the 23rd and 27th. Pairs were collecting nest material from 20th March, this nine days earlier than the first of last year. 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); April daycounts of 135 on the 2nd and 155 together over the Farm on the 3rd were also new highs (up on the 104 of 2018), although no more than 83 were noted after the 13th, this a typical drop in numbers which coincides with the incubation period. Chicks were first noted at the Quarry on 22nd May, five days later than the first heard in 2019 and 2020. The first fledglings were at the top of Quarry Storm Petrel Transect Three on 9th June, this four days later than the first of last year and two days later than the 2014-2020 mean. Fish dropped by Puffins were again an important food source for some birds; although the majority were found following gull attacks, a small number of Jackdaw again attempted to steal directly from the Puffins (usually unsuccessfully, but see the Puffin section).

It again proved impossible to confirm the number of fledglings present in the mobile and nervous post-breeding flocks, although minimum counts of 20 between South Haven and the West Knoll, 12 between Crab Bay and the Quarry and two at Twinlet were made; the total matched that of last year as the highest since the 37 of 2014 and was up on a 2014-2020 mean of 29.29 ±sd 4.79. However the only June daycounts in excess of 80 were the 93 of the 4th and the 88 of the 23rd, these down on the high logged in three of the last six Junes (a peak of 134 was recorded in 2015). Although both were up on last year, a July bird-days total of 1479 and a daycount maximum of 83 were the second lowest of the last seven years, perhaps suggesting that some birds again made an early departure (a maximum July daycount of 180 was also recorded in 2015). Although there were highs of 115 on the 4th, 107 on the 17th and 120 on the 23rd, ten August daycounts of between 21 and 44 from the 5th suggested that the customary exodus for the mainland had begun. With the exception of 49 on the 19th and 73 on the 21st, all September daycounts were of 38 or less, with ten or fewer noted on six dates and none at all on an additional seven. Subsequent arrivals were sporadic but more frequent than of late; there were 12 October and 11 November dates when five or fewer were present, this including 14 days without a sighting (there were 18 such dates in October last year and 19 in November, these including 31 without a sighting). There were calm morning highs in October of 80 on the 12th and 16th and in November of 134 on the 13th and 103 on the 22nd; the peak autumn daycount was the lowest since the 100 of 2012, down on a 2013-2020 mean of 199.25 ±sd 75.09 and highs during this period of 189 in 2017 and 381 in 2019 (the latter only down on the 500 of 24th October 1993). The only daycount in the first five days of December was of ten on the 3rd.

**Rook** *Corvus frugilegus* **Ydfran**
**Scarce** daycounts of up to 25 in 68 previous springs and of up to 21 in 35 previous autumns

At least one present on the 2nd made this the sixth consecutive April with a sighting. One landed near the Top Tank on the 11th, three went west then east on the 13th, one was at Twinlet then on Home Meadow on the 21st and two went west on the 30th, this taking the April bird-days total to eight and matching that of last year as the second highest April tally since 1989 (albeit down on all-time highs of 32 in 1930, 30 in 1951 and 1952 and 47 in 1953). One over the Bluffs on the morning of the 17th made this the 25th May with a record and one over the Farm on the 6th made this just the seventh June with a sighting. Five flying west then east on the 14th equalled the record September daycount logged in 1981 and made this the 14th September with a Rook; the only September record earlier than the 14th was of two on the 1st in 1964, whilst 36 August bird-days were noted over five years between 1934 and 1961 and one was present on 25th July 1973. A juvenile which arrived from the north on 13th November spent some time sat on the Central Block, this the last of the year and just the 21st to be seen in this month. A 2021 bird-days total of 16 was the second highest since 2002; there have been 17 annual totals up on that of this year, with four of between 20 and 36 between 1929 and 1935, eight of between 17 and 50 between 1950 and 1961 and tallies of 23 in 1975, 25 in 1976, 27 in 1991, 23 in 2002 and 45 in 2017 (the latter total including an individual logged on 41 dates between 4th April and 16th May which was eventually eaten by a Great Black-backed Gull).

**Carrion Crow** *Corvus corone* **Brân Dyddyn**
**Uncommon Breeder and Uncommon Visitor**
1 trapped
1936-1975: 148 trapped, 2013-2020: 12 trapped (including 11 pulli), 1 retrapped

There were 11 nesting pairs mapped this season, this up on a 2013-2020 mean of 8.9, two more than last year and up on recent highs of ten in 2018 and 2019. 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, the Dents, on Rat Island, in Obione Bay, Theatre Cove and on the Hills, whilst additional nests were in Purple Cove (a pair which failed early and moved to Fossil Bay), at Little Bay Point, in Dumbell Bay, on Sword Point (to the south of Spy Rock) and to the east of Winter Pond Gully. Pairs were lost from the Bluffs, Peter's Bay and to the east of the Dip. Between one and 13 birds additional to the Skokholm breeders were present on seven days in March, on 17 days in April and on six days in May prior to the first fledglings, with daycount highs in March of 35 on the 1st and 30 on the 24th, in April of 31 on the 8th, 32 on the 11th and 30 on the 14th and in May of 28 on the 11th and 13th; birds were watched flying to both Grassholm and Skomer during this period. The peak spring daycount was a Skokholm record, up on the 30 of 1929 and 1933, the 31 of 2016 and 2018, the 32 of 1959 and 2017 and the 34 of March 2019; inevitably such high numbers led to conflict, with two birds injured whilst fighting on 1st May. The first fledglings of the year were at the Hills on 21st May, although it was not until 9th July that the last departed its nest in Fossil Bay. The Rat Island pair fledged five, the Sword Point pair fledged four, the Dents pair fledged three, six pairs fledged two and the Obione Bay pair fledged one. Only the Dumbell Bay pair failed, at either late egg or early chick stage. The resulting productivity value of 2.27 was the highest of the last nine years, doubling a 2013-2020 mean of 1.13 ±se 0.19 (the high during this period was the 1.88 recorded when eight pairs bred in 2015).

Despite the high number of breeders and their fledglings, most again proved unobtrusive during the post-breeding period, with no more than 22 logged on each date between 16th June and 14th August. Daycounts then increased, with August highs of 38 on the 21st and 31 on the 26th potentially attributable to Skokholm birds. There was also no indication that September highs of 34 on the 10th, 38 on the 14th and 35 on the 21st included birds from elsewhere, although daycounts in previous

years have confirmed September arrivals and birds have regularly been seen commuting to and from the mainland in the past. There were October highs of 47 on the 9th, 38 on the 13th and 44 on the 15th, the peak including a murder of 35 on North Plain and potentially consisting of just the 22 Skokholm breeders and their 25 fledglings; interestingly there have been higher daycounts, with peaks of 48 on 9th November 2014 and 18th October 2020 and 49 on 22nd October 2020, this despite considerably poorer productivity in those years. There were November highs of 34 on the 13th and 37 on the 14th, although no more than 23 were then seen prior to the departure of staff on 5th December; the only higher November daycounts are the 2014 peak and the 38 logged on the 10th last year. The only autumn movement noted was of one flying towards Grassholm on 23rd October.

**Hooded Crow** *Corvus cornix* **Brân Lwyd**
**Rare** records in 14 years totalling 24 bird-days, with one in 2018 the only autumn sighting

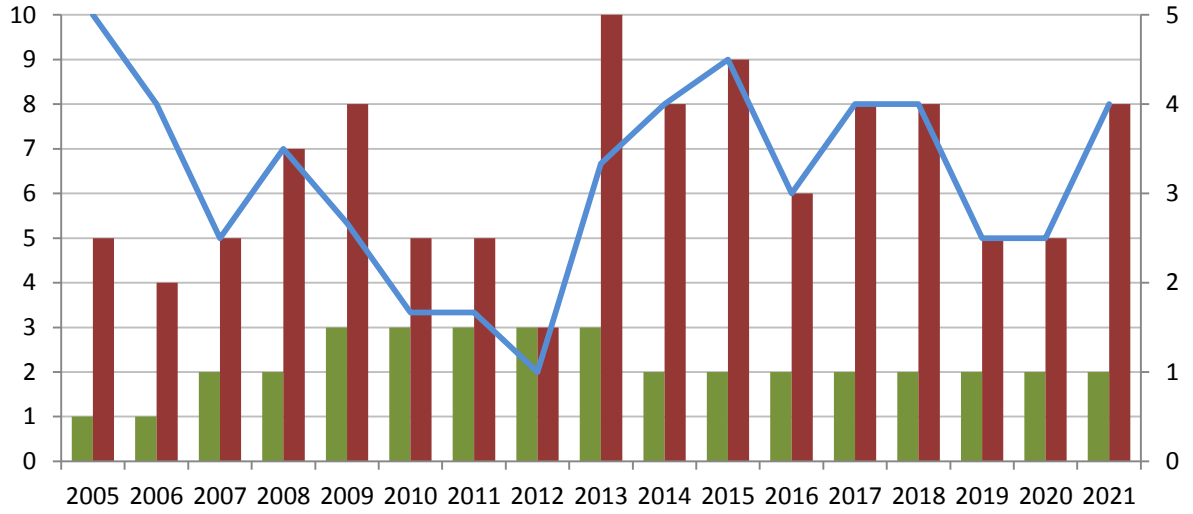
One found at the Table on the morning of 13th April was five days later than the only 2020 sighting and made this the fifth consecutive year with a record (RDB, GE); of the 23 previous spring bird-days, 15 have been logged in April, including the first for Skokholm in 1939, seven between 2015 and 2020 and two together in 1982 which remains the only record of multiple birds. One exploring North Plain on the 30th was the fifth to be seen in May, this almost certainly the same individual as that present around the Lighthouse on 1st June; one on 15th June 1981 is the only later record prior to one on 18th October 2018. A total of three 2021 bird-days was only down on the four of 1982 and the seven of 2019, with one-day singles in 1939, 1951, 1959 and 1970, a two-day bird in 1978 and further one-day birds in 1981, 1994, 2012, 2015, 2017, 2018 and 2020 being the remainder of the records to date.

**Raven** *Corvus corax* **Cigfran**
**Scarce Breeder and Uncommon Visitor**
1936-1965: 67 trapped

Two pairs attempted to breed for an eighth consecutive year. The Steep Bay pair eschewed the west facing crevice used successfully last year, instead occupying a site on the western face which was last used, unsuccessfully, in 2019. A partially built nest in Rat Bay suggested that the Neck pair had initially moved site, however it soon became apparent that they were utilising the ledge hidden by a buttress of rock on the eastern side of North Haven occupied annually since 2017. 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 16th in which two or more pairs have bred (see graph below). The only spring daycounts in excess of the four Skokholm breeders were in March, with 21 on the 18th (including a flock of 17 heading east along the north coast) and 11 on the

25th (when nine toured the South Coast), although one chased towards Skomer on the 22nd was probably a visitor; the peak spring daycount was the highest yet recorded, up on the 14 logged in the Marches of 1986 and 2003 and the May of 2013 (the latter count including Skokholm fledglings), indeed there have only been 13 higher daycounts (logged across nine Septembers). The Steep Bay pair had fledged at least two by 13th May, these four days earlier than the first of last year but the second latest of the last nine years, seven days later than the 2013-2020 first fledgling mean (the earliest during this period were logged on 30th April in 2014 and 2015); a third fledgling was seen the following day, however it was not until the 16th that four were confirmed. The North Haven pair had young out of the nest on 21st May, two days earlier than last year, however it was not until the 26th that four were seen; the pair which occupied this site in 2020 fledged three. An average of 4.0 fledged young per breeding pair matched that recorded in three of the last seven years; the last 16 years only saw higher productivity in 2005 (when one pair bred) and in 2015 (when two pairs bred). Mean productivity between 2009 and 2013, when three pairs nested on Skokholm, was 2.07, with 1.67 or fewer fledglings per pair logged in three of those years, this compared with a 2014-2021 mean of 3.56; it is tempting to conclude that a higher density of breeding birds impacts productivity.

**The number of Raven breeding pairs (green) and the number of fledged young between 2005 and 2021, along with productivity (blue and secondary axis).**




One of the North Haven fledglings was pushed into the sea by a Great Black-backed Gull on 27th May; the remaining seven youngsters were encountered regularly during June and July, with the majority seemingly departing during early August. There were four autumn daycounts in excess of the 11 Skokholm birds, with 12 on 7th August, 16 on 17th August (when 13 went northeast together), 14 on 28th August (when 11 were together over Spy Rock) and 13 on 14th September (all of which headed south); there have been higher autumn daycounts in 19 years, with peaks (all in September) of 35 on the 22nd in 1983, 33 on the 19th in 2005 and 50 on the 14th in 2008. One locking feet with one of the Neck adults on 24th September was presumably from elsewhere and one was watched arriving from Skomer on 4th October. No more than four were seen each day from 23rd October (27th September last year), with the two pairs regularly gathering on North Plain for bouts of posturing and territorial display (one pair watched from ten metres as the other pair mated on 12th November).

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

**Scarce** records in 45 previous years, typically of singles or small groups but with up to 50 on occasion
1 trapped
1949-1975: 186 trapped, 2017-2020: 2 trapped

One sat on the gutter of the Lighthouse tower on the morning of 21st March was the first spring sighting since 2011 and made this the 11th March with a record (there were March bird-day highs of

33 in 1958 and 36 in 2003). The only other record was of a first-winter trapped in the Cottage Heligoland on 2nd November. Blue Tit sightings have become a rare event on Skokholm, with one-day singles in the Octobers of 2017 and 2020 the only other birds 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 inclusive, with 1037 of 1740 bird-days being logged in October (including daycount highs of 50 on the 16th in 1957, 50 on the 17th in 1964 and 32 on the 12th in 1981) and 322 in November. A winter 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, 2002 and 2003, although the autumn provisioning of peanuts almost certainly encouraged individuals to linger in some instances.

**Great Tit** *Parus major* **Titw Mawr**

**Scarce** typically a late autumn or winter visitor in groups of up to 25 and has overwintered
1 trapped
1949-1970: 36 trapped, 2018: 1 trapped, 1 retrapped

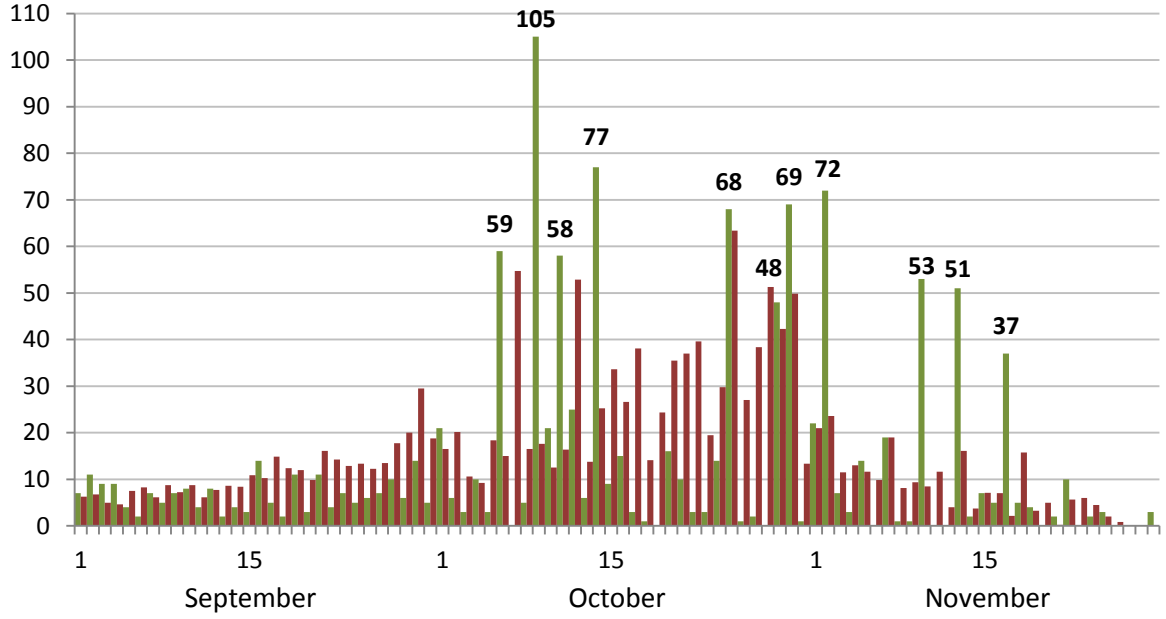
An adult female, which arrived to the Well with a Chaffinch during morning drizzle on 15th March, was trapped in the Wheelhouse Heligoland and found to have a substantial fat score of four; this was the first spring record since one logged on 12 dates between 18th March and 2nd April 2011. The 2011 bird was perhaps that seen in November 2010, an indication of possible overwintering which has been suspected several times and confirmed in 1957-1958, 1992-1993, 1997-1998 & 2001-2002.

Of the 732 previous bird-days, three were logged in September, 364 in October (including a record daycount of 25 on the 9th in 1957 and one in 2018 noted on seven dates between the 7th and 15th which was the most recent prior to this year), 124 in November, 28 in December, nine in January (all in 1998), 58 in February, 128 in March, 17 in April and one on 28th May 1978.

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

There was again little evidence of a spring passage, with maximum daycounts of 18 in February and March (the latter following the discovery of an eaten bird on the 1st), 17 in April and 19 in May being up on last year but attributable to the Skokholm breeders. Although no more than 14 singing males were logged on any date, a total of 16 territories registered regularly during April and May was two up on both 2019 and 2020 and up on a 2013-2020 mean of 14.63 ±sd 3.85 (there were highs during this period of 21 in 2017 and 19 in 2018); 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 not seen collecting food until 15th June, this over a month later than the first of last year, and the first two fledglings were not noted until 14th July, this 35 days later than the first of last year. 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 only noted at six sites (two fewer than in 2019 and 2020). The number of birds logged each day declined during the post-breeding moult, with no more than 14 seen on any date between 7th July and 30th September.

**The number of Skylark logged on each day of autumn (green) compared with the 2013-2020 average. 2021 daycounts of 30 and above are labelled.**




There were ten or fewer noted on 18 October dates (14 to 17 dates between 2018 and 2020), including three days from the 7th without a sighting (there were four blank days from the 2nd last year). A minimum of 59 on 6th October was the first larger autumn arrival; the only earlier higher counts are of 74 on 5th October 2013, 216 on 4th October 1957, 250 on 3rd October 1952 and 68 on 29th September last year. There were six further October daycounts in excess of 30, with highs of 105 on the 9th, 77 on the 14th and 69 on the 30th taking the bird-days total to 662, this one less than last year and well down on a 2013-2020 mean of 883.3 (there were highs during this period of 1077 in 2017 and 1224 in 2018); the peak October daycount was the lowest of the last eight years, down on

a 2013-2020 mean of 193.4, a high during this period of 292 on the 25th in 2015 and well down on all-time daycount highs, all logged in October, of 1200 on the 21st in 1956, 601 on the 15th in 1959 and 700 on the 20th in 1988. There were sightings on all but nine November dates, with highs of 72 on the 2nd, 53 on the 10th and 51 on the 13th, but no more than ten from the 18th; the peak November daycount was the third highest this decade, down on a recent peak of 94 on the 13th in 2018 and well down on all-time highs of 450 on the 8th in 1967, 400 on the 12th in 1967, 200 on the 1st in 1970 and 120 on the 22nd in 1989. Three on 29th November and one along the Lighthouse Track on 5th December were the only sightings following three on 25th November.

**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 (18th March 2021) **Latest** 25th October 1971 and 1997 (16th October 2021)
1960-1967: 8 trapped, 2018-2020: 12 trapped

Two singles, both heading northeast on 18th March, were one day later than the first four of last year but five days earlier than the 2013-2020 first bird mean; there have been 12 earlier bird-days, with one on the 11th in 1997, one on the 10th in 1983 and two on the 8th in 2000 the only birds earlier than those logged last year. Sightings of up to six on four more dates from the 23rd took the March tally to 17, this equalling that of 1949 and 1999 as the tenth highest to date (there were highs of 41 in 1965 and 40 in 2019). Records on 21 April dates were all of seven or less bar highs of 11 on the 14th and 18 on both the 19th and 20th which took the bird-days total to 100; the peak daycount was down on a 2013-2020 mean of 22.0, a high during that period of 73 in 2017 and all-time highs of 250 in 1954 and 200 in 1990, whilst the bird-days total was up on a 2013-2020 mean of 78.4 but down on highs of 380 in 1951, 313 in 1952 and 327 in 1954. There were sightings on seven May dates, with a high of just three on the 11th; both a bird-days total of 12 and the daycount maximum were the lowest this decade, the former down on a 2013-2020 mean of 53.5 and all-time highs of 792 in 1948, 544 in 1959 and 570 in 1989, the latter down on a 2013-2020 mean of 17.1 and all-time highs of 300 on the 7th in 1948, 350 on the 6th in 1959 and 400 on the 8th in 1989. A single on the 27th was just the 28th June bird-day this century and the 328th to be logged since 1929 (67 of which were in 1969).

A rather typical July showing saw four logged on the 13th and a single on the 19th; there have only been eight totals of more than 30 in July, with record highs of 94 in 2016 and 211 in 2017. It proved

a quiet August, with Sand Martin noted on 13 dates but highs of only seven on the 1st and eight on the 24th which took the total to 48; this was the second lowest tally of the last eight years, down on a 2013-2020 mean of 87.5 and all-time highs of 472 in 1969 and 309 in 2018. Conversely the September bird-days total more than doubled a 2013-2020 mean of 103.6, perhaps suggesting a later passage for a third successive year. Sightings on 17 September dates to the 24th were all of 13 or less bar highs of 52 on the 5th, 77 on the 7th, 41 on the 12th and 23 on the 15th, this taking the bird-days total to 257; there have been higher daycounts in 14 Septembers, including highs of 500 in 1967 and 300 in 1997 and 2007, and higher totals in seven years, with peaks of 1455 in 1967, 492 in 1997 and 554 in 2002. The two October records were of seven on the 6th and a single which headed south with Swallows on the morning of the 16th; the only higher daycounts later than that of the 6th are of 70 on the 7th in 1939 and of ten on the 14th and 12 on the 15th in 1961, whilst the only bird-days later than that of the 16th are singles on the 25th in 1971 and 1997.

**The total number of Sand Martin bird-days logged each month (2020 to 2018 in parenthesis), along with the maximum monthly daycount (2020 to 2018 in parenthesis) and the date(s) on which the 2021 peak was recorded.**

| March | April | May | June | July | August | September | October |
|---|---|---|---|---|---|---|---|
| 17 | 100 | 12 | 1 | 5 | 48 | 257 | 8 |
| (6, 40, 0) | (59, 118, 61) | (32, 37, 144) | (0, 2, 7) | (9, 4, 14) | (56, 27, 309) | (120, 191, 72) | (2, 0, 0) |
| 6 | 18 | 3 | 1 | 4 | 8 | 77 | 7 |
| (4, 13, 0) | (17, 34, 14) | (8, 19, 57) | (0, 1, 6) | (7, 2, 9) | (36, 9, 235) | (44, 108, 51) | (2, 0, 0) |
| 30th | 19th & 20th | 11th | 27th | 13th | 24th | 7th | 6th |

**Swallow** *Hirundo rustica* **Gwennol**

**Scarce Breeder and Very Abundant Migrant**

**Earliest** 11th March 2000 (30th March 2021) **Latest** 28th November 1932 (17th November 2021)

91 trapped (including 20 pulli), 14 retrapped, 1 control

1936-1976: 234 trapped, 2010-2020: 974 trapped (including 118 pulli), 96 retrapped, 12 controls

Ten on 30th March were two days earlier than the first single of last year, but one day later than the 2013-2020 first bird mean (the latest during this period were three on 11th April 2013 and nine on 5th April 2015, whilst the earliest were two on 12th March 2017); there have been 57 March bird-days earlier than the 30th, with one on the 11th in 2000 the only bird earlier than those of 2017. Sightings on all but three April dates included eight daycounts of less than ten, but highs of 142 on the 25th, 116 on the 29th and 122 on the 30th which took the total to 918; the peak daycount was fractionally up on a 2013-2020 mean of 135.0 (albeit well down on all-time highs of 1000 in 1953 and 1990), whilst the bird-days total was up on a 2013-2020 mean of 777.8 (but down on a recent high of 1184

in 2017 and an all-time high of 1943 in 1953). There were four three-figure daycounts in May, with 226 on the 1st, 198 on the 2nd, 138 on the 6th and 225 on the 7th, although there were no counts in excess of 46 after the 8th; the peak daycount was down on a 2013-2020 mean of 271.3 (the high during this period was 861 in 2019), whilst a bird-days total of 1385 almost matched a 2013-2020 mean of 1373.3 (the high during this period was 2457 in 2016). The highest May daycounts are of 2000 in 1953, 3000 in 1989 and 1500 in 1997 and the highest May totals are 2671 in 1948, 4185 in 1953 and 5574 in 1989. A male was singing at the Lighthouse on 2nd May, this 13 days later than the first apparent arrival of a Skokholm breeder last year, and it was not until 2nd June that a pair at Orchid Bog were seen collecting nest material, this also 13 days later than the first of last year (and of 2019). Five pairs again took up residence, this the same number as in 2020, 2019 and 2013, one more than in six of the last ten years, one down on 2015 and two down on the 2007 record. There were two returning birds encountered this year; AKA3650, a male ringed as an adult on Skomer on 10th June 2019 which was trapped here on 15th June last year, and ATJ2458, a male ringed here as a juvenile on 29th July last year which was in the Courtyard Net on 3rd August (this perhaps one of the three unringed 2020 Wheelhouse fledglings). There were six June daycounts in excess of the ten Skokholm breeders, with highs of 20 on the 1st and 15 on the 9th the only tallies higher than 12.

A pair seen mating at the Red Hut on 26th May were thought to be the birds taking mud into the westerly box of the Orchid Bog Hide on 2nd June; the former site was not used this year. The box contained five eggs on 21st June and four chicks on 6th July, all of which fledged by the 17th (one of these was still here on 25th August). The pair in the Lighthouse Smoking Room had four eggs on 17th June but only two chicks by 10th July, both of which fledged on the 20th. A pair prospecting around the Central Block in May were probably those building under the southerly eaves of the Wheelhouse on 13th June; there were at least five audible chicks on 15th July, one of which fledged on the 29th and all of which fledged by 1st August. A male singing at North Pond Hide on 31st May seemingly paired and was collecting nest material on the 6th and 11th June, however an inspection on the 23rd failed to locate a nest. The site remained active during July, with two birds in the box on the 28th, however there was no indication of a nest attempt. A pair under the north facing eaves of the Wheelhouse were nest building on 6th June, however only a lined but empty nest was present on 9th July and 4th August. The site seemingly remained active and a pair were again adding to a nest on 19th August, however there was no indication that eggs were produced. The three pairs which fledged young all had second broods. The Orchid Bog pair seemingly switched to the east facing box where five eggs were present on 4th August; these had all hatched by the 9th, however only four of the chicks survived to fledging on 29th August. The Lighthouse Smoking Room pair had three eggs on 11th

August, all of which had hatched by the 26th and all of which had fledged by 12th September (although they were still returning to the nest). The pair to the south of the Wheelhouse were mating on 13th August, nest building on the 18th and 19th August, had four eggs on 11th September and audible chicks on 19th September; two chicks were alive on 27th September and both fledged on 3rd October (although they were regularly returning to the nest until 9th October and were still around the buildings on the 10th). An adult trapped in the Courtyard Net on 1st September was trapped in the same way on 6th October and was perhaps one of the Skokholm breeders. A total of 20 fledglings equalled that of 2013 (when five pairs also bred) and was down on the 23 of 2016 (when only four pairs bred), however it was otherwise the highest since 2013 and a productivity figure of four fledglings per pair was up on a 2013-2020 mean of 3.39 ±se 0.42.

**The total number of Swallow bird-days logged each month, along with the maximum monthly daycount and the date on which the 2021 peak was recorded. Counts from 2020 to 2016 are included for comparison.**

| | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov |
|---|---|---|---|---|---|---|---|---|---|
| **2021** | 10 | 918 | 1385 | 281 | 332 | 986 | 5371 | 1124 | 5 |
| **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 |
| **2021** | 10 | 142 | 226 | 20 | 20 | 83 | 1463 | 727 | 2 |
| **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 |
| | 30th | 25th | 1st | 1st | 13th | 29th | 18th | 6th | 17th |

Although records of five on 4th July, eight on 25th July, ten on 27th July and of one in off on 1st August were probably of birds from elsewhere, the first definite passage of autumn was on 2nd August when 33 were present. There were no higher daycounts until the 47 logged on the 18th, after which there were six higher August counts, including peaks of 66 on the 28th, 83 on the 29th and 75 on the 30th which took the bird-days total to 986; there have been higher August daycounts in 17 previous years (with a peak of 478 in 2018), although the only higher bird-day totals are the 1062 of 2016 and the 1343 of 2018. There were 25 or fewer noted on just three September dates (nine last year), including lows of nine on the 17th and 26th, but 16 daycounts of at least three-figures (14 last year) including highs of 285 on the 12th, 405 on the 15th, 1463 on the 18th and 462 on the 21st; although up on recent lows of 698 in 2016 and 1127 last year, the peak September daycount was down on a 2013-2020 mean of 5298.5 and well down on all-time highs of 12,000 and 12,979 logged in 2014 and 2017 respectively. The September bird-days total of 5371 was the second lowest this decade, less than half a 2013-2020 mean of 12,083.4 and down on highs of 18,664 in 1993, 30,693 in 2014 and 18,018 in 2017. Sightings on 18 October dates to the 25th included highs of 727 on the 6th, 67 on the 9th and 42 on the 20th which took the bird-days total to 1124; there have been higher daycounts in ten previous Octobers (with 1000 on the 8th in 1968, 900 on the 10th in 1988 and 2000 on the 7th in 1998 the only higher later counts), whilst the bird-days total was up on a 2013-2020 mean of 1063.1 (there was a high during this period of 2180 last year and all-time highs of 3337 in 1952, 4047 in 1998 and 3686 in 2002). There were November singles on the 3rd, 5th and 7th and two were together over the Well Stream for five minutes, late on the morning of the 17th; there have been 18 previous November bird-days logged over ten years, these including a high of nine in 2013 (the only earlier year with more than a single) and lone birds on the 28th in 1932 and on the 20th in 1994 which are the only later sightings.

**Ringing recovery** AKA3650
**Originally ringed** as an adult, SKOMER ISLAND, PEMBROKESHIRE 10th June 2019
**Previously recovered** as an adult, COURTYARD NET, SKOKHOLM 15th June 2020
**Recovered** as an adult male, LIBRARY NET, SKOKHOLM 16th July 2021
**Distance travelled** 4km at 163 degrees (SSE)
**Days since ringed** 768

**House Martin** *Delichon urbicum* **Gwennol y Bondo**
**Common Migrant** with a spring daycount high of 330 in 1948 and an autumn high of 710 in 2013
**Earliest** 20th March 1988 (2nd April 2021) **Latest** 29th October 1975 (9th October 2021)
1938-1969: 23 trapped, 2015-2020: 14 trapped

Two north over the Farm on 2nd April were one day earlier than the first single of last year and five days earlier than the 2013-2020 first bird mean; the only earlier record during this period was of five on 1st April 2019, although there have been 20 bird-days earlier than that of this year, including 14 in March. Records on 17 further April dates from the 9th were all of singles until the 18th and then of no more than five, bar daycounts of seven on the 25th, 11 on the 29th and 15 on the 30th; although massively down on a spring daycount record of 330 logged on 18th April 1948, there have only been higher daycounts in eight Aprils (including three of the last six). An April bird-days total of 60 almost matched a 2013-2020 mean of 57.8, but was only down on five previous years including highs of 357 in 1948, 118 in 2016 and 81 in 2017. There were sightings on 20 May dates, with no more than 16 logged until the 25th, after which there were highs of 36 on the 27th, 46 on the 28th and 19 on the 29th which took the bird-days total to 201; the peak daycount almost matched a 2013-2020 mean of 44.5 (there was a high during this period of 119 in 2016 which was only down on the 150 of 1989), whilst the bird-days total was the eighth highest in this month (albeit being down on four of the last five years and highs of 315 in 1948 and 361 in 2016). June proved typically quiet, with four on the 1st and singles on six more dates to the 17th; there have been higher June totals in 59 years, with 52 in 1951, 101 in 1955 and 170 in 1969 the only tallies of more than 50 (the 21st century high is of 44 in 2018).

Singles on the 7th and 14th and 17 together over South Haven on the 19th took the 21st century July total to 79 and the all-time July total to 243; the highest previous July daycount was of six in 1931, 1939 and 2020. Although there were only sightings on five August dates from the 23rd, highs of eight on the 24th and 27th led to a bird-days total of 21, this equal with that of 2018 as the sixth highest August tally to date (the highs are the 51 of 2015 and the 28 of last year). Autumn passage again peaked in September, with records on 17 dates, highs of 18 on the 2nd, 71 on the 21st and 52 on the 22nd and a bird-days total of 204; the daycount maximum was down on that logged in 21 previous years, a 2013-2020 September mean of 194.8 and all-time highs of 300 in 1956, 450 in 1959 and 710 in 2013, whilst the bird-days total was down on 14 previous years, a 2013-2020 mean of 327.4 and all-time highs of 561 in 1959, 782 in 2013 and 675 in 2014. The only October sightings were of singles on the 1st and 5th, 19 on the 6th and singles on the 8th and 9th which were the last of the year; there have been higher October daycounts in 23 years, with highs of 200 in 1939, 250 in 1952, 120 in 1958 and 112 last year, and higher October bird-day totals in 30 years, with peaks of 207 in 1939, 276 in 1952 and 179 last year. There have been 625 later bird-days, including 167 this century.

**Cetti's Warbler** *Cettia cetti* **Telor Cetti**
**Vagrant** three previous records
1 trapped
2020: 1 trapped, 2 retrapped

One trapped in the Well Reedbed Net on 10th October was sexed as a female based on a straightened wing chord of 55.5mm (RD *et al*.); it was not seen subsequently. There have only been three previous Skokholm records, with singles logged on 9th September 1986, 30th September 1987

and on ten dates between 17th October and 2nd November last year. 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 24 previous years
**Earliest** 7th April 1977 (6th September 2021) **Latest** 20th September 1991 (10th September 2021)
1 trapped
1951-1976: 6 trapped, 2020: 1 trapped

A juvenile trapped in the Wheelhouse Net on 6th September was the second in two years following one on 6th August 2020 (JMH *et al*.). It could not be confirmed if one near the Gap on 10th September was ringed (JHO). Annual singles between 2000 and 2003 are the only other 21st century records.

Of the 40 bird-days logged prior to this year, 18 have been in August (with singles in 17 years since 1951, 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, and only five bird-days later than that of this year). 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.

**Western Bonelli's Warbler** *Phylloscopus bonelli* **Telor Bonelli**
**Vagrant** two previous records along with an unidentified Bonelli's Warbler
1 trapped
1948: 1 trapped, 2017: 1 trapped

One found in the Elders outside of the Farm Workshop on 2nd June visited Boundary Hill, the Cottage Garden and toured the Well before eventually entering the Well Heligoland (HD, GE, RDB *et al*.). In the hand biometrics suggested that the bird was a Western Bonelli's, with a second primary closer in length to the emarginated sixth than to the seventh and a straightened wing chord of 61mm (the same length as the 2017 bird). Upon release it gave the diagnostic upturned '*hw-eef*' of this species, an identification which was confirmed via the mitochondrial DNA analysis of a dropped feather. This becomes the third Western Bonelli's and fourth Bonelli's for Skokholm. The remains of the first for Britain, trapped and killed on 31st August 1948 and identified as a female by R. Wagstaffe of the Yorkshire Museum, were confirmed as Western when the Bonelli's Warblers were split in 1997. The second Bonelli's Warbler for Skokholm, coincidentally found on 31st August but in 1991, was accepted as such but could not be assigned to a species when the nominate form was split from *P. orientalis*. The second Western bird for Skokholm was found at the Farm on 24th September 2017 and was trapped in the Courtyard Net. There had been 162 accepted British records of Western Bonelli's Warbler up until the end of 2020 (Holt *et al*., 2021), however as of the end of 2015 only 18 had occurred in spring; given that the British climate is expected to become more suitable for this species (Huntley *et al*., 2007), it would seem likely that this first spring record for Skokholm will not be the last.

**Yellow-browed Warbler** *Phylloscopus inornatus* **Telor Aelfelyn**
**Scarce Autumn Migrant** the first for Wales was found on 2nd October 1959. Rare until 2013
**Earliest** 18th September 2020 (14th October 2021) **Latest** 8th May 1990
1959-1968: 2 trapped, 2013-2020: 20 trapped, 3 retrapped

One found among Tree Mallow on the Crab Bay cliffs on 14th October was five days later than the 2013-2020 first bird mean and the only sighting of what remains an unusual species on Skokholm (RDB). A single bird-day matches that of 2014 and 2017 as the lowest tally of the last nine years, this down on a 2013-2020 mean of 3.1 and all-time highs of five in 2016 and six last year. There have still only been approximately 44 Skokholm individuals (52 bird-days) including the first for Wales present for two days in 1959, although post-2012 ringing has shown that records on consecutive dates, assumed in the past to be the same lingering individual, may have actually referred to more than one bird. The recent increase in numbers is primarily due to continued breeding range expansion to the west of the Urals, this mirroring an increase in the number wintering in western Europe.

**Willow Warbler** *Phylloscopus trochilus* **Telor yr Helyg**
**Abundant Migrant** although only Common in some years
**Earliest** 13th March 2007 (30th March 2021) **Latest** 10th November 2020 (11th October 2021)
913 trapped, 97 retrapped, 4 controls
1933-1976: 11,698 trapped, 2010-2020: 5827 trapped, 738 retrapped, 10 controls

A minimum of 14 on 30th March were six days later than the first single of last year and one day later than the 2013-2020 first bird mean; there have been 183 bird-days earlier than those of this year, including 104 this century. 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). A count of 30 on the 31st took the March bird-days total to 44, this the highest March tally since the 51 of 2007; the only other March totals up on that of this year are the 221 of 1989, the 46 of 1997 and the 60 of 2005. Records on all but three April dates included 15 counts of fewer than ten (14 last year), but highs of 32 on the 13th, 110 on the 14th and 29 on the 25th which took the bird-days total to 410; although the peak April daycount was the highest since the 263 of 2017 and close to a 2013-2020 mean of 113.5, the bird-days total was the second lowest this decade, just one down on that of last April but well down on a 2013-2020 mean of 588.4 (the all-time April bird-day highs are the 1033 of 1953, the 1089 of 2012 and the 954 of 2017). Half of the birds counted in spring had gone through by 14th April, this three days earlier than last year, six days earlier than in 2019 and, equal with birds in 1955 and 2007, the seventh earliest date since recording began; 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. Sightings on all but eight May dates were of six or less bar highs of ten on the 1st, 13 on the 8th and seven on the 10th; the peak May daycount was down on a 2013-2020 mean of 23.6 and a bird-days total of 72 was down on a 2013-2020 mean of 108.5. Following a single on the 2nd, there were sightings on eight June dates from the 20th including a female retrapped on five dates which had been ringed on 11th May but not encountered since 24th May (a bird which was then noted regularly until 21st August). Although down on all-time June highs of 26 in 2013 and 17 in 2019, a total of ten bird-days was the sixth highest to date. As noted in previous reports, the vast majority of spring birds moved through quickly, indeed only seven of the 219 ringed during the period were encountered again. There were however more lingering birds than of late, with two present the following day and further birds present for at least a further two, 12, 12 and 17 days (in addition to that mentioned above); all of the birds lingering for more than two extra days were female.

**The total number of Willow Warbler bird-days logged each month, along with the maximum monthly daycount and the date on which the 2021 peak was recorded. Counts from 2020 to 2017 are included for comparison.**

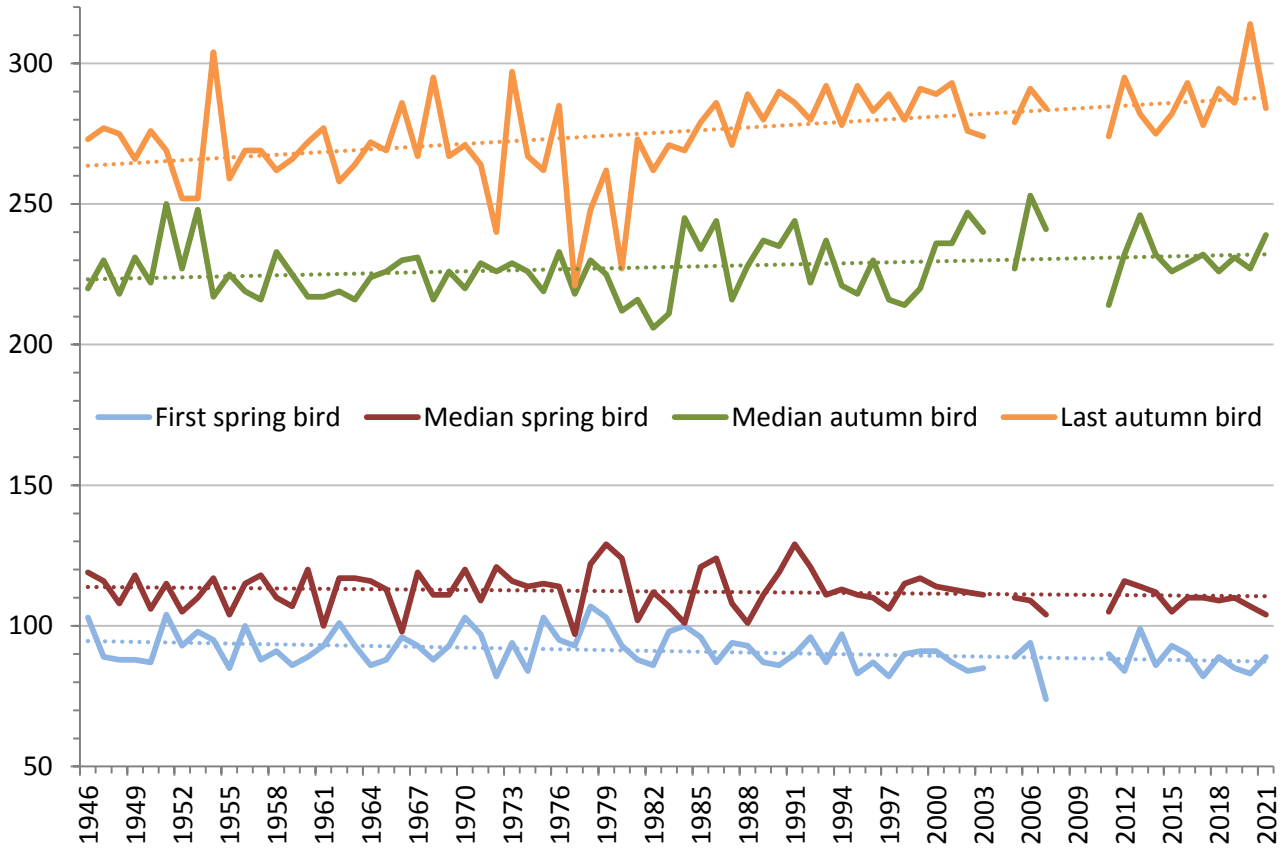
| | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov |
|---|---|---|---|---|---|---|---|---|---|
| **2021** | 44 | 410 | 72 | 10 | 318 | 575 | 647 | 13 | 0 |
| **2020** | 4 | 411 | 65 | 4 | 168 | 614 | 118 | 27 | 7 |
| **2019** | 23 | 322 | 101 | 17 | 105 | 312 | 173 | 14 | 0 |
| **2018** | 4 | 429 | 122 | 6 | 101 | 785 | 184 | 3 | 0 |
| **2017** | 12 | 954 | 160 | 6 | 100 | 402 | 70 | 10 | 0 |
| **2021** | 30 | 110 | 13 | 2 | 110 | 103 | 134 | 3 | 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 |
| | 31st | 14th | 8th | 26th | 24th | 1st | 10th | 8th | |

The lingering female, now in wing moult, was probably responsible for records of a single on 11 of the first 14 days of July. Five on 15th July were the latest first juveniles since 2015, three days later than the first of last year and two days later than the 2013-2020 mean (the earliest during this period was noted on 4th July 2017, the latest on 18th July 2015). Birds were logged on each subsequent July date, with highs of 110 on the 24th, 65 on the 25th, 26 on the 26th and 31 on the 27th being the only daycounts of more than 12; the peak July daycount was only down on an astronomical total of 3000 logged on the 31st in 1948, otherwise being up on the 102 of 1963 and the 101 of 2014. A July bird-days total of 318 was up on a 2013-2020 mean of 142.1 and only down on the 3048 of 1948 and the 457 of 2014. There were sightings on every August date, with 14 daycounts of fewer than ten (there were 13 such counts last year), but highs of 103 on the 1st, 40 on the 18th and 44 on the 27th which led to a bird-days total of 575; the peak daycount was up on a 2013-2020 mean of 71.1 but was down on that logged in 14 previous Augusts (there were highs of 700 on the 23rd in 1939, 3000 on the 8th in 1948 and 1000 on the 21st in 1958, whilst the 21st century high is the 159 of 2018). The August bird-days total was up on a 2013-2020 mean of 476.1, but down on highs during that period of 719 in 2015, 785 in 2018 and 614 in 2020 along with the total logged in seven additional years (with peaks of 3938 in 1948, 1162 in 1958 and 2121 in 1975).

There were September birds on all but three dates, with no more than 12 from the 11th and no more than three from the 20th, but highs of 114 on the 3rd, 81 on the 5th and 134 on the 10th; although there was also a count of 134 in 2014, the only higher September daycounts are 150 in 1948, 250 in 1953 and three counts of between 200 and 300 in 1951. The September bird-days total was an impressive 647, this up on a 2013-2020 mean of 212.8 and only down on a high of 828 logged in 1951. At least four birds accounted for sightings on nine October dates to the 11th, these including a

Dutch ringed bird present for five days and ringed birds present for two and four additional days; an October bird-days total of 13 was down on six previous years, including highs of 53 in 2006 and 27 last year. The median autumn passage bird went through on 27th August, this 12 days later than last year and the latest date since 2013 when the median autumn bird passed on 3rd September. 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). Although 30 days earlier than the last of 2020, there have only been 83 bird-days later than the last of this year, including 54 this century and 25 last year. As was noted in previous reports, autumn birds frequently lingered for longer periods; of 694 ringed during the autumn, 32 were reencountered, with 19 present for a further day or two, four present three or four days later, three present eight or nine days later, one present for 11 additional days, two for 15, one for 16 and further singles lingering for 19 and 35 days after ringing (this in addition to the bird present for 103 days between 11th May and 21st August which increased from 7.6g on 2nd July to 9.1g when last met on 21st August).

**The number of days into the year that the first and last Willow Warblers were logged 1946-2021 and the number of days after which the median spring and autumn birds went through.**




**Ringing recovery** NLA ATN410
**Originally ringed** as a juvenile, VLIELAND, FRIESLAND, THE NETHERLANDS 4th September 2021
**Recovered** as a juvenile, WHEELHOUSE HELIGOLAND, SKOKHOLM 4th October 2021
**Recovered** as a juvenile, WELL HELIGOLAND, SKOKHOLM 7th and 8th October 2021
**Distance travelled** 714km at 257 degrees (WSW)
**Days since ringed** 30, 33 and 34
This was the first recovery of a Willow Warbler ringed in the Netherlands since the Bird Observatory was reaccredited. Between the 4th and 7th October it increased from 9.7g to 10.7g.

**Ringing recovery** KYP663
**Originally ringed** as an unaged adult, WELL HELIGOLAND, SKOKHOLM 16th April 2020
**Recovered** as an unaged adult, CRISTIN GARDEN, BARDSEY ISLAND, GWYNEDD 20th April 2021
**Finding condition** Intentionally taken
**Distance travelled** 124km at 17 degrees (NNE)
**Days since ringed** 369

**Ringing recovery** LKX346
**Originally ringed** as an unaged adult, WELL HELIGOLAND, SKOKHOLM 1st April 2021
**Recovered** as an unidentified bird, NEAR CABRAGH, TYRONE, NORTHERN IRELAND 7th May 2021
**Finding condition** Sadly this individual was found dead at the site of a wind turbine
**Distance travelled** 329km at 342 degrees (NNW)
**Days since ringed** 36

**Ringing recovery** NAH462
**Originally ringed** as a juvenile, NANJIZAL, LANDS END, CORNWALL 24th July 2020
**Recovered** as an unaged adult, STREAM NET, SKOKHOLM 14th April 2021
**Distance travelled** 186km at 10 degrees (N)
**Days since ringed** 264

**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 (2nd March 2021) **Latest** 14th December 2000 (17th November 2021)
283 trapped, 154 retrapped, 3 controls
1934-1976: 2573 trapped, 2010-2020: 2504 trapped, 995 retrapped, 15 controls

Singles at both the Well and the Farm on 2nd March were 11 days earlier than the 2013-2020 first bird mean and the earliest since 1998 when one was noted on three dates between the 19th and 22nd February; there is of course a possibility that early birds may come and go prior to an arrival of staff which this year occurred on 26th February. However there were further signs that spring passage was early this year, with sightings on an additional 21 March dates, daily records from the 17th (when the first two of last year were logged) and highs of 22 on the 18th, 36 on the 22nd and 11 on the 30th which took the bird-days total to 123; the only higher March daycounts are the 40 and 60 of 1989, whilst 26 on the 16th in 2017 is the only earlier higher daycount and the bird-days total was only down on the 207 of 1989, the 169 of 2017 and the 195 of 2019. Sightings on all but one April date were of eight or less bar 11 on the 1st, nine on the 14th and 24th and 15 on the 26th; the peak April daycount was down on a 2013-2020 mean of 39.0 and that of 26 previous years (including highs of 75 in 1953, 72 in 2015 and 94 in 2018), whilst a bird-days total of 134 was the lowest of the last ten years, down on a 2013-2020 mean of 277.4 and on all-time April highs of 285 in 1991, 369 in 2015 and 575 in 2018 (albeit still being the 15th highest April total to date). Chiffchaff were seen on all but two May dates, with highs of eight on the 1st and 30th, ten on the 28th and seven on the 29th which took the bird-days tally to 110; the peak daycount was down on that of nine previous Mays (including a high of 25 in 1992), although the only higher daycounts to be recorded between 26th May and 30th July were in 2018, whilst the bird-days total was down on a 2013-2020 mean of 164.9 (this a period which includes the five highest May tallies to date, with a record 307 in 2018).

Sightings on all but three June dates included highs of eight on the 2nd and seven on the 4th, after which there were no more than four from the 5th and no more than two from the 13th, these including male LKX641 ringed on 8th June which would linger until at least 7th October. The peak June daycount matched that of 2015 and was only down on seven counts of up to 14 logged in 2018, whilst a bird-days total of 75 was only down on the 97 of 2015 (when a pair bred successfully) and the 225 of 2018. Of 133 ringed during the spring, 22 were retrapped in addition to the summering

male, with 13 reencountered after one or two days, three retrapped after three days, further singles lingering for five, ten, 11, 14 and 17 days and one remaining for 24 days after 4th May. There was nothing to indicate that a fully winged, but pre-moult juvenile trapped on 2nd July had hatched on Skokholm; it remained until at least the 15th, on which date the only other pre-moult youngster of the year was trapped. The lingering male still exhibited a cloacal protuberance on 27th July, however this had shrunk by the 31st when wing moult had begun. A recent increase in spring numbers, coupled with maturing Well vegetation, has 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, in May 2018 birds were building in two locations (although there was again no indication that either attempt progressed) and a male remained throughout the summer last year. The lingering moulting male was only noted on three August dates, with an adult trapped on the 27th and one seen at the Well on the 30th the other sightings during the month; an August bird-days total of five was the lowest since a single in 2016 and down on a 2013-2020 mean of 32.8.

**The total number of Chiffchaff bird-days logged each month, along with the maximum monthly daycount and the date(s) on which the 2021 peak was recorded. Counts from 2020 to 2017 are included for comparison.**

| | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov |
|---|---|---|---|---|---|---|---|---|---|
| **2021** | 123 | 134 | 110 | 75 | 15 | 5 | 182 | 278 | 26 |
| **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 |
| **2021** | 36 | 15 | 10 | 8 | 2 | 1 | 49 | 22 | 5 |
| **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 |
| | 22nd | 26th | 28th | 2nd | 15th & 27th | 5 dates | 18th | 2nd | 5th |

Chiffchaff were noted on all but two September dates from the 4th, with no more than four until the 9th but highs of 20 on the 10th, 49 on the 18th and 14 on the 19th which took the bird-days total to

182; the peak daycount was down on a 2013-2020 September mean of 58.4 (although this was a period which included all-time highs of 128 in 2013 and 133 in 2014), whilst the bird-days total was the eighth highest September tally to date, albeit down on a 2013-2020 mean of 247.9 (this a period which included six of the eight highest September tallies and an all-time high of 482 in 2014). Daily October sightings were all of 12 or less bar peaks of 22 on the 2nd, 14 on the 8th and 9th and 20 on the 10th, however counts remained high during the second half of the month, with five daycounts of nine between the 17th and 30th and ten on the 22nd; the peak October daycount was down on that recorded in nine previous years (including highs of 80 in 1989 and 57 in 2015), however a bird-days total of 278 was only down on the 307 of 2014 and the 292 of 2018 (the five highest October tallies have now been logged in the last nine years). There were 26 November bird-days, with sightings on 12 dates to the 17th, highs of four on the 2nd and five on the 5th and four different individuals between the 13th and 15th which included the last of four Siberian Chiffchaff (see below); there have been higher daycounts and bird-day totals in four Novembers, with a daycount high of 12 in 2015 and bird-day highs of 109 in 2014, 112 in 2015 and 48 in 2018. There have been 98 bird-days later than the last of this year, including ten in December, 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. Of 150 ringed during the autumn, 39 were retrapped on a later date (in addition to the male present since June); there were 12 retrapped after one or two days, 13 after three or four, three after five or six and four after seven or eight days, whilst one was present ten days later, three were present 13 days later and further singles were present after an additional 18, 21 and 22 days.

The first 'Siberian' *P. c. tristis* of the year was trapped in the Reedbed Net on 10th October (weighing 6.2g) and retrapped in the Ram Net two days later (weighing 6.8g). What was presumably the same ringed bird was present on the 13th when a second was trapped at the Ram Net and a third was present in the same area (above photograph); this was the first Skokholm record of three *P. c. tristis* on the same date. The second ringed bird was encountered between the Well and the Farm on each date to the 16th when it was joined by an unringed bird (potentially that last seen on the 13th). Two *P. c. tristis* were in the Courtyard the following day and a ringed bird was at the Lime Kiln on the 21st. One in Crab Bay on 5th November was potentially that seen in the same area on each day from the 13th to the 17th (the latter the last Chiffchaff sighting of the year). One present around the Wheelhouse on 15th November appeared intermediate between *P. c. tristis* and the nominate; given the significant increase in the number of *P. c. tristis* found overwintering in western Europe, it would seem likely that an increase in hybrids will occur over the coming years. Although the County Records Panel accepted a minimum of four 2021 *P. c. tristis*, the only Skokholm birds to have been confirmed via the mitochondrial DNA analysis of dropped feathers remain singles present on 2nd November 2014, between the 22nd and 24th October and on 1st November 2015, between the 15th and 20th November 2016, between the 28th and 31st May 2017 and on 11th April last year.

**Ringing recovery** KCC988
**Originally ringed** as a juvenile, TEIFI MARSHES, CEREDIGION 9th August 2021
**Recovered** as a juvenile, WELL HELIGOLAND, SKOKHOLM 20th September 2021
**Distance travelled** 61km at 226 degrees (SW)
**Days since ringed** 42
A short movement from one Wildlife Trust of South and West Wales reserve to another.

**Ringing recovery** NNY878
**Originally ringed** as a juvenile, NANJIZAL, LANDS END, CORNWALL 12th September 2021
**Recovered** as a juvenile, WELL 6 MIST NET, SKOKHOLM 18th September 2021
**Recovered** as a juvenile, WHEELHOUSE HELIGOLAND, SKOKHOLM 19th September 2021
**Distance travelled** 186km at 10 degrees (N)
**Days since ringed** 6 and 7

**Sedge Warbler** *Acrocephalus schoenobaenus* **Telor yr Hesg**
**Common Migrant and Uncommon Breeder** previously a Scarce Breeder
**Earliest** 6th April 1961 and 2005 (**31st March 2021**) **Latest** 2nd November 2019 (23rd September 2021)
119 trapped, 94 retrapped, 2 controls
1934-1976: 1984 trapped, 2010-2020: 1351 trapped, 706 retrapped, 16 controls

One trapped in the Well 9 Net on 31st March was 15 days earlier than the 2013-2020 first bird mean and the earliest Skokholm record, six days earlier than singles in 1961 and 2005; there has seemingly been one earlier Pembrokeshire record, this of one at Tenby Marsh on 25th March 1964 (Donovan and Rees, 1994). There were however no further records until 22nd April, a lone bird-day by this date matching that of 2013 and 2014 as the lowest tally this decade, down on a 2013-2020 mean of 8.3 and highs of 11 in 2015 and 23 in 2017. Sightings on all bar one date from the 22nd tallied 33 bird-days and included highs of 11 on the 27th (when the first four returning birds were retrapped) and nine on the 30th; there have only been higher April daycounts and bird-day totals in seven years, with a peak daycount of 17 in 2017 and bird-day highs of 46 in 2011 and 2014 (the five highest April totals have occurred in the last 11 years). Birds were again seen on each May date, with daycount highs of 14 on the 10th, 13 on the 11th and 15 on the 16th taking the total to 254; although down on a 2013-2020 mean of 309.4, the total was only down on that logged in eight previous years (this including six of the last eight and all-time highs of 575 in 1953, 376 in 1967 and 365 in 2019). Four ringed as adults between 30th April and 25th May remained until at least 2nd July and were probably Skokholm breeders (a fifth was present from 11th May to at least 29th May). Additionally 12 ringed in previous years were encountered; one ringed as a juvenile in 2020 had survived its first winter, two ringed as adults in 2020 had survived at least a second, five ringed as juveniles in 2019 had survived a second winter (including two not seen last year), one ringed as an adult in 2019 had survived at least a third, two ringed as juveniles in 2018 had survived a third winter (including one not seen in 2019 or 2020) and S147102, ringed as an adult in May 2017, had survived at least a fifth winter (the latter now having been ringed for four years, two months and seven days).

**The number of Sedge Warbler territories 2005-2021 (where data exists).**

| 2005 | 2006 | 2007 | 2008-09 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 7 | 3 | 4 | - | 4 | 13 | 4 | 8 | 9 | 7 | 11 | 13 | 15 | 15 | 15 | 14 |

There were a minimum of 14 breeding territories, this one down on the record number mapped between 2018 and 2020; eight territories included areas of fresh water, whilst pairs on Isthmian Heath, above North Haven, near the Cottage, at the Top Tank, at Boundary Hill and near Migration Rocks occupied drier areas. Birds were first watched nest lining near the Well on 16th May, this two days earlier than last year and four days earlier than in 2019. A dead chick was found at the Well on 9th June, this six days earlier than the first indication of chicks last year, however the first two fledglings were not seen until 29th June, this six days later than last year and one day later than the 2017-2020 mean. Productivity again proved impossible to calculate, primarily due to youngsters frequenting dense cover, closely positioned territories and the early arrival of fledglings from elsewhere. There were 21 juveniles ringed during July, this down on a 2013-2020 mean of 37.9 (there was a high of 68 in 2018 and lows of 20 in 2013 and just five last year, the latter no doubt due in part to a COVID-19 dictated reduction in trapping effort). Skokholm breeders were still feeding young at East Bog on 31st August, this 12 days later than the last observed food deliveries of 2020 and 2018 and one day later 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 15 on the 1st and 12 on the 2nd were the lowest of the last six Augusts; the 2013-2020 peak August daycount mean is 21.3 (with a high of 43 in 2018). An August bird-days total of 159 was the lowest of the last nine years, down on a 2013-2020 mean of 267.8 and all-time highs of 335 in 2016 and 409 in 2018. Daily September sightings to the 23rd included highs of 11 on the 3rd, nine on the 5th and 9th and 16 on the 10th, although there were no more than six from the 16th; a minimum of

20 on the 20th in 1970 is the only higher September daycount, whilst a bird-days total of 130 was up on previous highs of 64 in 2003, 75 in 2013 and 72 in 2014. One on 23rd September was nine days later than the last of 2020; there have been 123 later bird-days, including 34 in October and one present on the 1st and 2nd November 2019 which is the latest to date. There were 85 juveniles ringed during the autumn, this down on a 2013-2020 mean of 97.5 (a high of 199 was recorded in 2018).

**Ringing recovery** AKL5521
**Originally ringed** as a juvenile, WELL HELIGOLAND, SKOKHOLM 14th July 2021
**Previously recovered** as a juvenile, WELL HELIGOLAND, SKOKHOLM 31st July 2021
**Previously recovered** as a juvenile, WHEELHOUSE HELIGOLAND, SKOKHOLM 1st August 2021
**Recovered** as a juvenile, ST OUENS POND, JERSEY, CHANNEL ISLANDS 22nd August 2021
**Finding condition** Intentionally taken
**Distance travelled** 353km at 143 degrees (SE)
**Days since ringed** 39

**Ringing recovery** AKL5522
**Originally ringed** as a juvenile, STREAM NET, SKOKHOLM 16th July 2021
**Recovered** as a juvenile, MARS-OUEST, SAINT-PHILBERT-DE-GRAND-LIEU, FRANCE 15th August 2021
**Finding condition** Intentionally taken
**Distance travelled** 572km at 153 degrees (SSE)
**Days since ringed** 30

**Ringing recovery** APF1899
**Originally ringed** as a juvenile, LITLINGTON, EAST SUSSEX 29th July 2020
**Recovered** as an unaged adult, THE WELL, SKOKHOLM 26th May 2021
**Finding condition** Decapitated by predator
**Distance travelled** 392km at 286 degrees (WNW)
**Days since ringed** 301

**Ringing recovery** APL2663
**Originally ringed** as a juvenile, CORRIE CRAVIE, ISLE OF ARRAN, NORTH AYRSHIRE 1st August 2021
**Recovered** as a juvenile, WELL 9 MIST NET, SKOKHOLM 2nd September 2021
**Distance travelled** 417km at 180 degrees (S)
**Days since ringed** 32

**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 (22nd April 2021) **Latest** 30th October 1997 (12th October 2021)
15 trapped, 3 retrapped
1947-1976: 15 trapped, 2011-2020: 85 trapped (including 4 pulli), 52 retrapped, 2 controls

One found at North Pond on 22nd April was three days earlier than the first of last year and five days earlier than the 2013-2020 first bird mean; there have been five earlier bird-days, three of which were in 2018. One trapped in the Well Heligoland on the 30th was the only other April record and the 22nd bird-day to be logged in this month. There were records on six May dates, with singles at the Well on the 6th and 23rd, two on the 27th (with one trapped at the Well and one in the Library Net), three on the 28th (including two new birds trapped in the Well Heligoland), one at the West Knoll on the 29th and two on the 30th (with one at the Hills and one trapped at the Well which would be on the Scillies nine days later (see below)); a total of ten May bird-days matched that of 2018 as the third highest to date, a tally only down on the 42 of 2017 (when a male which had bred successfully in 2016 lingered throughout the month) and the 13 of 2019. A male ringed on the 14th was the only June record; a June bird-days total of one was the lowest of the last six years, down on highs of 30 in

2016 (when Reed Warbler bred for the first time), 25 in 2017 (again primarily the 2016 male) and eight in 2019. The only August sightings were of juveniles at South Pond on the 17th and trapped at the Well on the 23rd; there have been earlier autumn birds in 12 years including four of the last five. At least two different juveniles accounted for singles logged on each date between the 2nd and 6th September, there were two different juveniles ringed on the 8th (one was still present on the 9th and one on the 10th), and further new juveniles on the 9th and 16th which took the bird-days total to 11; there have been six higher September tallies, with a peak of 16 logged in 2016, 2018 and 2019. One trapped in the Well 6 Net on 12th October was the last of the year; there have now been 19 October bird-days, only five of which were later than that of this year.

**Ringing recovery** AKL5392
**Originally ringed** as an unaged adult, WELL HELIGOLAND, SKOKHOLM 30th May 2021
**Recovered** as an unaged adult, PORTH HELLICK, ST MARY'S, ISLES OF SCILLY 8th June 2021
**Finding condition** Intentionally taken
**Distance travelled** 211km at 200 degrees (SSW)
**Days since ringed** 9

**Blyth's Reed Warbler** *Acrocephalus dumetorum* **Telor Cyrs Blyth**
**Vagrant** only one previous record which was the second for Wales
1 trapped
2013: 1 trapped

A first-winter trapped in the Wheelhouse Net, early on the afternoon of 9th October, was just the second for Skokholm following one trapped in the Cottage Heligoland on 27th September 2013 (GE, RD *et al*.). Although there were very few British records prior to the 1980s, the number logged in each year since 2010 has been in double-figures (with a high of 28 in 2014), whilst over-wintering was recorded for the first time in 2019 (White and Kehoe, 2021). The total number of Pembrokeshire records has now reached four. This increase has mirrored a westerly breeding range expansion which saw breeding in Sweden since 1970 (where they are now common) and along the south coast of Norway since 2000 (Keller *et al*., 2020), however it has been suggested that birds which arrive to Britain in autumn originate from further east than the Baltic.

**Grasshopper Warbler** *Locustella naevia* **Troellwr Bach**
**Uncommon Migrant** occasionally absent in autumn
**Earliest** 4th April 2003 (22nd April 2021) **Latest** 7th November 1968 (2nd October 2021)
4 trapped
1936-1976: 360 trapped, 2011-2020: 61 trapped

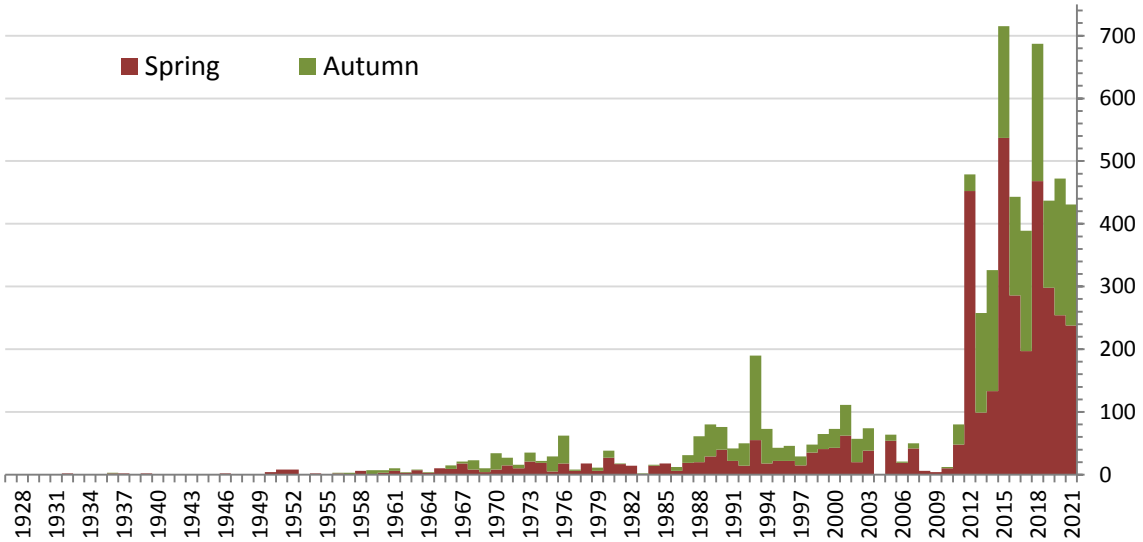
The first of the year was trapped in the Well Heligoland on 22nd April, this three days later than both the first of last year and the 2013-2020 first bird mean (the only later bird during this period was on the 24th in 2016); there have been 242 earlier bird-days, including 71 this century. One alongside the Lighthouse Compound Wall on the 28th was the only other April sighting, a bird-days total of just two being down on a 2013-2020 April mean of 7.9 (this a period which included a 21st century high of 25 in 2017, this well down on all-time April highs of 68 in 1966, 80 in 1967 and 60 in 1971). There were no May sightings for the first time since 2012; there were record May totals of 73 in 1960, 38 in 1967 and 54 in 1970, whilst the post-1991 high is of ten in 2001 and the 2013-2020 May mean is 2.3. A juvenile trapped in the Well 9 Net on the 26th was the first August record since 2016, whilst what was perhaps the same bird present at the Well the following day took the all-time August bird-days tally to 104. Another juvenile trapped in the Well 6 Net on 6th September made this the 35th year, and eighth of the last nine, with a sighting in this month. The last of the year was a juvenile trapped in the Well Heligoland on 2nd October, this the latest Skokholm record since one trapped on the same date in 2016; there have been 29 later bird-days, including one in November and with two on 4th October 2013 the only others this century. Four autumn bird-days was up on a 2013-2020 mean of 2.5, but down on totals of between five and 39 logged in nine autumns (all between 1960 and 1972 bar five in 2013 and seven in 2016) and well down on a remarkable 99 recorded in 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 (28th March 2021) **Latest** 2nd December 1996 (20th November 2021)
235 trapped, 10 retrapped, 1 control
1936-1976: 211 trapped, 2011-2020: 1732 trapped, 246 retrapped, 3 controls

A male at the Well on 28th March was nine days later than the first of last year and one day later than the 2013-2020 first bird mean; there have been 19 earlier spring bird-days, all logged in March, with all bar one this century and 11 since 2013. Three on the 30th and six on the 31st took the March bird-days total to ten and the all-time March tally to 58; a daycount of eight and a total of 14 in 2019 are the only higher March counts. Sightings on each April date bar the 5th and 8th included 15

daycounts of four or less, but highs of 27 on the 21st, 13 on the 25th and 33 on the 26th; the peak April daycount was the 11th highest to date, albeit down on a 2013-2020 mean of 59.5 and highs of 129 in 2015, 68 in 2017 and 73 and 164 in 2018 (these also the four highest daycounts in any month). An April bird-days total of 192 was the fifth highest to date, but was down on a 2013-2020 mean of 221.4 due to all-time highs of 469 in 2015 and 413 in 2018; there were 488 April bird-days to the end of 2011, but now 2239 since. Daycounts of up to eight on 15 dates took the May bird-days total to 34, this the ninth highest May tally, but the third lowest this decade. Different females trapped in the Well Heligoland on the 21st and 27th were the only June sightings, this matching that of 2014 and 2017 as the lowest June tally since 2012; there have now been 97 June bird-days, with highs of 14 in 2018 and 19 last year. As noted for other species, Blackcaps typically moved through quickly during spring; of 121 ringed during the period, only two were retrapped, with a first-summer female which weighed 16.3g on 21st April still present on the 24th and a first-summer male which weighed 14.9g on 26th April still present on the 30th (five of 117 lingered for up to two days last year).

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




A brown headed bird at Migration Rocks on 1st July was not aged, with the first definite juvenile of the year found in the Courtyard on 20th July; this was the latest juvenile of the last five years, over a month later than one ringed on 16th June 2020 which is the earliest yet recorded (the only other

June juveniles were logged on the 20th in 2014 and on the 27th in 2019). There have been 51 previous July bird-days, including 40 this century and with a high of 11 in 2018. August was typically quiet, with singles on three dates from the 26th including a freshly eaten bird above the Lime Kiln on the 29th; sightings in 11 previous Augusts total 30 bird-days, with a high of six in 2011. Blackcap were logged on 19 September dates, with highs of 23 on the 19th (there were no sightings on either the 20th or 21st), eight on the 24th and seven on the 25th being the only daycounts of more than four; the peak daycount was the second highest in this month, only down on the 34 of last year, however a bird-days total of 70 was down on four previous Septembers, almost matching a 2013-2020 mean of 71.1 (there were highs of 84 in 2019 and 115 last year). Sightings on 21 October dates included highs of 23 on the 6th (followed by no birds on the 7th or 8th), 22 on the 10th and seven on the 11th which took the total to 100; the peak daycount was a new October record, up on the 20 of 1989 and 2018, whilst the bird-days total was down on that logged in five previous years, including highs of 104 in 1993, 107 in 2017 and 127 in 2018. There were November counts of up to four birds on seven dates to the 11th and a female on the 20th which was the last of the year; the only higher November daycount is the five of 1993, whilst a total of 18 bird-days matched that of 2014 and was only down on the 24 of 1993 and the 23 of last year. There have been 23 later bird-days, 12 of which are attributable to a male present from 20th November to 2nd December 1996 which remains the only bird seen after 25th November. Of 114 ringed during the autumn, two were seen the next day, one was present for two further days and a juvenile female lingered for ten days from 25th September.

**The total number of Blackcap bird-days logged each month, along with the maximum monthly daycount and the date(s) on which the 2021 peak was recorded. Counts from 2020 to 2017 are included for comparison.**

| | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov |
|---|---|---|---|---|---|---|---|---|---|
| **2021** | 10 | 192 | 34 | 2 | 2 | 3 | 70 | 100 | 18 |
| **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 |
| **2021** | 6 | 33 | 8 | 1 | 1 | 1 | 23 | 23 | 4 |
| **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 |
| | 31st | 26th | 8th | 2 dates | 2 dates | 3 dates | 18th | 6th | 3rd |

**Ringing recovery** ARR7089
**Originally ringed** as a first-winter male, WHEELHOUSE NET, SKOKHOLM 24th September 2021
**Recovered** as a first-winter male, CALF OF MAN, ISLE OF MAN 3rd October 2021
**Finding condition** Intentionally taken
**Distance travelled** 263km at 7 degrees (N)
**Days since ringed** 9
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 are from central Europe, birds which head north and west in the autumn.

**Ringing recovery** T358538
**Originally ringed** as a juvenile, CROMWELLS WAY, BOVEY TRACEY, DEVON 18th July 2020
**Recovered** as a first-summer female, WHEELHOUSE HELIGOLAND, SKOKHOLM 1st April 2021
**Distance travelled** 166km at 318 degrees (NW)
**Days since ringed** 257

**Garden Warbler** *Sylvia borin* **Telor yr Ardd**
**Uncommon Migrant** although Scarce between 2005 and 2012, in 2017 and in 2018
**Earliest** 6th April 1966 (8th May 2021) **Latest** 2nd November 1968 (10th September 2021)
3 trapped, 1 retrapped
1934-1976: 174 trapped, 2013-2020: 29 trapped, 6 retrapped

Two together at the Well on 8th May were six days later than the 2013-2020 first bird mean and the latest spring arrivals since one on 11th May 2017; there have been 153 earlier bird-days, with 58 in April including just ten this century. One was around the Farm on 15th May and two on the 30th were the last of the spring. A spring bird-days total of five matched that of last year but was down on 31 spring tallies (including six this century), all ranging between six and 16 bar the 20 of 1988 and the 62 of 1993 (the latter total including 30 grounded by fog on 10th May and 15 the following day, these the only daycounts up on the ten of 3rd May 1988 and the seven of 6th May 1985). There were no August birds for the fourth time in nine years, with two on 7th September the first of the autumn and including a juvenile trapped in the Well 9 Net. Another juvenile trapped in the Courtyard Net on the 9th was joined by a second bird the following day, the former having increased from 21.9g at 1210hrs on the 9th to 24.9g at 1800hrs on the 10th. There were no further sightings, an autumn bird-days total of five being down on the six of last year and totals logged in 30 further years, including 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 (13th May 2021) **Latest** 3rd November 1927
1 trapped
1937-1976: 31 trapped, 2011-2020: 21 trapped, 7 retrapped

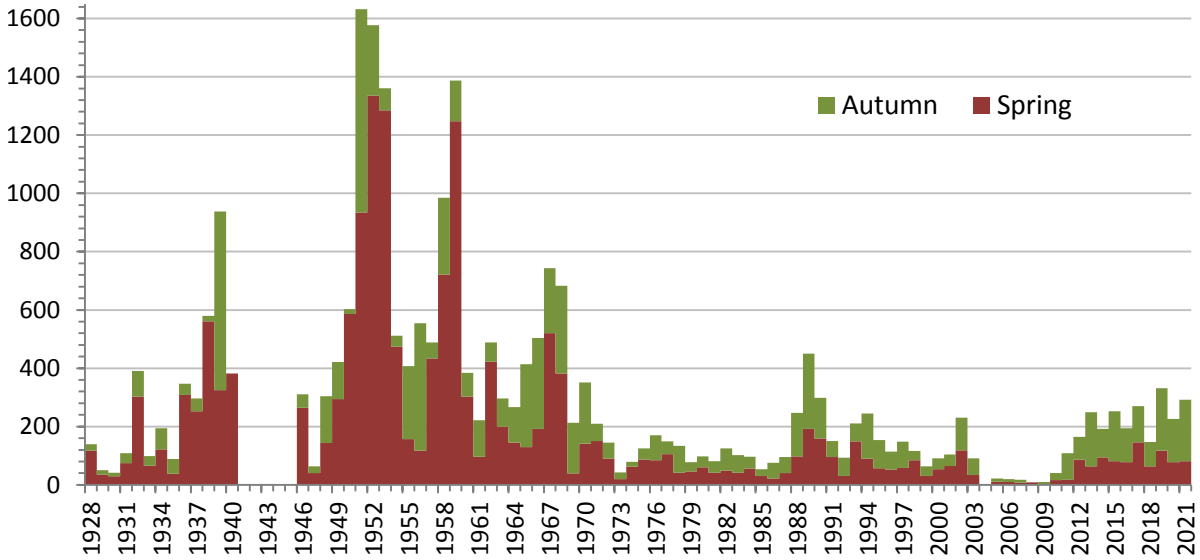
A first-summer on 13th May, found at the Well and later trapped in the Wheelhouse Heligoland, was the only record of the year and five days later than the only record of last year. A single bird-day matched the 2018 and 2020 totals as the lowest since a blank 2012. There have only been 188 Skokholm bird-days, 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).

**Whitethroat** *Curruca communis* **Llwydfron**
**Fairly Common Migrant** previously Common and has bred in nine years (most recently in 2019)
**Earliest** 5th April 1966 (21st April 2021) **Latest** 30th October 1968 (6th October 2021)
50 trapped, 16 retrapped
1934-1976: 5924 trapped, 2010-2020: 537 trapped, 139 retrapped, 8 controls

The first two of the year were found on 21st April, these three days later than the 2013-2020 first bird mean and the latest first arrivals of the last nine years; in each of the previous eight seasons the first has arrived between the 17th and 20th April, whilst there have been 370 bird-days earlier than the first of this year, 292 of which were logged prior to 1969. Sightings of up to three on seven further April dates took the bird-days total to 14, this the seventh highest April tally this century, albeit down on totals during this period of 29 in 2014 and 2017, 38 in 2019 and 49 last year; there were typically more birds prior to 1969, with daycounts of up to 200 contributing to April totals of up to 288. Although birds were noted on 20 May dates, 13 daycounts were of singles, with the highs being of only six on the 8th and four on the 10th and 28th; the peak May daycount was down on a 2013-2020 mean of 12.8 (there was a high during this period of 21 in 2019 and a low of four last year), whilst a bird-days total of 37 was the second lowest since 2011, down on a 2013-2020 mean of 57.0 and recent highs of 78 in 2012 and 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). A male retrapped on 26th May had been ringed as a juvenile on 25th July 2020 but not encountered since; although last retrapped on 28th June, this was almost certainly the male which held a territory between Orchid Bog, the Well and the Farm on every day of June and the first two days of July. There was however no evidence of a 2021 breeding attempt, or of a second bird during June. Territorial males built cock-nests in 2014, 2015 and 2017, whilst the first confirmed breeding since 1998 saw a pair fledge two in 2019.

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




The first juvenile of the year was in the Crab Bay Elder on 13th July, this one day later than the first of last year and 13 days later than the first mainland juvenile of 2019. There followed sightings of up to four birds on 12 further July dates from the 19th, taking the monthly bird-days total to 24; the tally was the second lowest this decade, down on a 2013-2020 July mean of 41.6 and an all-time high of 90 in 2019. Whitethroat were logged on all but two August dates, with eight on the 9th and 18th and ten on the 15th being the only daycounts of more than six; the peak August daycount matched the fourth highest since 1968 (although it was massively down on earlier daycounts of up to 500), whilst a bird-days total of 106 was the 11th highest to date (with 117 in 2019 being the only higher tally since 1989 and 595 in 1939, 223 in 1955 and 228 in 1966 being the only August tallies up on the 179 of 1952). September sightings on all but three dates to the 22nd included highs of nine on the 3rd, seven on the 5th and 15 on the 10th, whilst a further single on the 30th took the bird-days total to 79; both the peak daycount and bird-days total were the highest since 1970 (when a daycount of 40 contributed to a total of 154), although daycounts peaked at 250 in 1951, 120 in 1956 and 70 in 1965, whilst the record September tallies are of 682 in 1951, 405 in 1956 and 159 in 1969. A juvenile was trapped in the Reedbed Net on 4th October and one was seen on Isthmian Heath two days later, these taking the all-time October total to 91 (including 12 since 2013); there have been 32 bird-days later than the last of this year, with one on the 11th in 2015 the only one this century.

**Western Subalpine Warbler** *Curruca iberiae* **Telor Brongoch y Gorllewin**
**Vagrant** one previous record, along with 13 previous 'Subalpine Warbler'
1 trapped
1953-1976: 3 'Subalpine Warbler' trapped, 2013-2020: 1 Western and 2 'Subalpine Warbler' trapped

A worn, first-summer female, found from the Wheelhouse Kitchen window early in the afternoon of 18th July, was soon trapped in the Wheelhouse Net (LM, RDB *et al.*). In the hand examination revealed it to have a wrinkled brood patch along with the warm underpart tones and neat white tips to the second-outermost tail feathers typical of Western Subalpine Warbler. A wing length of 57mm

was 1mm less than the DNA confirmed Western bird present on 8th May last year and 6mm less than the DNA confirmed Eastern Subalpine Warbler ringed this May (see below). The mitochondrial DNA analysis of a dropped feather confirmed the identification as that of a monotypic Western Subalpine Warbler, this the second for Skokholm and third for Pembrokeshire; there had been 24 acceptable British records by the end of 2020, although this is no doubt an undercount due to the complexities of specific identification (there were 745 unidentified 'Subalpine Warbler' found during the same period (Holt *et al*., 2021)). There have been 17 previous Skokholm records of birds from the Subalpine Warbler complex, four of which have been accepted as Eastern Subalpine Warbler *C. cantillans* (with a fifth found this year, 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 was probably a Western Subalpine Warbler (with a 58.5mm wing), but feathers were not retained for analysis, whilst feathers from a female trapped on 13th May 2016 (with a 63mm wing) were retained, however these have gone missing prior to DNA analysis.

**Eastern Subalpine Warbler** *Curruca cantillans* **Telor Brongoch y Dwyrain**
**Vagrant** four previous records, along with 13 previous 'Subalpine Warbler'
1 trapped
1953-1976: 3 'Subalpine Warbler' trapped, 2013-2016: 2 Eastern and 2 'Subalpine Warbler' trapped

A silent, first-summer female found at the Well on the morning of 31st May was soon walked into the Well Heligoland (GE *et al*.). The second-outermost rectrices exhibited restricted whitish tips, the pale bleeding very quickly into dark inner webs rather than forming either the white lozenges typical of Eastern Subalpine Warbler or the neat white tips typical of Western Subalpine Warbler (see above photograph for an example of the latter). The mitochondrial DNA analysis of a dropped feather revealed the bird to be a *C. c. albistriata*, an Eastern Subalpine Warbler of the subspecies which

breeds between northeast Italy and Turkey. Although Western Subalpine Warblers exhibiting Eastern Subalpine Warbler-type tail patterns have been found elsewhere, this was the first example of an Eastern Subalpine Warbler exhibiting a more Western Subalpine Warbler-type tail to be encountered by the team at the University of Aberdeen (which led to the resequencing of the sample to double-check (Collinson, *pers*. *comm*.)). Based on current knowledge this bird would have been impossible to identify in the field, indeed the tail pattern would appear more reminiscent of Western birds, however the grey plumage tones (with little warmth to the fringes of the retained greater coverts) and the pale underparts were perhaps clues as to its identification. A wing length of 63mm was 6mm longer than the Western Subalpine Warbler trapped in July and matched the wing length of one of the two male Eastern Subalpine Warbler ringed in 2016 (the other had a 64mm wing chord). This becomes the fifth Eastern Subalpine Warbler for Skokholm following an unsexed bird present on 15th May 2014 (which exhibited a strong Eastern Subalpine Warbler tail pattern in the field), different males trapped on 24th April and 14th May 2016 and a male seen well as it fed among Elder and Tree Mallow at Crab Bay on 9th May last year (the tail pattern again being well documented). There have been a further 15 individuals in the Subalpine Warbler complex recorded on Skokholm (see above for details).

**Goldcrest** *Regulus regulus* **Dryw Eurben**
**Common** but only Fairly Common in some years
66 trapped, 30 retrapped
1938-1976: 431 trapped, 2010-2020: 812 trapped, 208 retrapped

A mobile male on 2nd March and one at Spy Rock on the 5th were the only records prior to an arrival of 12 on the 18th, this followed by sightings of at least three on each date to the 24th, including highs of 13 on the 20th and nine on the 22nd which took the March total to 57; there have been higher daycounts in five Marches (with peaks of 20 in 1974 and 1989 and 24 in 2017), whilst the only higher March totals are the 124 of 1974, the 94 of 1989 and the 60 of 2017. April proved disappointing by comparison, with singles near the Lighthouse on the 3rd, 4th and 13th the only birds logged; although up on the two of last year, a bird-days total of three was otherwise the lowest since 2012, down on a 2013-2020 mean of 23.6 and well down on all-time April highs of 112 in 1972, 101 in 1975 and 84 in 2018. A first-summer female in the Wheelhouse Heligoland on the 14th was the first May record since 2018 and the 65th bird-day to be logged in this month. None of the ten Goldcrest ringed during the spring were retrapped on a subsequent date. One at the Lighthouse on the 10th was the only Goldcrest found in August, a single bird-day just the 176th to be logged in this month but down on a

2013-2020 mean of 9.9 (there were all-time August highs of 17 in 2014, 19 in 2015 and 31 in 2017). There were no further sightings until 10th September when a minimum of eight were present; the previous eight years saw at least 21 autumn bird-days logged by 10th September, with highs of 72 in 2015, 130 in 2017 and 126 in 2019 and a 2013-2020 mean of 62.6.

There were sightings on 16 further September dates, with highs of 13 on the 24th and eight on the 25th the only daycounts of more than five; the peak September daycount matched the lowest since 2013 and was down on a 2013-2020 mean of 34.9 and all-time highs of 80 in 1989 and 121 in 2017, whilst a bird-days total of 58 was the lowest since 2012 and was down on a 2013-2020 mean of 263.9 and all-time highs of 458 in 1988, 494 in 1989, 728 in 2017 and 355 in 2019. Numbers increased in October, with birds noted on all but two dates, including no more than six each day from the 18th but highs of 21 on the 6th and 10th, 12 on the 7th and 13 on the 15th and 16th; there have been higher daycounts in 14 Octobers, including seven of the last nine and with highs of 250 in 1959 (the highest daycount in any month), 60 in 1988 and 1989 and 70 in 1990. An October bird-days total of 195 was the 14th highest to date, albeit down on a 2013-2020 mean of 213.1 and all-time highs of 346 in 1975, 452 in 1988 and 344 in 2017. November daycounts of up to three on eight dates to the 10th led to a bird-days total of 16, this the fifth highest tally in this month but down on all-time highs of 56 in 2015 and 31 in 2019. There were none found between 11th November and 5th December inclusive, with one on three dates in 1992 remaining the sole December record. Birds again lingered for longer in autumn than they had in spring; of 56 Goldcrest ringed during the autumn, 11 first-winters were retrapped one or two days later, further first-winters were retrapped after four, six, eight, nine and ten days, a first-winter female was retrapped 31 days after being ringed on 10th October and a first-winter male was retrapped 35 days after being ringed on 6th October.

**Wren** *Troglodytes troglodytes* **Dryw**
**Fairly Common Breeder** only recorded as a Common Winter Visitor prior to first breeding in 1988
63 trapped, 74 retrapped
1934-1976: 928 trapped, 2010-2020: 780 trapped, 567 retrapped

The 71 territorial males mapped this year included 70 registered on multiple visits and one singing in a discrete area on one of four survey dates which could not be linked to an adjacent territory. Although one down on last year, this was the second highest total yet recorded, two up on that of 2019. The last 11 years, all with over 50 territories, are remarkable for the fact that the previous

peak in numbers was the 19 mapped in 1994 (six years after breeding was first recorded in Crab Bay); the most recent survey prior to the renovation period located ten territories in 2007. The reason for this substantial increase in territorial males is unclear. Birds were not seen to be feeding young until 10th June and it was not until the 27th that fledglings were found at the Cottage, to the south of North Haven and at Migration Rocks; these were the latest of the last nine years, 14 days later than the first of last year and 22 days later than the 2013-2020 first fledgling mean (the earliest during this period were logged on 30th May 2018 and the latest on 13th June 2020). Prior to their establishment as a Skokholm breeding species, Wren were considered a common winter visitor (with a substantial October arrival which saw daycounts peak at up to 200); it is arguable that an autumn arrival is still evident in some years (see table below), although it is possible that increasingly active birds are more likely to be encountered during the post-moult period. A 2020 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 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 number of Wren bird-days logged each month 2018-2021. Note that March recording began on the 6th in 2018 and the 16th in 2020 and that November recording stopped on the 26th in 2018.**

| | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov |
|---|---|---|---|---|---|---|---|---|---|
| **2021** | 1253 | 1381 | 1173 | 1041 | 732 | 567 | 734 | 652 | 583 |
| **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 14 Wren ringed in previous years and retrapped in 2021, eight ringed as juveniles in 2020 had survived their first winter, two ringed as juveniles in 2019 had survived a second and two ringed as juveniles in 2018 and two ringed as first-summers in 2019 had survived a third. These included KYN015, ringed as a juvenile on 2nd August 2018 and retrapped on 11th October 2021 after three years, two months and ten days; the oldest known British Wren wore a ring for seven years, nine months and 20 days, whilst the oldest Skokholm bird reached five years and three days.

**Rose-coloured Starling** *Pastor roseus* **Drudwen Wridog**
**Vagrant** six previous records including one in 2004 only formally accepted this year

An adult male which fed with Starlings on Western Plain and near North Pond on 5th August was in a similar area the following day and was between Sugar's Delight and Winter Pond on the 7th (GE *et*

*al*.). The sharing of this and previous sightings on social media brought to light a record of a juvenile present on the 6th and 9th September 2004, a bird which was not formally submitted to the Welsh Records Panel at the time but which has now been accepted as such (inset photograph below (PB *et al*.)). The first for Skokholm was found as recently as 8th June 2000, this adult being noted on each of the next two days. There were three accepted records 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 on the 1st, 2nd and 3rd October. Most recently a female was present between Wheatear Rock and the Bluffs on 21st June last year, this arriving as part of a substantial influx into Britain which saw birds reported at over 175 sites (including 11 in Wales) during June alone.

**Starling** *Sturnus vulgaris* **Drudwy**
**Very Abundant** bred from 1946, peaking at 53 pairs in the 1960s, with the last known pair in 2006
15 trapped
1937-1976: 1082 trapped, 2013-2020: 87 trapped

Up to 36 were noted during the last three days of February, including at least two again roosting under the eaves of the Wheelhouse. Daily March sightings to the 26th included highs of 56 on the 1st and 6th, 60 on the 5th and 54 on the 7th, but no more than 18 from the 15th; the peak daycount was down on a 2013-2020 March mean of 74.9, a high during that period of 192 in 2018 and all-time highs of 1500 in 1947 and 1000 in 1960, whilst a bird-days total of 596 was down on 31 previous Marches, including a recent high of 2151 in 2018 and all-time highs of 2360 in 1947, 4131 in 1958 and 2283 in 1964. A male sang at the Farm on the 2nd and 4th April, however singles on the 3rd, 7th, 23rd and 29th were the only other sightings, a bird-days total of six being down on a 2013-2020 mean of 29.9 and a high during that period of 113 in 2018. There was no May Starling for the first time since 2015; the only other years since the War without a May record are 2004, 2009 and 2012. Following an adult on the 18th and three on the 22nd, there were daily June sightings from the 24th, including an arrival of 13 on the 27th which included the first juvenile of the year, and highs of 31 on the 28th, 57 on the 29th and 60 on the 30th; the 2017-2020 first juvenile mean is 19th June, although only three juvenile plumaged birds were noted during the first three years of this period (a sad reflection of the Pembrokeshire breeding population which saw a 90% decline in numbers between 1988 and 2007 (Rees, 2012)). A June bird-days total of 171 was down on the 699 of last year but otherwise the highest since 2005, albeit well down on June highs of 1263 in 1964, 1202 in 1966 and 1461 in 1989 (the latter high including 12 dates when Starling were only listed as 'present'). Birds again remained throughout July, with daily sightings totalling 1825 bird-days, highs of 82 on the 4th and 26th, 88 on

the 23rd and 93 on the 24th, lows of 30 on the 5th, 13 on the 11th and 25 on the 30th and a peak juvenile count of 32 on the 24th; although down on last year, when a daycount of 120 took the total to 1977, both the peak July daycount and bird-days total were otherwise the highest since 2001 when a count of 350 took the total to 2205 (the July bird-days high is the 4516 of 1989, although this again includes six dates without a numerical Birdlog entry). It was suggested last year that an increase in Starling records was perhaps due to reduced disturbance during the COVID-19 pandemic, however guests were present throughout July this year (albeit in lower numbers than normal).

There were daily August sightings for the first time since 2007, with highs of 90 on the 5th and 22nd, 94 on the 9th and 87 on the 23rd which took the bird-days total to 1948; since 2010, the only August totals of more than four have been 99 in 2013, 217 in 2017 and 1481 last year, this year's tally being the highest since 2001 (when two daycounts of 250 took the total to 1953). Daily September sightings to the 16th included highs of 31 on the 1st, 34 on the 2nd and 37 on the 5th, but no more than 26 from the 6th and only a single on the latter date; although a bird-days total of 346 was well up on a recent high of 46 in 2013 and was the highest tally since 546 in 2006, September daycounts were in three-figures as recently as 2000 and bird-day totals were in four-figures up until 1999. Following a single on the 9th, there were October sightings on all but two dates from the 11th, lows of four or less on ten dates, but highs of 140 on the 13th, 37 on the 25th and 39 on the 30th which took the total to 332; the 2013-2020 October bird-days mean is 833.5, the high during that period was 2846 in 2018 and a record 6936 were logged in 1990 (when the birds present were not counted on six dates, but daycounts peaked at 1500). Numbers increased significantly in November, with daily counts (only three of which were not in at least three-figures), 17 daycounts of more than 400 and highs of at least 5204 on the 4th, 852 on the 5th, 972 on the 15th, 844 on the 16th and 755 on the 22nd which took the bird-days total to an unprecedented 18,894; the peak daycount was the second highest to be recorded in any month, only down on the 10,000 logged on 6th November 1970. Daily December counts to the departure of staff on the 5th peaked at 228 on the 3rd and totalled 829 bird-days.

**Blackbird** *Turdus merula* **Mwyalchen**

**Common Visitor and Uncommon Breeder** peaking at nine pairs in 1990 but recently seven or less
91 trapped, 42 retrapped
1934-1976: 1750 trapped, 2010-2020: 608 trapped (including 16 pulli), 388 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, it would seem likely that six first-winter females and an adult male ringed between 6th March and 26th April (but not encountered thereafter) were passage birds. Of 13 known to have survived from previous years, three males and three females survived their first winters, a male and two females ringed as juveniles in 2019 and a female ringed as a first-summer in 2020 survived their second winters, a male and a female ringed as juveniles in 2016 survived their fifth winters and LH16008, ringed as a first-summer female on 26th March 2013 and last retrapped on 18th April 2021, survived a ninth winter; the latter has had a ring for eight years, 24 days, this still somewhat short of a British longevity record of 15 years, two months and five days. Interestingly the male ringed on 5th June 2016 has consistently proven to be unusually small, with a wing length of up to 126mm and weights ranging between 70.0g and 78.6g (all below what is normally expected for breeding males of this species). There were nine breeding territories mapped, this two more than in 2015, 2016 and 2020 and matching the 1990 tally as the highest to date; as was the case last year, pairs bred near the Wheelhouse, the Cottage, the Well, Orchid Bog, Boundary Hill and South Pond, with additional pairs around East Bog, to the west of South Pond and between the Hills and North Pond. The first fledglings emerged from the solar panel housing of the Well Water Tank on 24th April, these 22 days earlier than the 2013-2020 first fledgling mean and the earliest of the last decade (the earliest during this period were on 7th May 2017). The East Bog male was collecting dropped Puffling food near the Anticline on 17th June (below photograph) and the Boundary Hill male was seemingly looking to do likewise in Crab Bay on the 28th (however it was not seen with fish); although this has been witnessed in the past, this was the first time it has been noted for over a decade.

Productivity again proved difficult to calculate due to overlapping territories, second broods and potentially the arrival of youngsters from elsewhere, however adults were seen feeding chicks in all nine territories, 14 first brood fledglings were recorded across eight territories (only the South Pond pair seemingly failed, perhaps due to a Sparrowhawk taking an adult on 4th May) and eight second brood fledglings were recorded across five territories (the Orchid Bog pair also made a second attempt, however the North Haven nest seemingly failed at egg or early chick stage). Productivity was thus estimated at a minimum of 2.44 fledglings per pair, this down on a 2013-2020 mean of 2.74 ±se 0.28 and the lowest of the last five years (the peak during this period was the 3.67 of 2019, the lows 2.17 in 2014 and 1.29 in 2015). As was noted by Betts, Thompson and in recent reports, the number of sightings declined steeply during the period of post-breeding moult in August and September; there were monthly totals of 100 and 188 respectively (83 and 208 last year). The first unringed adult of the autumn arrived on 22nd September, this 22 days earlier than the first of last year, however a wing chord of 128mm was shorter than the 140mm of last year's first and suggested

a more local origin; a male with a 139mm wing on 14th October and a male with a 142mm wing on 21st October were the first larger birds trapped this autumn. Despite this obvious arrival of birds from elsewhere, daycount highs of 13 on the 10th, 14 on the 12th and 16 on the 13th were the lowest of the last eight Octobers and no more than four were noted each day from the 20th; an October bird-days total of 192 was the lowest since 2014, down on a 2013-2020 mean of 266.8, a high during that period of 471 last year and well down on all-time October highs of 2314 in 1964 (which included what was described in the 1964 Annual Report as an 'avalanche' of 1000 on the 18th), 1136 in 1975 and 1075 in 1993. Although ten or fewer were logged on ten November dates, daily sightings and highs of 70 on the 15th, 46 on the 16th and 41 on the 24th resulted in a bird-days total of 605, this only down on the 843 of 1939 and the 793 of 1967 (although staff were present throughout November in 1939 and 1967, this has not always been the case). Daily counts during the first five days of December peaked at 24 on the 3rd and tallied 65 bird-days.

**Ring Ouzel** *Turdus torquatus* **Mwyalchen y Mynydd**
**Scarce** previously Uncommon and more regular in spring
**Earliest** 15th March 1955 (18th April 2021) **Latest** 21st November 1989
1 trapped
1934-1976: 52 trapped, 2015: 2 trapped, 3 retrapped

A first-winter female trapped in the Well 9 Net on 18th April was later seen at Spy Rock; there have been 403 earlier bird-days, including 120 in March. An unringed bird was at Migration Rocks on 20th April and two on the 26th headed west then east, high over Twinlet; a peak spring daycount of two matched that logged in three years since the four of 2012 (there were all-time highs of ten in 1967, six in 1971 and 1973 and eight in 1974), whilst an April bird-days total of four was the fourth highest this century (albeit down on 34 previous April tallies, a recent high of 18 in 2015 and all-time highs of 24 in 1956 and 1967, 23 in 1964 and 27 in 1971). There have now been spring records in 74 years totalling 639 bird-days, this including just 84 bird-days in 14 springs this century, whilst autumn records in 50 years total 216 bird-days and include just 22 bird-days in nine autumns this century; the autumn total was not added to this year. The decline in 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).

**Fieldfare** *Turdus pilaris* **Socan Eira**
**Uncommon Winter Visitor** listed as Fairly Common by both Betts and Thompson
**Earliest** 14th September 1977 (5th November 2021) **Latest** 13th June 1980 (23rd March 2021)
1 trapped
1940-1976: 8 trapped, 2016-2020: 4 trapped

Singles at the Dip on 18th March and at the West Knoll on 23rd March were the only spring records; there have now been 1307 bird-days logged between March and June inclusive, all in 68 years and with daycount highs of 38 in 1947, 250 in 1965 and 20 in 1974 (but with only 115 bird-days across 11 years this century). Three on 5th November were the first of the autumn, this the latest arrival of the last nine years and 19 days later than the 2013-2020 first of autumn mean (three on 11th October 2013 and one on the same date in 2014 were the earliest during this period, whilst three on 28th October 2017 were the latest). Indeed there have been October records in 51 years totalling 2300 bird-days, with daycount highs of 85 in 1961, 300 in 1971 and 105 in 2004, but only 143 bird-days since 2010. There followed November singles on the 6th and 8th, highs of 14 on the 14th and six the following day and further singles on five dates to the 23rd which took the bird-days total to 30; the 2013-2020 November bird-days mean is 38.0 and the all-time highs are 332 in 1967, 143 in 1968 and 146 in 2015. There were no Fieldfare seen between 24th November and 5th December.

**Redwing** *Turdus iliacus* **Coch Dan-aden**
**Common Winter Visitor**
**Earliest** 20th September 2001 (13th October 2021) **Latest** 18th June 1979 (23rd March 2021)
41 trapped
1936-1976: 156 trapped, 2013-2020: 147 trapped, 8 retrapped

Following singles on the 5th and 6th, there were March sightings on six further dates between the 16th and 23rd which included a high of three on the 18th and one singing on the 19th; a March bird-days total of 12 was down on a 2013-2020 mean of 51.5, although this period included a 'Beast from the East' generated high of 258 in 2018. There were no April sightings for the first time in nine years; April records in 50 years total 282 bird-days, with 112 of these logged since 2013. A minimum of 233 on 13th October included 28 birds trapped and ringed, 23 of which were adults; there have been earlier autumn records in seven of the last eight years, with the 2013-2020 first of autumn mean being 8th October, the earliest during this period arriving on 28th September last year and the latest on 18th October 2017. Sightings on 14 further October dates included highs of 58 on the 14th, 45 on

the 21st and 12 on the 28th and 29th which took the bird-days total to 398; there have been higher October daycounts in just five years, including peaks of 400 in 1958, 350 in 1973 and 1124 grounded by thick fog on the 26th in 2017, but higher October totals in 12 years, with highs of 1077 in 1958, 1781 in 1973 and 1214 in 2017. Although there were ten or fewer on ten dates, it proved a record November, with daily sightings, ten daycounts of 30 or more and highs of 108 on the 3rd, 233 on the 14th, 114 on the 15th and 111 on the 16th which led to a bird-days total to 1016; the previous November daycount highs were 150 in 1968, 100 in 1976 and 200 in 1994, whilst the previous bird-day highs were 343 in 1967 (when staff were present throughout), 915 in 1968 (when staff departed on the 18th) and 379 in 1994 (when staff departed on the 20th). There were December sightings of 14 on the 2nd, five on the 3rd and 4th and two on the 5th.

**Song Thrush** *Turdus philomelos* **Bronfraith**
**Common Visitor** breeding has not been recorded but some return in successive winters
30 trapped, 3 retrapped
1934-1976: 447 trapped, 2013-2020: 336 trapped, 28 retrapped

Following singles on the 26th and 27th and two on 28th February, there were no further sightings until 7th March when at least three were present. A single trapped in the Well Heligoland on the 21st was the only other March record, a bird-days total of four being the lowest since 2012, down on a 2013-2020 mean of 35.0, a high during that period of 104 in 2018 (which included a daycount of 37) and all-time highs of 249 in 1940, 212 in 1962 and 961 in 1965 (which included a daycount of 350). Singles on the 2nd and 3rd, two on the 14th and one on the 23rd took the April total to five; there have been 11 higher April tallies, including a record 34 in 2015. A juvenile trapped in the Well Heligoland on 26th May was still present the following day and took the all-time May bird-days total to 47; although Song Thrush have never bred on Skokholm, this bird was yet to begin its post-juvenile moult and had seemingly not travelled far. The only June sighting was of a juvenile at Isthmian Heath on the 27th, this the 45th bird-day to be recorded in this month. There was no July record for the fifth time in nine years, no August record for the third time in nine years and no September record for the fourth time in nine years. There were daily October sightings following a single on the 10th, with highs of eight on the 13th, seven on the 17th, 18th and 27th and nine on the 25th and 28th taking the total to 95; the peak October daycount was the lowest since 2012, down on a 2013-2020 mean of 46.8 and all-time highs of 100 in 1939, 1964 and 1966 and 142 in 2017, whilst the bird-days total was the second lowest of the last nine years, down on a 2013-2020 mean of 178.5 and all-time highs of

698 in 1966, 577 in 1975, 488 in 1976 and 962 in 1993. Daily November sightings tallied 663 bird-days and included highs of 51 on the 14th, 50 on the 24th and 39 on the 29th; the peak daycount almost matched a 2013-2020 mean of 53.8 (there was a high of 62 in 2013, 2014 and 2018 and a low of 31 last year), whilst the tally was only down on the 788 of 2019 (although staff are often absent for some of November). Daily December sightings to the departure of staff on the 5th peaked at 46 on the 3rd (the December daycount record is the 400 noted by Lockley in 1927). Ringing has shown that a small number of birds return to Skokholm in successive winters (although their breeding grounds remain unknown); this was again the case this year, with three ringed as juveniles between 13th October and 27th November 2020 retrapped between 13th November and 2nd December this year after a summer away from the Island.

**Spotted Flycatcher** *Muscicapa striata* **Gwybedog Mannog**
**Fairly Common Passage Migrant**
**Earliest** 19th April 1966 (8th May 2021) **Latest** 23rd October 1968 and 2001 (**23rd October 2021**)
53 trapped, 3 retrapped
1934-1976: 1619 trapped, 2010-2020: 263 trapped, 13 retrapped

Four on 8th May arrived on the same date as the firsts of 2013, 2014 and 2019, but were one day later than the first two of last year and three days later than the 2013-2020 mean (the earliest during this period were logged on 30th April in 2015 and 2018, the latest on 8th May); there have been 211 earlier bird-days, including 34 in April. Sightings on a further 11 May dates, including highs of ten on the 28th, eight on the 29th and five on the 30th, took the bird-days total to 43; the peak May daycount was down on that logged in 21 previous years (including three of the last eight and highs of 40 in 1958, 30 in 1959 and 35 in 1982), whilst the total was down on a 2013-2020 May mean of 48.1, a high during that period of 72 in 2016 and 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 1st, three on the 2nd, one ringed on the 9th and an unringed bird on the 11th; a bird-days total of six was one down on last June, down on a 2013-2020 June mean of 13.5 and down on all-time highs of 29 in 1971, 1977 and 1991, 35 in 2015 and 23 in 2019. None of the 25 birds ringed in spring were encountered on a later date.

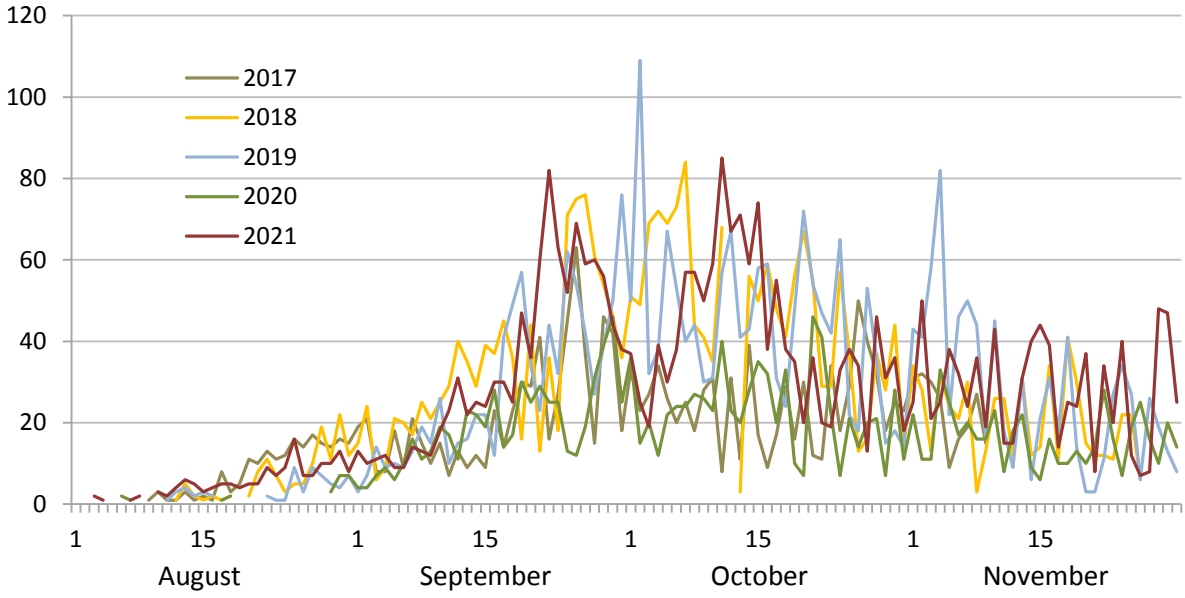
One at the Well on the 25th was the 81st bird-day to be logged in July, 11 of which have been this century and just two of which have been this decade. There were no further records until 14th August when two were logged, these followed by August sightings on seven further dates between

the 22nd and 28th which peaked at ten on the 24th, seven on the 25th and six on the 26th; although down on the 17 of last year, there have only been higher daycounts in 16 Augusts (40 in 1964 is the maximum), whilst a bird-days total of 33 was up on a 2013-2020 mean of 19.0 and the 19th highest to date (albeit well down on peaks of 87 in 1964, 85 in 1971 and 80 in 1976). Daycounts on 15 September dates to the 22nd were all of three or less bar five on the 5th, six on the 7th, 8th and 18th and 21 on the 10th; the latter matched a daycount in September 2004 as the highest in any month since 35 in May 1982 (25 in 1951, 1952 and 1969 and 30 in 1969 are the only higher September daycounts). A September bird-days total of 61 was down on six previous years and highs of 166 in 1969, 68 in 2002 and 91 in 2013. A juvenile trapped in the Wheelhouse Heligoland on 10th October was still present the following day and a juvenile to the north of the Wheelhouse on the 23rd was the 98th bird-day to be logged in this month; the latter matched singles present from the 22nd to the 23rd in 1968 and 2001 as the latest Skokholm record. Of 28 ringed during the autumn, only two were known to linger, with one present between the 5th and 10th September along with the October bird.

**Robin** *Erithacus rubecula* **Robin Goch**
**Abundant Winter Visitor and Passage Migrant** bred in 1939, 1940 and 1980
101 trapped, 102 retrapped
1934-1976: 956 trapped, 2010-2020: 782 trapped, 654 retrapped, 3 controls

Daily sightings during the last three days of February included eight on the 28th which would be the highest daycount of the spring. Robin were also logged on each March date to the 25th, with no more than a single from the 21st, but highs of five on four dates to the 20th and six on the 8th and 15th which took the bird-days total to 79; there have been higher March daycounts in 16 years, including seven of the last eight and with highs of 16 in 2003 and 15 in 2016, and higher March totals in seven years, with peaks of 153 in 2003, 146 in 2013 and 198 in 2016. There were four birds encountered between 28th February and 20th March which had been ringed as juveniles between 11th September and 4th October 2020 and had almost certainly overwintered. At least seven individuals accounted for sightings of up to three birds on 21 dates between the 1st and 30th April; a total of 25 bird-days was down on eight previous Aprils, including all-time highs of 54 in 2013 and 132 in 2015 (when daycounts peaked at 17). One on 1st May had been ringed on 24th April, whilst a post-breeding female on the 30th was the last of the spring and the 71st May bird-day this century.

**The number of Robin recorded on each autumn day between 2017 and 2021.**




There were no further sightings until 3rd August when two arrived, these seven days later than the first of last autumn. There followed singles on the 4th and 7th, two on the 8th and daily sightings from

the 10th which peaked at 16 on the 25th, ten on the 28th and 29th and 13 on the 30th and took the August bird-days total to 153; the peak daycount almost matched a 2013-2020 August mean of 17.6 (the August highs are 40 in 1993, 35 in 2015 and 25 in 2016), whilst the total was only down on the 198 of 1992, the 197 of 1993 and the 193 of 2015 and 2017. Daily September sightings totalled 997 bird-days and included ten daycounts from the 19th of 40 or more and highs of 82 on the 22nd, 63 on the 23rd and 69 on the 25th; there have only been three higher September tallies, all logged since 2014 and including a peak of 1649 in that year, 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). Nevertheless there have only been higher September daycounts in five years, with highs of 100 in 1993 and 1995, 150 in 1994 and 128 in 2014. Numbers again peaked in October, with highs of 85 on the 11th, 71 on the 13th and 74 on the 15th, but no more than 46 from the 18th; a bird-days total of 1277 was up on a 2013-2020 mean of 1181.1, albeit being down on four of those years (there was a high of 1638 in 2014), whilst the peak daycount was down on that logged in five previous Octobers, including highs of 150 in 1994, 118 in 2014 and 109 in 2019. Daily November sightings tallied 846 bird-days and included calm day highs of 50 on the 2nd, 48 on the 28th and 47 on the 29th; although the total was a new November record, up on the 813 of 2019, the same peak daycount has been logged in six years since 1988 and there have been five years with higher daycounts (including peaks of 70 in 1995, 91 in 2015 and 82 in 2019). Daily counts during the first five days of December peaked at 26 on the 3rd, this down on the high logged in four previous years. Four birds handled during the autumn had been encountered on Skokholm previously; all four had been ringed between 9th September and 1st October 2020 and all returned between 16th September and 11th October for a second winter. Of an additional 93 Robin ringed during the autumn, at least 28 lingered, with four present between one and three days later, seven between four and eight days later, five between 11 and 16 days later, five between 17 and 35 days later, five between 55 and 68 days later and singles present for a further 80 and 84 days.

**Nightingale** *Luscinia megarhynchos* **Eos**
**Rare Migrant** with seven spring and 13 autumn birds accounting for 37 bird-days
**Earliest** 16th April 1995 (30th April 2021) **Latest** 18th September 1955 and 1974
1 trapped
1951-1970: 5 trapped, 2015: 1 trapped

A bird found in the Wheelhouse Heligoland on 30th April was the first since one trapped in the same place on 27th April 2015; this was the eighth spring record and 21st record for Skokholm (GE *et al*.).

A review of Nightingale records for the new Birds of Wales book considered one day singles in April 1982, April and September 1987 and May 2012 to be no longer acceptable (Pritchard *et al*., 2021), whilst a May 1993 record included in the book is not in the Skokholm Log or the report for that year and should also be removed. There have thus now been 21 Skokholm birds, with eight present on one day between 16th April and 2nd June in eight years since 1951, 12 (eight of which lingered for up to 11 days) present between 14th August and 18th September in eight years from 1955 to 1991 and one found dead on 30th September 1976 considered different to that present on 26th August 1976.

**Red-flanked Bluetail** *Tarsiger cyanurus* **Cynffonlas Ystlysgoch**
**Vagrant** no previous records
1 trapped

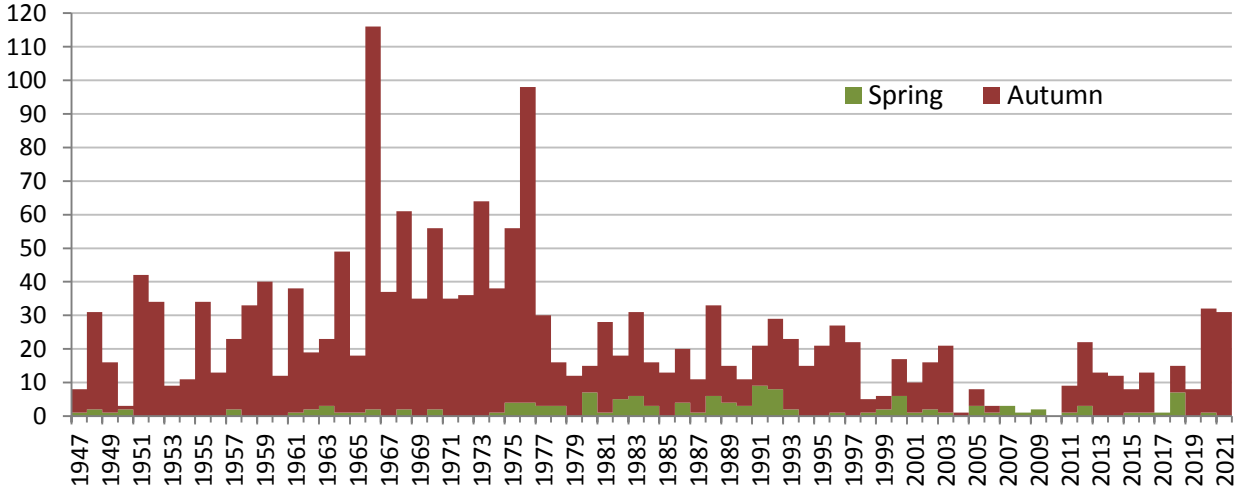
A first-winter taken from the Wheelhouse Net on an unusually warm and calm 11th October was a much anticipated addition to the Skokholm list (JMH, RD *et al*.); it could not be found the next day following a night of light northerlies and limited cloud cover. Although the majority breed in the boreal forests of northern Russia and Siberia, an expanding population in northeast Finland is perhaps responsible for an upturn in British records which has seen the total increase from ten by the end of 1984 to 216 by the end of 2019 (White and Kehoe, 2021). There have been five previous Welsh records, with the first on 1st October 2007 and one on Skomer Island on 25th October 2010 the only other Pembrokeshire sighting (Pritchard *et al*., 2021).

**Pied Flycatcher** *Ficedula hypoleuca* **Gwybedog Brith**
**Uncommon Migrant** more frequent in autumn and sometimes absent in spring
**Earliest** 10th April 1993 (22nd July 2021) **Latest** 17th October 1988 (11th October 2021)
7 trapped, 5 retrapped
1934-1976: 385 trapped, 2011-2020: 47 trapped, 4 retrapped, 1 control

There were no spring birds for the fourth time in ten years and for the sixth time this century; this species has nearly always proven scarce in spring, with 35 of 141 spring bird-days logged this century and all-time highs of seven in 1980 and 2018, nine in 1991 and eight in 1992. One on the cliff at North Gully on 22nd July was thus the first of the year, this 25 days earlier than the 2013-2020 first of autumn mean and only the second to be found in this month following one on the 24th in 1994 (JMH

*et al*.). There were no further sightings until 24th August when an adult was trapped in the Cottage Heligoland, this followed by six on the 25th (including four juveniles ringed) and three on the 26th (a retrap juvenile had increased from 11.6g to 12.5g and two ringed birds were seen in the field); an August bird-days total of ten was down on the 25 of last year, but up on a 2013-2020 mean of 6.1 and the 26th highest to date (the peaks are 86 in 1966, 47 in 1968 and 79 in 1976). Sightings on seven September dates to the 10th included highs of three on the 3rd, 4th and 5th, with one ringed on the latter date not seen thereafter; a September bird-days total of 14 matched that of 1993 and 1976 as the 19th highest to date (13 higher totals were logged between 1958 and 1974, whilst the peaks are 41 in 1951, 33 in 1959 and 34 in 1961). A first-winter trapped in the Wheelhouse Heligoland on 6th October lingered until the 11th, during which time it increased from 13.5g to 14.8g; there have been six later bird-days logged in four years, the most recent of which was in 1993. A total of 31 autumn bird-days matched that of last year as the highest since 1976, but was down on 18 previous totals recorded between 1951 and 1976 which include highs of 114 in 1966, 64 in 1973 and 94 in 1976.

**The total number of spring and autumn Pied Flycatcher bird-days logged between 1947 and 2021.**




**Black Redstart** *Phoenicurus ochruros* **Tingoch Ddu**
**Uncommon Migrant** has probably overwintered on occasion
4 trapped, 1 retrapped
1934-1976: 105 trapped, 2013-2020: 19 trapped, 4 retrapped

One trapped in the Wheelhouse Heligoland on 21st March was four days earlier than the first of last

year, but five days later than the 2013-2020 first of spring mean (the earliest during this period was logged on 9th March 2013 and the latest last year). A different bird was present on the 23rd, this followed by daily sightings to the 30th which peaked at seven on the 24th, five on the 26th and four on the 27th and 28th (a first-winter trapped in the Wheelhouse Heligoland on the 24th had increased from 14.7g to 16.5g when retrapped in the same trap on the 28th); there have only been higher March daycounts in three years, with peaks of 50 in 1948, 30 in 1949 and ten in 1995, whilst a bird-days total of 28 was only down on the 241 of 1948, the 101 of 1949, the 39 of 1983 and the 56 of 1995. The only April records were of singles on the 3rd, 8th, 10th and 30th, the bird-days total close to a 2013-2020 mean of 4.8 but down on 26 previous Aprils (there were highs of 32 in 1949 and 24 in 1958, whilst the 21st century high is the 11 of 2001 and 2018). The bird seen around the Farm on the last day of April was probably the first-summer ringed on 1st May which was still at the Lime Kiln on the 2nd, this taking the all-time May bird-days total to 71 (20 of which have been since 2013, with 2016 the only year during this period without a May record). One at the Lighthouse on the 22nd and 23rd took the all-time June total to 17, seven of which have been logged in four years since 2013.

A first-winter in the Wheelhouse Net on 8th October was around the Farm on each date to the 11th and was probably the ringed bird present in North Gully on the 12th; there have been singles in six Julys (with four since 2011), up to two bird-days in the Augusts of 1973 and 2003 and ten September bird-days across six years between 1964 and 2001, whilst ten earlier October bird-days were all in four years between 1933 and 1994 (between 2014 and 2020 the first October bird was logged between the 14th and 28th). One at the Lighthouse on the 15th was the only other October sighting, a bird-days total of six being close to a 2013-2020 mean of 5.4 but down on 25 previous years (the highs are 243 in 1968, 92 in 1975 and 86 in 1988, although there have only been six further totals of more than 20). November saw sightings on five dates between the 10th and 16th, with a high of two on the 10th and 15th; a bird-days total of seven matched a 2013-2020 mean of 7.1 but was down on 12 previous tallies, including three since 2014 of up to 12 and highs of 38 in 1968 and 1992.

**Redstart** *Phoenicurus phoenicurus* **Tingoch**
**Uncommon Migrant**
**Earliest** 1st April 1991 (15th April 2021) **Latest** 2nd November 1968 (25th August 2021)
2 trapped
1935-1976: 393 trapped, 2013-2020: 46 trapped, 4 retrapped

Different males at Boundary Hill and the Bluffs on 15th April were two days later than the first of last year and four days later than the 2013-2020 first bird mean (the earliest during this period was

logged on the 2nd in 2019 and the latest on the 22nd in 2017); there have been 81 bird-days earlier than the first of this year. A male at the Dents on the morning of the 24th was probably the bird found at Twinlet that evening, this taking the April bird-days total to three; although the tally matched that of last April and was close to a 2013-2020 mean of 4.5, it was down on 33 previous Aprils, a 21st century high of eight in 2014 and all-time highs of 51 in 1966 and 14 in 1976. The only May sightings were of different females around the Cottage on the 10th and 15th; these took the spring bird-days total to five, this matching that of last year but down on a 2013-2020 mean of 7.5, a high during that period of 13 in 2015 and all-time highs of 26 in 1964, 1967 and 1988, 55 in 1966 and 36 in 1991. A smart first-winter male trapped in the Well 6 Net on 25th August was the earliest autumn sighting since one on the 22nd in 2013 and was 21 days earlier than the 2013-2020 first of autumn mean; there have been 47 earlier autumn bird-days, including five in July. There were no further sightings, a lone autumn bird-day being down on a 2013-2020 mean of 5.4 and a high during that period of ten last year; although never common, this species was, as noted for that other denizen of Welsh woodland the Pied Flycatcher, more regular in the past, with autumn highs of 55 in 1966, 43 in 1968 and 39 in 1988 (the latter including 20 on 21st September which remains one of only two double-figure daycounts, the other being of 11 on 10th May 1993).

**Whinchat** *Saxicola rubetra* **Crec yr Eithin**
**Uncommon Migrant** previously Fairly Common
**Earliest** 8th April 1997 (27th April 2021) **Latest** 2nd November 2014 (23rd September 2021)
1 trapped
1936-1976: 326 trapped, 2013-2020: 19 trapped, 4 retrapped

A male trapped in the Well Heligoland on 27th April was five days earlier than the 2013-2020 first bird mean; there have been 88 earlier bird-days, with males from the 22nd in 2015 and the 24th in 2017 the only earlier birds this century. There were no further spring sightings, this becoming only the second year of the last nine without a May record. A lone spring bird-day was the second lowest total of the last nine years, down on a 2013-2020 mean of 4.3 and a high during that period of 13 in 2017. Double-figure spring totals were previously the norm, with 43 such tallies between 1937 and 2002, eight of which were of 25 or more including highs of 35 in 1967, 44 in 1980 and 1991 and 43 in 1989 (there were maximum spring daycounts of seven logged in the Mays of 1960 and 1989). One at the Table on 27th August was 12 days later than the first of last autumn and four days later than the 2013-2020 first of autumn mean (the earliest during this period arrived on the 12th in 2017, the

latest on 4th September 2014). Three on the 29th and 30th and two on the 31st took the August total to nine, this the highest since the 12 of 1993 but only the 15th highest to date (there were peaks of 38 in 1971, 48 in 1976 and 39 in 1983). September saw daily sightings to the 7th, with highs of five on the 2nd and 3rd and six on the 7th, daily sightings from the 10th to the 13th, with a high of four on the 10th, two on the 16th and a single on the 23rd which took the bird-days total to 36 (the 2013-2020 September bird-days mean is 19.0, with 48 in 2014 the only tally up on that of this year); there have been higher daycounts in 12 Septembers, with peaks of 17 in 1958, 40 in 1968 (the all-time daycount record) and 20 in 1992, and higher bird-days totals in 20 Septembers, with peaks of 88 in 1956, 114 in 1968 and 91 in 1969 and 1971. There were no October birds for the first time since 2012; there have been 751 later autumn bird-days, including 364 in October, one in November and 107 since 2013. An autumn bird-days total of 45 was nevertheless up on a 2013-2020 mean of 28.5 (63 in 2014 was the only higher tally during this period), albeit being down on 24 previous years and highs of 128 in 1968, 145 in 1971, 119 in 1976 and 104 in 1989.

**Stonechat** *Saxicola rubicola* **Clochdar y Cerrig**
**Fairly Common** bred in 1928 and 1932
23 trapped, 1 retrapped
1934-1976: 340 trapped, 2013-2020: 113 trapped, 11 retrapped

At least three were present during the last three days of February, three females were logged on the 1st and 2nd March and a ringed male singing at South Pond on 5th March was accompanied by two females, one of which was ringed. The two ringed birds remained at South Pond throughout the month, with the male heard singing on four dates, whilst the only others logged during March were a pair at the Well on the 17th and a female on the 22nd which was eaten by a Sparrowhawk; a March bird-days total of 36 was down on three of the last six years, this despite the presence of the lingering pair and indicative of a lack of passage birds. A female with a deformed bill seen around the Farm each day between the 6th and 8th was the only April Stonechat in addition to the South Pond pair and a scarcity in this month; there have only been Stonechat logged in five previous Aprils this century, including four since 2015. The pair were provisioning chicks and removing faecal sacs from a nest in dead Bracken to the south of South Pond on 23rd April, this close to the site used in 1932 and just the third time that breeding has been confirmed on Skokholm. Food deliveries were noted regularly thereafter and a fledgling was seen on 7th May when the male was again singing. The fledgling, which was still being fed until 19th May, was seen feeding itself on the 24th and departed South Pond for the Well at some point between the 5th and 6th June; there was no indication that it

had siblings. The male was again collecting food from 14th June and second brood fledglings were out of the nest by the 24th, however it was not until 3rd July that four fledglings were confirmed. The four young were still present on the 9th, however the male was regularly chasing them from the 10th, after which they were more dispersed. The male was again collecting food from 23rd July, however it was unclear if this was for third brood chicks until the female was seen with a faecal sac on the 28th. At least one third brood fledgling was out of the nest on 10th August, however it was not until the 19th that four were confirmed. The first Skokholm breeding attempt in 89 years was a successful one, with a minimum of nine young fledged. It was possible to identify the two breeding birds from photographs; the female was ATJ2098, which had been trapped in the Well 9 Net as a first-winter on 19th September 2019 and retrapped at North Pond on 29th September 2020, whilst the male was AKL5024, which had been trapped as a first-winter in the Library Net on 29th September 2020.

An unringed juvenile along the Well Stream on 6th July was the first mainland youngster of the year, this 27 days later than the first mainland juvenile of last year and nine days later than the 2013-2020 mean; although it is possible that a mainland juvenile may have been missed among the dispersing Skokholm young, there have been later arrivals in two of the last eight years. Unsurprisingly a July bird-days total of 115 and an August bird-days total of 120 were both massively up on those logged previously (there was a July high of 16 and an August high of 20, both logged last year), however a September bird-days total of 137 was only 27 up on last year's tally (albeit well up on a 2013-2020 mean of 52.6). October daycount highs of 14 on the 9th, 18 on the 10th and 12 on the 11th were the only autumn counts in excess of the 11 Skokholm birds, the peak matching that of September 1957, October 1961 and October 1975 as the second highest to date, only down on the 25 of 10th October 1961. Nevertheless there were no more than seven logged on each date from the 12th, this leading to an October bird-days total of 156 (the 2013-2020 mean is 111.9); despite the presence of the Skokholm breeders and young this year, there were more October bird-days in both 2014 and 2016 (163 and 185 respectively). Birds were seen on 18 November dates, with the breeding pair still present in the vicinity of South Pond (albeit encountered infrequently) and highs of six on the 2nd, five on the 4th, four on the 7th and three on five dates between the 13th and 30th which took the bird-days total to 47; the 2013-2020 November bird-days mean is 47.1 and the all-time highs are 61 in 2001, 83 in 2014, 71 in 2016 and 50 in 2015 and 2019. The only December observations were of the ringed pair at South Pond on the 2nd and one heard there on the 3rd.

**Wheatear** *Oenanthe oenanthe* **Tinwen y Garn**

**Abundant Migrant and Uncommon Breeder**

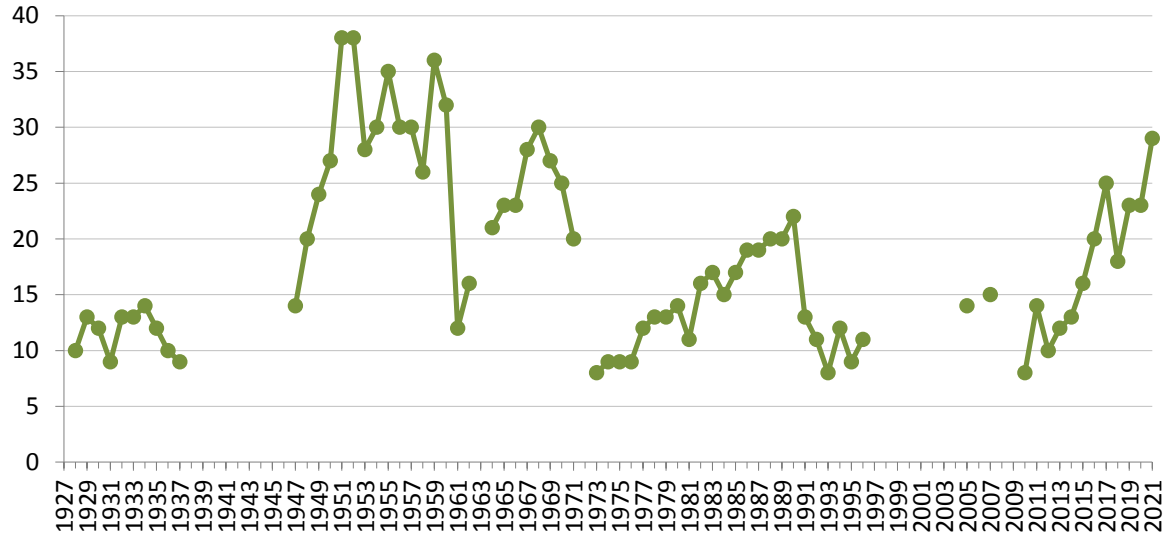
**Earliest** 2nd March 2003 (4th March 2021) **Latest** 13th November 1999 (19th October 2021)

130 trapped (including 36 pulli), 71 retrapped/resighted

1934-1976: 3636 trapped, 2011-2020: 422 trapped (inc. 6 pulli), 267 retrapped/resighted, 1 control

An unringed male entering at least its second summer was in Gull Field on 4th March, this eight days earlier than the 2013-2020 first bird mean (the extremes during this period were 5th March 2013 and 18th March 2019); a male on the 2nd in 2003 is the only earlier sighting. What was perhaps the same bird was on Home Meadow the following day, however there were no further records until the 18th when four were logged. There followed daily March sightings, with the first ringed bird logged on the 20th (the 2017 hatched male A89) and highs of eight on the 25th, 37 on the 30th and 29 on the 31st which took the tally to 112; although up on a 2013-2020 mean of 21.0 and the highest since 1989, there have been higher March daycounts in nine years including peaks of 200 in 1930, 110 in 1949 and 150 in 1958, whilst the bird-days total was down on a 2013-2020 mean of 142.4 and that logged in 21 previous Marches (there were highs of 303 in 1949 and 320 in 1950). Although daycounts were otherwise of 49 or less, there were April highs of 71 on the 14th, 69 on the 22nd and 122 on the 25th which took the bird-days total to 1137, this up on a 2013-2020 mean of 789.9 (1197 in 2015 was the only higher total during that period); there have been higher daycounts in six Aprils, with all-time highs of 1200 in 1938, 250 in 1954, 165 in 1999 and 151 in 2016. The majority of early migrants were nominate birds, with the first Greenland-types noted on 3rd April, ten days earlier than the first of last year. There followed 181 *O. o. leucorhoa* bird-days logged over 29 dates between 11th April and 28th May, with highs of 15 on the 14th, 16 on the 22nd and 80 on 25th April; numbers peaked at 49 on 13th April last year, with 126 on 20th April 2016 the last higher spring daycount.

**The number of Wheatear breeding territories located each year 1927-2021 (where data exists).**




Survey work during the spring revealed 29 breeding pairs (all of which were colour ringed by 26th April), this six more than mapped last year and a total up on the 1928-2020 mean (18.11 ±sd 8.03); there have been more territories located in nine previous years, with the 38 of 1951 and 1952 the maximum. Birds were provisioning chicks at Wallsend and to the east of the Sugarloaf on 14th May, this three days earlier than the first of last year and the 2013-2020 mean; the latest first food delivery during this period was noted on the 22nd in 2013 and the earliest on the 13th in 2019. The first fledglings to be seen were at Wallsend on 30th May, these one day earlier than the first of last year (which were at the same site), but two days later than the 2013-2020 mean (with the latest during this period logged on 5th June 2013 and the earliest on 23rd May 2014). The increase in the number of breeding pairs, coupled with a protracted breeding season and mobile young, made an

accurate assessment of productivity impossible. There were however 84 chicks (which went on to fledge) or recent fledglings ringed before 28th July; the resulting minimum productivity figure of 2.90 fledglings per pair was up on four of the last eight years and close to a 2013-2020 mean of 3.05 ±se 0.28 (there was a high of 4.00 in 2015 and a low of 1.96 last year). Ian Beggs' study into the survival, movements and behaviour of the Skokholm Wheatears became the subject of a Masters project with the University of South Wales this year. As part of this work a camera was installed over a nest containing small chicks, this in a Storm Petrel box in the southerly section of Little Bay Wall. Three of the 40 nest boxes installed in 2019 were also occupied this year, with a pair fledging five from box 12 (to the west of North Gully), a pair fledging at least two from box 37 (south of Winter Pond) and a post-breeding check revealing that box 26 (west of the Sugarloaf) was also used (see the 2019 Annual Report for a map showing the nest box positions). Of the known age breeding birds, male A31 was the oldest; ringed as a juvenile on 22nd July 2015, it had survived six winters.

An unringed adult male on 10th July and two unringed adult females finishing their main moult on 16th July were the first arrivals from elsewhere, whilst three juveniles on 29th July were seemingly fresh in (two Skokholm siblings ringed at the Neck were together at the Lighthouse by 16th July, suggesting that young were on the move prior to this). A striking bird found near the Lighthouse on 1st August exhibited non-eumelanin schizochroism (above photograph); it was not seen again. August daycounts were all of 46 or less, with the peak counts of unringed migrants being 18 on the 10th, 11 on the 25th and ten on the 30th (although it was often impossible to see if birds were ringed); the peak August daycount was fractionally up on a 2013-2020 mean of 42.5 (there were highs during this period of 52 in 2015 and 62 in 2018), whilst a bird-days total of 891 was the highest this decade, up on a 2013-2020 mean of 648.8. Daily September sightings included nine single-figure daycounts from the 20th, but 13 counts of 30 or more including highs of 65 on the 2nd, 64 on the 3rd and 4th and 56 on the 10th which took the total to 782; there have been higher September daycounts in six years, most recently with 121 in 2013 and 123 in 2014 and with highs of 150 in 1929 and 1933 and 207 in 1951, whilst the bird-days total more than doubled a 2013-2020 mean of 366.3 and was only down on the 1078 of 1951. The last Skokholm ringed bird was seen on 6th September, this 11 days earlier than the last of 2020, but four later than the last of 2018 and three later than the last of 2019. Sightings on 14 October dates were of singles on nine, with four on the 9th the only daycount of more than two; an October bird-days total of 21 was the second lowest of the last nine years and well down on all-time highs of 239 in 1961, 262 in 1976 and 290 in 2013. A lingering *O. o. leucorhoa* near Little Bay on 19th October was the last Wheatear of the year, this eight days earlier than the last of 2020 and seven days earlier than the 2013-2020 last bird mean; the earliest last bird during this

period was on 16th October 2016 and the latest on 6th November 2015, whilst there have been 241 bird-days later than the last of this year, including 11 in November. Apparent *O. o. leucorhoa* were noted on 28 dates from 30th August, with highs, all in September, of seven on the 3rd, ten on the 4th and five on the 5th and 25th which took the autumn tally to 71 (there were 21 in 2020). Intriguingly a recently fledged bird on 19th July had a 102mm wing, an unusually long length for a British bird of this age and perhaps an indication that *O. o. leucorhoa* genes were deposited on Skokholm during the spring.

**House Sparrow** *Passer domesticus* **Aderyn y To**
**Scarce** although not recorded every year; most recently absent in 2010 and 2016
2 trapped
1955-1976: 20 trapped, 2013-2018: 6 trapped

A male on the Lighthouse and then the Table, early on the morning of the 4th, made this the sixth March with a record. It or another was again at the Lighthouse on the morning of the 17th before relocating to the Farm. The only other spring sighting was of a pair trapped in the Wheelhouse Heligoland on 20th April. Four together in the Bramble to the north of the Wheelhouse on 11th October equalled daycounts on 22nd October 1966 and 30th September 1976 as the highest to date. A total of eight 2021 bird-days matched that of 1967 and 1975 and was only down on the 11 of 1966 and 1977, the 13 of 1972 and the nine of 1976. 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 37 bird-days). May is the most productive month, with 58 bird-days (but just two since 1992), whilst October is the most productive autumn month, now with 38 bird-days (including 17 since 2011).

**Dunnock** *Prunella modularis* **Llwyd y Gwrych**
**Uncommon Winter Visitor and Irregular Scarce Breeder** formerly Uncommon with up to 12 pairs
10 trapped, 23 retrapped
1934-1976: 396 trapped, 2012-2020: 67 trapped, 101 retrapped, 1 control

A minimum of two again overwintered, with a first-winter ringed on 21st September 2020 retrapped on 28th February (this perhaps a Skokholm hatched bird, it was also present on three further dates to 13th April and on 25th November) and an adult ringed as a first-winter on 10th November 2019 retrapped on 14th April (this probably last year's breeding female which was also present on three further dates to 7th May and on 20th September). Additionally a male ringed on 31st March was

retrapped on four dates to 26th May and was present on 2nd November, whilst one ringed on 24th March was not retrapped again. There was no sign of the 2019 ringed male which bred last year, whilst birds at the Bluffs on 20th March and flying west along the South Coast on 8th April were probably additional. Four were logged on 17th March and three were noted on 17 subsequent dates to 21st April, however no more than two adults were seen thereafter. Two ringed birds were seemingly prospecting near the Cottage door on 24th March, an adult was seen with a faecal sac behind the Cottage on 1st May and chicks were first heard from a nest near the Cottage door on 26th May (in the tangle of Elder used in 2020). Given that chicks are typically in the nest for no more than 15 days (Ferguson-Lees *et al*., 2011), and that the Cottage door chicks were still in the nest until 5th June, it would seem certain that there were two breeding females around the Cottage at this time (although it is unclear how many males were present as no more than one was heard singing on any date). Two Cottage door fledglings were at the back of the Cottage on 6th June, this very close to the second female which was not known to fledge any first brood chicks. An adult with chick food on 22nd June was probably one of those provisioning chicks in a nest to the south of the Cottage on 2nd July, with the first of two fledglings trapped in the Cottage Heligoland two days later; it was unclear which female was the parent, although it is perhaps more likely to have been that which seemingly failed with its first attempt. Additional youngsters, both in post-juvenile moult, were trapped around the Farm on 26th August and 15th September, however these may have arrived from elsewhere. Thus a minimum of two females fledged at least four in 2021. 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) and last year (when one pair fledged three).

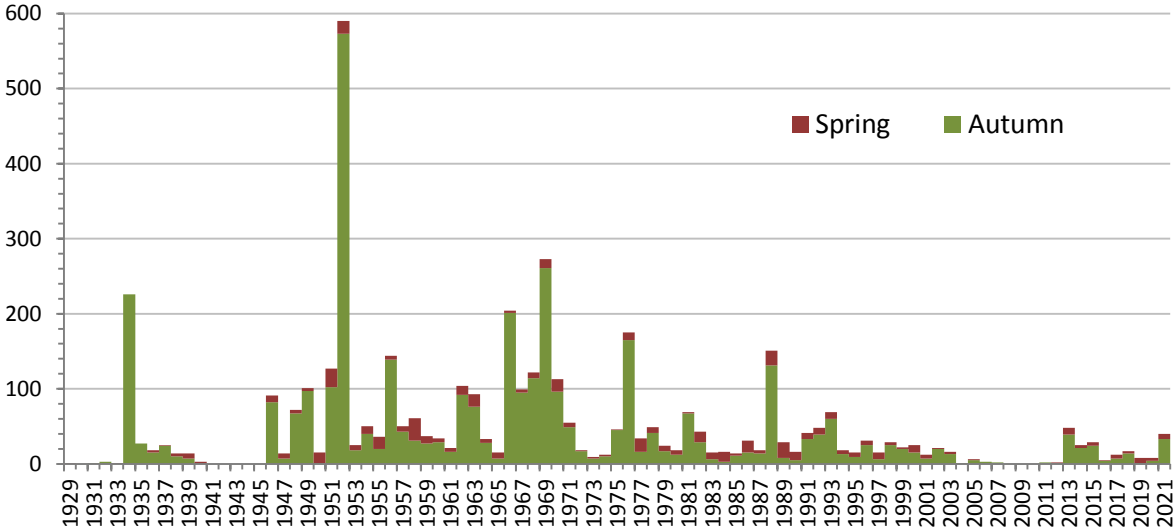
A male sang around the Farm and the Well on five dates during August, whilst birds at the Red Hut on the 10th, at East Bog from the 16th and at the Dip on the 22nd were dispersing from either the Farm or from the mainland. Dunnock became more conspicuous during September, with daily sightings and highs of five on the 1st (when two were at the Hills) and 13th (when four were together near the Gap and one was in Gull Field) and four on five dates; 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 2014 and the latest on 24th September 2018). A September bird-days total of 80 was only down on the 81 of 1931, the 145 of 1987, the 110 of 1991 and the 160 of 1994. Moulted juveniles on 20th September and 11th October were the only new birds encountered in the trapping area, whilst two of the Skokholm juveniles were present between the 3rd and 6th September. Birds were noted on all but three October dates, with highs of six on the 7th and 11th, eight on the 9th and five on four dates to the 28th, which took the bird-days total to 106; despite the fact that this was a breeding year, the peak daycount was down on a 2013-2020 mean of 9.4 (and well down on highs of 30 in 1930 and 1931 and 50 in 1994), whilst the total almost matched a 2013-2020 October mean of 102.5 (there were highs during this period of 168 in 2015 and 152 last year). Sightings on 22 November dates included a high of five on the 29th, but were otherwise of no more than three; the mean 2013-2020 maximum is 6.0 (with a high of seven in 2014 and 2018 and a low of five in 2013 and 2016). Up to two seen on each of the first five days of December were all around the Farm.

**Yellow Wagtail** *Motacilla flava* **Siglen Felen**
**Uncommon** previously Fairly Common, or Common on occasion, and more regular in autumn
**Earliest** 10th March 1966 (2nd April 2021) **Latest** 18th November 1967 (6th October 2021)
1934-1976: 81 trapped, 2013-2015: 2 trapped

A male *M. f. flavissima* at the Dip on 2nd April was 24 days earlier than the 2013-2020 first bird mean; singles on 17th March 1948 and 10th March 1966 are the only earlier records. A male *M. f. flavissima* was also present on 23rd April and an unraced bird went over on the 30th; a total of three April bird-days matched that of last year as the highest since the nine of 2000. Female *M. f. flavissima* were at North Pond on the 13th and 16th May and another female was logged on the 26th, whilst a female to

the west of Winter Pond on 6th June was probably a Blue-headed *M. f. flava* (below photograph); a 2020 review of *M. f. flava* records found 23 to be acceptable, with 17 males in spring (31 bird-days) and six in autumn (six bird-days). Seven spring bird-days matched the 2019 total as the highest since the nine of 2013, but was down on 30 previous years including a record 30 in 1958. A mobile bird around Home Meadow on 14th July was perhaps that which flew over the Top Tank the following day; there have been 55 previous July bird-days, with just two since 1990 and a high of 25 in 1976, whilst the 2013-2020 first autumn bird mean is 31st August. There were no further sightings until August, with a single near the Lighthouse on the 30th and three present the following day; although an August daycount of three matched that of 2013 as the highest this century, it was well down on peaks of 50 in 1949, 1952 and 1969 and remarkable counts of between 75 and 150 logged on four dates in 1952 (a daycount of 50 in September 1951 is the highest to be recorded outside of August). Daily September sightings between the 3rd and 15th peaked at three on the 5th and four on the 10th and 12th, a bird-days total of 26 being the highest in this month since the 48 of 1993 (albeit down on 16 September tallies, including highs of 136 in 1934, 84 in 1951 and 94 in 1956). One on North Plain on 6th October was the last of the year; there have been 47 later bird-days, including ten since 2013 and three in November. A total of 33 autumn bird-days was the highest since the 39 of 2013 and the second highest since 1993, albeit down on 25 previous years and now almost unimaginable highs of 226 in 1934, 573 in 1952 and 261 in 1969. 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.

**The total number of Yellow Wagtail bird-days logged in each spring and autumn since 1929.**




**Grey Wagtail** *Motacilla cinerea* **Siglen Lwyd**
**Uncommon Visitor** Scarce in spring but occasional double-figure daycounts in autumn
1 trapped
1938-1976: 8 trapped, 2013-2020: 3 trapped, 1 control

The first of the year patrolled the Lighthouse Compound Wall on 1st March, whilst one west over the Farm at 1400hrs on the 21st took the all-time March bird-days total to 34 (six of which have been since 2013). There have been 43 bird-days logged between 1st April and 28th June, including 11 since 2013, however there were no additions this year. One south over the Farm on the 2nd was the 16th July bird-day to date, whilst singles on the 25th and 31st and three on the 29th were the only August sightings; there have now been 155 August bird-days counted over 37 years, with 33 since 2015 and six totals up on the five of this year (including nine last year and a high of 30 in 1952). Records on 14 September dates, including highs of just four on the 2nd and 12th, tallied 28 bird-days; both the peak daycount and bird-days total were the lowest since 2012, down on respective 2013-2020 means of 8.6 and 50.3 (the all-time September bird-day highs are 63 in 1960, 110 in 2014, 56 in 2017 and 58 last year). Sightings on ten October dates included highs of four on the 10th and 16th and five on the 11th, with one ringed on the latter date presumably the ringed bird present in South Haven on the 12th; a bird-days total of 24 matched that of 2018 and was only down on the 28 of 1975, the 32 of 2015 and the 39 of 2016. November saw singles on the 2nd and 15th and two on the 7th, a bird-days total of four matching that of 2001 as the second highest to date and taking the all-time November total to 28 (there was a peak of five in 2019). An annual bird-days total of 64 was the third lowest of the last nine years and down on a 2013-2020 mean of 77.3, but nevertheless a good showing by historical standards, this 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 were record annual totals of 90 in 1960, 126 in 2014 and 83 last year.

**Pied Wagtail** *Motacilla alba* **Siglen Fraith**
***M. a. yarrellii* Scarce Breeder and Fairly Common Visitor**
**White Wagtail *M. a. alba* Common Migrant** flyovers unassigned to race are also Common
***M. a. alba* Earliest** 11th March 1997 (23rd March 2021) **Latest** 29th October 1988 (3rd October 2021)
42 trapped (including 5 pulli), 10 retrapped
1934-1976: 286 trapped, 2011-2020: 213 trapped (including 37 pulli), 95 retrapped, 3 controls

A male was around the Farm from 26th February and four more arrived on the last day of the month, whilst there were daily sightings during March; a continuous early season presence is unusual, with regular departures the norm in recent years. Although March daycount highs of ten on the 22nd and nine on the 24th and 30th were down on the 12 of last year, there have only been higher daycounts in four Marches (with 22 in 1988 and 14 in 1993 the peaks), whilst a bird-days total of 154 was a new March high and perhaps an indication that a record equalling number of pairs would go on to breed. A female White Wagtail on 23rd March was three days later than the first three of last year, but five days earlier than the 2013-2020 first bird mean; there have been 13 White Wagtail bird-days earlier than that of this year, with a male on 16th March 2016 the earliest this century. There followed further lone females on 30th March and the 3rd and 4th April, sightings of up to three birds on eight dates between 16th April and 13th May and sightings of up to two birds on four dates between 30th May and 6th June which took the spring nominate bird-days total to 22; the tally matched that of 2018 and 2020, but was down on a 2013-2020 mean of 26.5 and highs during that period of 75 in 2013 and 49 in 2016 (the only spring tallies higher than that of 2013 are the 80 of 1988 and the 122 of 1989). There were again no spring counts indicating that any *M. a. yarrellii* were present other than the Skokholm breeders.

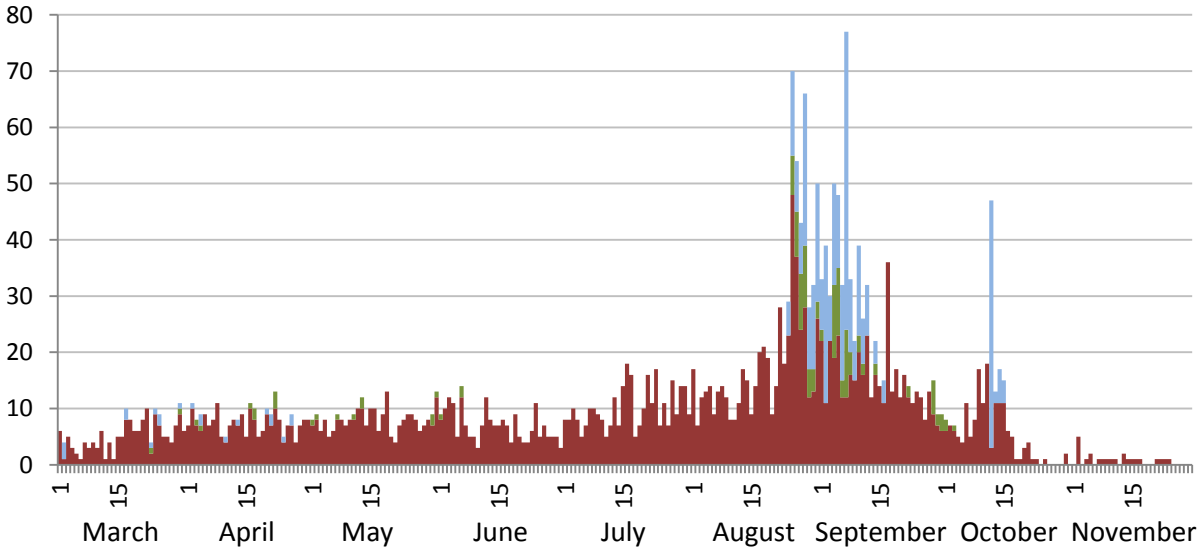
Pied Wagtail were first observed nest building on 20th April, this four days later than last year and one day later than the 2015-2020 mean. Seven breeding pairs were subsequently mapped, this

matching last year as the highest total recorded on Skokholm, 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 just two adults retrapped which had been ringed in previous years; male AJH1216, ringed as a juvenile in August 2019 and retrapped in August 2020, was retrapped on 31st March and female ATJ2281, ringed as a first-summer in April 2020, was retrapped at a different site on the same date. Additionally two first-summer females ringed in April this year were retrapped in July and presumably Skokholm breeders, whilst a male ringed on 2nd July was still present on 10th September. Chick provisioning was first noted in the Courtyard on 19th May, this 12 days later than the first food delivery witnessed last year; the five pulli present in the nest box on 24th May all went on to fledge, with at least two having departed the box on 2nd June. Three further pairs were known to fledge young, with a pair between South Haven and East Bog fledging three by 24th June, a pair between North Pond and North Gully fledging three by 26th June and a pair at Twinlet fledging at least three by 13th July. A pair in Peter's Bay were provisioning chicks on 8th June, however fledged young were not encountered, a pair in Crab Bay were not seen with chick food or fledglings and a pair in the Lighthouse Smoking Room failed twice; the latter pair lost eggs to Jackdaws in both early May and early June, the doorless opening to the Smoking Room seemingly too inviting to a predator which has also taken Swallow clutches at this site. Only the Courtyard pair seemingly attempted a second brood following the successful fledging of a first; they were mating the day after their first brood fledged and fledged at least two from a crevice in the north face of the Knoll on 27th July. A total of 16 fledglings was four up on last year, but down on tallies of between 18 and 26 logged in each year from 2016 to 2019. A 2021 productivity figure of 2.29 fledglings per pair was down on that observed in all bar one year since 2013 (the 1.71 of last year) and down on a 2013-2020 mean of 4.05 ±se 0.42 (there were highs of 5.25 in 2016 and 5.20 in 2019). An additional three youngsters in post-juvenile moult were trapped by 26th August; although these were potentially Skokholm young (which would increase the productivity estimate to 2.71), fledglings which departed the Courtyard by 3rd June had reached North Pond by the 19th and the Lighthouse by the 24th, highlighting how far youngsters can quickly disperse. It is probably no coincidence that the poorest two productivity estimates of the last nine years have been in the two years with record breeding numbers.

There were three autumn daycounts in excess of the 30 breeding *M. a. yarrellii* and their fledglings, with 48 on the 25th and 37 on 26th August and 36 on 17th September; the former was the highest August daycount since the 50 of 1969, whilst the September peak was the third highest this decade, one down on daycounts in 2016 and 2018. With the exception of 17 on the 9th and 18 on 11th October, no more than 13 *M. a. yarrellii* were logged on each date between 22nd September and 15th October, whilst counts on ten further October dates from the 16th were of no more than six (24th

October was the first autumn date without a sighting). Seven White Wagtail on 25th August were two days later than the first single of last autumn and eight days later than the 2013-2020 first of autumn mean. There were a further 110 *M. a. alba* logged during the autumn, including highs of ten on the 27th and 11 on 28th August and 13 on the 4th and 12 on the 5th and 7th September; although the peak daycount was down on a 2013-2020 mean of 20.3, the total matched a mean of 116.4 logged during the same period (there were recent highs of 199 in 2013 and 266 in 2015 and all-time highs of 1712 in 1988 and 1134 in 1991, the former including a record daycount of 200). There were an additional 320 unraced flyovers noted during August and September, with highs of 28 on the 2nd and 53 on 7th September; the total was fractionally up on a 2013-2020 mean of 312.1, but down on recent highs of 557 in 2013 and 466 in 2014. The last White Wagtail of the year was on North Plain on 3rd October; there have been 190 later bird-days, including just eight this century. Pied Wagtail were logged on 17 November dates to the 24th, with five on the 2nd and two on the 5th and 13th the only daycounts of more than one; the peak daycount matched that of 2016 as the highest to be recorded in November, whilst a total of 23 bird-days was a new high in this month. One at the Farm on the afternoon of the 5th was just the third to be seen in December following singles in 1927 and 1992.

**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 2021 season.**




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

A vocal bird, flushed from near the South Coast Cut on 1st October, seemingly entered the Bog with a group of Skylark but could not be relocated (GE). The only other 21st century records are of singles between the 4th and 5th October and on 10th November 2001 and on 15th September 2014, 21st October 2016, 2nd November 2017 and 10th October 2018. All sightings have been between 12th September (1971) and 10th November (2001), with the majority in October (40 bird-days). Whereas there is seemingly no trend in the number of British records (White and Kehoe, 2021), this species was more regular on Skokholm between 1967 and 1994 when approximately 22 birds led to 55 of an all-time 63 bird-days. Two spring records listed in previous reports are now considered erroneous.

**Meadow Pipit** *Anthus pratensis* **Corhedydd y Waun**
**Very Abundant Visitor and Uncommon Breeder**
229 trapped, 44 retrapped
1934-1976: 4456 trapped, 2010-2020: 1419 trapped (including 5 pulli), 438 retrapped

No more than 29 were logged during the last three days of February and the first 13 days of March,

with numbers then increasing rapidly to March highs of 128 on the 17th, 138 on the 18th and 104 on the 30th; although up on a 2013-2020 mean of 105.6, the peak March daycount was down on that logged in 13 previous years, including a recent high of 183 in 2019 and all-time highs of 250 in 1950, 1955 and 1988 and 350 in 1990. There were six April daycounts of 70 or more (ten last year), with highs of 74 on the 1st, 83 on the 4th and 81 on the 14th; the peak daycount almost matched a 2013-2020 mean of 81.9 (an all-time April high of 700 was logged on the 4th in 1988), whilst a bird-days total of 1646 was up on a 2013-2020 mean of 1502.4. Survey work during April and May revealed 42 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 38 of last year and a 2013-2020 mean of 35.9 (there was a high of 50 in 2016 and a low of 28 in 2013 and 2014). Adults were first seen carrying food on 8th May, this three days later than last year but seven days earlier than the 2013-2020 mean. Perhaps due to the extreme weather experienced on the 20th, 21st and 23rd May, the first fledgling was not encountered until 13th June, this nine days later than both the first of last year and the 2013-2020 mean. There were 15 birds retrapped which had been ringed on Skokholm in previous seasons, this compared with 14 last year, 19 in 2019 and 31 in 2018; three had survived their first winter, five had survived two winters, one at least two winters, one three winters, three at least three winters, one four winters and Z006257, ringed as a juvenile on 28th July 2016 (and previously retrapped in 2017 and 2019) was retrapped as an adult male on 29th April after five winters (the latter had worn a ring for four years, nine months and two days, this short of the British record of seven years, nine months and ten days and the Skokholm record of seven years and 17 days (a bird ringed in 1968)).

**The total number of Meadow Pipit bird-days logged each month, along with the monthly maximum and the date on which the 2021 peak was recorded. Counts from 2018 to 2020 are included for comparison.**

| | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov |
|---|---|---|---|---|---|---|---|---|---|
| **2021** | 1477 | 1646 | 1240 | 1014 | 1243 | 1761 | 2614 | 1607 | 121 |
| **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 |
| **2021** | 138 | 83 | 69 | 54 | 70 | 92 | 175 | 177 | 23 |
| **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 |
| | 18th | 4th | 8th | 4th | 27th | 28th | 21st | 9th | 2nd |

As is typically the case, numbers increased in August, albeit not to the extent seen in recent years; there were peak daycounts of 78 on the 3rd, 82 on the 18th and 92 on the 28th, the high down on that logged in each of the last seven Augusts, a 2013-2020 mean of 135.0 and on all-time highs of 179 in 2017 and 205 in 2018. Chicks were still being fed at Sugar's Delight on 7th August. A total of nine September daycounts in excess of 100 individuals was 11 fewer than recorded last year, with highs of 175 on the 21st, 152 on the 25th and 132 on the 29th contributing to a bird-days total of 2614; the peak daycount was well down on a 2013-2020 September mean of 515.4 and on all-time highs of 1000 in 1988, 1080 in 1990 and 1353 in 2013, whilst the total was down on a 2013-2020 September mean of 3626.1 (the peak during this period was 4474 in 2019). There were October highs of 169 on the 6th, 177 on the 9th and 153 on the 10th, but no more than 34 from the 16th and nine single-figure daycounts from the 19th; the peak daycount matched that of last October and was close to a 2013-2020 mean of 180.8, whilst a total of 1607 bird-days was up on a 2013-2020 mean of 1380.8 and was the highest since the 1788 of 2013 (the highest October daycount this decade was of 281 in 2013, whilst the record is the 2000 logged in 1972). Counts on all but nine November dates included just three double-figure tallies and highs of 23 on the 2nd and 19 on the 10th; the peak was down on that logged in three Novembers this century and a high of 70 in 1989. A single on the 3rd was the only bird seen between 29th November and 5th December.

**Tree Pipit** *Anthus trivialis* **Corhedydd y Coed**
**Uncommon** although Scarce between 2004 and 2012 and more regular in autumn
**Earliest** 16th March 1966 (17th April 2021) **Latest** 13th October 1959 (19th September 2021)
6 trapped, 1 retrapped
1936-1976: 123 trapped, 2013-2018: 6 trapped, 1 retrapped

One at the Table on 17th April was three days earlier than the first of last year and two days earlier than the 2013-2020 mean; there have been 31 earlier bird-days, including five since 2013 and three very early singles in March 1966. One east over the Bluffs on the 29th was the only other April sighting. There were at least two on 8th May, including one trapped in the Cottage Heligoland which was probably that heard at the Top Tank on the 10th; it was retrapped in the Well Heligoland on the 14th (having increased from 18.4g to 21.7g) and was almost certainly the silent ringed bird seen on the 16th. A spring bird-days total of seven was close to a 2013-2020 mean of 6.0, but down on all-time highs of 17 in 1960 and 2015, 34 in 1964, 21 in 1987 and 18 in 1990 (the record spring daycount is the four logged in 1938, 1970 and 1987). One at the Well on 24th August was 11 days later than the first of last autumn, seven days later than the 2013-2020 mean and later than any logged during that period (the earliest was present on 6th August 2018 and the latest on the 23rd in 2013 and 2014). There followed daily August sightings, with highs of three on the 25th and 28th which took the bird-days total to 14; there have been 15 higher August tallies, with peaks of 45 in 1959, 30 in 1966, 33 in 1976 and 29 in 2018. It proved a record September, with sightings on all but two dates to the 12th, highs of 12 on the 2nd, seven on the 3rd and nine on the 10th and further singles on the 18th and 19th which were the last of the year and took the total to 45; the peak daycount matched those of 7th September 1966 and 25th August 1973 as the highest in any month (ten were logged in September 1953, August 2017 and August 2018), whilst the tally was up on previous September highs of 39 in 1958, 33 in 1966 and 1971 and 37 in 1969. The last of the year was on the same date as the last four of 2020; there have been 92 later bird-days, including 14 since 2013 and 21 in October.

**Rock Pipit** *Anthus petrosus* **Corhedydd y Graig**
**Uncommon Breeder and Scarce Visitor** with a high of 67 pairs (1959) and a low of 17 pairs (1983)
25 trapped, 2 retrapped
1934-1976: 2667 trapped, 2010-2020: 293 trapped (including 2 pulli), 90 retrapped

There were no spring birds resembling Nordic breeding *A. p. littoralis* for a seventh consecutive year, indeed there was again no indication that the birds logged this season were anything other than the Skokholm breeders and their offspring; there are records of *A. p. littoralis* logged in seven previous

years, most recently with one on 22nd March 2014. Spring survey work revealed 45 territories, this four fewer than mapped last year but a total which matched a 2013-2020 mean of 45.4 (there were highs during this period of 53 in 2016 and 61 in 2017, but lows of 32 in 2013 and 34 in 2014). There were no pairs occupying territories on the plateau of the Island; five males held such territories during 2019, but a pair to the north of the Lighthouse occupied the only territory without a section of coastline in 2020. Birds were first seen with nest material on 16th April, whilst adults were provisioning chicks at Crab Bay on 4th May; the latter were 11 days earlier than the first of last year and nine days earlier than the 2016-2020 mean (the earliest during this period were feeding chicks on 3rd May 2017 and the latest on 19th May 2018). However fledglings were not encountered until 31st May, this seven days later than the first of last year and six days later than the 2013-2020 mean (the earliest fledglings during this period were logged on 14th May 2014 and the latest on 3rd June in 2013 and 2018); as was noted for Meadow Pipit (see above), extreme weather on the 20th, 21st and 23rd May perhaps impacted early fledglings. Apparent second broods were again seen in some territories, with a pair still feeding young in Crab Bay on 1st August. Daycounts increased during the autumn as birds made their customary move up onto the plateau, however highs of 90 on the 10th and 81 on 19th September were down on those logged in all but one year this decade; the peak autumn daycount, although up on the 78 of 2018, was down on a 2013-2020 mean of 126.0 and highs during that period of 165 in 2014 and 145 in 2015 (a record 400 were recorded in September 1934). There were no birds retrapped in 2021 which had been ringed in previous years.

**Chaffinch** *Fringilla coelebs* **Ji-binc**
**Fairly Common to Abundant** listed by both Betts and Thompson as Common to Very Abundant
4 trapped
1934-1976: 288 trapped, 2013-2020: 78 trapped, 15 retrapped

A female in the Cottage Garden on the 3rd, two on the 15th and 19th and a single 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 11.9 (with the only three-figure totals being of 195 in 1932, 374 in 1960, 137 in 1969 and 436 in 1976). There were no April sightings for the third time this decade; there have been April records in 75 years, with a post-War bird-days mean of 5.9, a 2013-2020 mean of 4.9 and all-time highs of 91 in 1934 and 43 in 1981. Two on 11th October were the first of the autumn, these 15 days later than both the first of last autumn and the 2013-2020 first bird mean (the earliest during this period were present on 5th September 2015, this ignoring the unprecedented stay made by a female between 19th May and 14th October 2019); there have been sightings in 29 previous Septembers. Counts on 14 subsequent October dates peaked at 12 on the 18th (when one was eaten by a Merlin), 11 on the 25th and 104 on the 30th; there have been higher daycounts in two Octobers this decade and in 18 Octobers prior to this, with all-time highs of 3200 in 1966 and 2000 in 1988, whilst a bird-days total of 157 was down on a 2013-2020 mean of 306.8 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 16 November dates, with the only daycounts in excess of 14 being 29 on the 2nd, 126 on the 3rd and 20 on the 14th; despite a staff presence throughout the month, a bird-days total of 247 matched a 2013-2020 mean of 245.5 and was well down on all-time highs of 1905 in 1967, 3267 in 1968, 1171 in 1970 and 804 in 2017. Singles on the 1st and 3rd December were the last prior to the staff departure.

**Brambling** *Fringilla montifringilla* **Pinc y Mynydd**
**Uncommon** although Scarce on occasion and with records in only 16 springs
**Earliest** 3rd October 1964 (16th October 2021) **Latest** 27th April 1949
1954-1967: 6 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 first of the year headed northeast on 16th October, this one day earlier than the 2013-2020 first of autumn mean (the earliest during this period was logged on 10th October 2017, whilst one on the 4th last year was the only first not present until November); there have been 73 autumn bird-days earlier than the first of this year, with 48 of these occurring before 1967 and only five occurring since 2013. There followed singles on the 23rd and 31st October, prior to an increase in numbers which saw sightings on 15 November dates to the 22nd and highs of seven on the 2nd, nine on the 3rd (eight of which were together) and three on the 5th and 14th. The only November totals up on the 38 of this year are the 108 of 1967 and the 42 of 1968, whilst an autumn bird-days total of 41 was up on a 2013-2020 mean of 13.9; there have been higher autumn bird-day totals in seven previous years, with a recent peak of 42 in 2017 and six totals of 107 or above logged between 1966 and 1975 which included highs of 1382 in 1966, 160 in 1967 and 223 in 1973 (the former including an unprecedented minimum of 800 on 22nd October).

**Common Rosefinch** *Carpodacus erythrinus* **Llinos Goch**
**Rare** at least 27 individuals logged over 21 years, accounting for 65 bird-days (including 17 in spring)
**Earliest** 3rd May 1970 (29th May 2021) **Latest** 12th October 1995 (18th September 2021)
2 trapped
1949-1974: 4 trapped, 2011-2019: 6 trapped, 1 retrapped

A stunning red male trapped in the Well 9 Net on 29th May was possibly the first to be seen on Skokholm in this plumage (see the introduction above for a photograph, RD *et al*.); it is unclear whether males logged in the Junes of 1949, 1991 and 1992 and July 1989 were red (they are not listed as such in the relevant Annual Reports). There have been sightings in nine previous springs, all of one-day singles bar one trapped on 21st May 1969 thought to be that seen on the 29th, one on the 29th and 30th June 1991, two on 16th June 1992 (one of which lingered until the 18th) and one from the 6th to 9th June 1995. A first-winter found to the north of the Wheelhouse on 17th September was later trapped in the Wheelhouse Net (RDB *et al*.); it could not be confirmed if one seen at the Well the following day was ringed (GE). It is believed that ten of 17 previous autumn birds have lingered, with two being present for two days and further singles present for three, four, five, six, seven, nine, ten and 12 days; at least in part due to rough weather impacting the search, the latter three birds were not seen for between three and seven days during the course of their stays (only one of these was trapped, the presence of a ring when reencountered suggesting that it was the same individual (although it was not retrapped)). Singles in 1949 (the second for Wales), 1969, 1970 and 1974 were

the only birds logged prior to 1989, however there have now been at least 29 individuals and 68 bird-days, including nine individuals and 30 bird-days since 2011, whilst three on 11th October 2001 is the only record of multiple birds other than that of June 1992.

**Greenfinch** *Chloris chloris* **Llinos Werdd**
**Uncommon** but recorded by both Betts and Thomson as Fairly Common or Common
1 trapped
1934-1976: 98 trapped, 2011-2020: 5 trapped, 1 retrapped

A vocal bird heading northeast over North Pond on the 18th was the first March sighting since 2013; there have now been 95 bird-days in this month, with highs of 14 in 1997 and 12 in 2003. The only April bird circled the Well on the 30th, this the 375th bird-day in this month but only the 17th this decade. One calling as it circled the Lighthouse on the 4th was the second June bird this century and took the all-time bird-days tally for this month to 19. There have now been 651 bird-days recorded during the first half of the year, with 73 this century and 13 since 2013. One over the Lighthouse on 11th October was probably the first-winter female later trapped in the Courtyard Net. The only other autumn sightings were of two in the Courtyard on 5th November and a flyover on the afternoon of the 14th, these taking the autumn bird-days tally to four. 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 582 in 1939, 525 in 1966 and 422 in 1976 (the former including a record daycount of 300 on 18th October). Since the nine bird-days noted in 2005, there have now been records in 13 years totalling only 113 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
3 trapped
1936-1975: 63 trapped, 2011-2020: 45 trapped

Following flyover singles on 28th February and 2nd March, there were sightings on 12 further March dates from the 16th, including highs of 13 on the 30th and 23 on the 31st; both the peak daycount and

a bird-days total of 51 were the highest in March since 1996 (when a daycount of 25 took the total to 199), indeed there have only been five March tallies up on that of this year. Linnet were logged on all but one April date, with 15 double-figure daycounts and highs of 40 on the 1st, 25 on the 11th and 23 on the 13th which took the bird-days total to an impressive 326; although there have been higher April daycounts in four years (with 45 in 1960, 50 in 1978, 64 in 1997 and 46 in 2018), the only higher total is the 333 of 1960 (226 in 2018 is the next highest tally). Sightings on 12 May dates were all of singles bar three on the 1st and 15th and two on the 2nd; a bird-days total of 17 was down on a 2013-2020 May mean of 30.4 and a post-1946 mean of 34.5. Sightings of up to two birds on five June dates, of up to two birds on three July dates and of three singles in August led to totals typical of the summer months. Linnet were seen on 16 September dates from the 9th, with no more than eight to the 20th and from the 23rd, but highs of 70 on the 21st and 41 on the 22nd which took the total to 160; the only higher September daycounts are the 137 of 2015 and the 82 of 2018, whilst there have been five higher tallies (with peaks of 259 in 1994, 270 in 2015 and 242 in 2018). It proved an exceptional October for this species, with birds noted on just 15 dates and seven single-figure daycounts, but highs of 92 on the 3rd, 452 on the 10th, 181 on the 11th and 59 on the 12th which raised the total to 906; the peak daycount was the highest to have been recorded in any month, up on the 220 of October 1959, the 250 of October 1967 and the 239 of October 2016, whilst the total was only down on the 911 of October 1959 and the 939 of October 1975 (there were 849 in October 1966 and 892 in October 2018). Records on 13 November dates tallied 62 bird-days and included highs of 19 on the 3rd and 26 on the 23rd which were the only daycounts of more than four; there have been higher daycounts in four of the last eight Novembers, with an all-time high of 113 in 2016 leading to a record total of 188. There were no sightings between 24th November and 5th December.

**Lesser Redpoll** *Acanthis cabaret* **Llinos Bengoch Leiaf**
**Uncommon** recorded by both Betts and Thompson as Scarce
1950-1976: 16 trapped, 2013-2020: 21 trapped, 1 retrapped

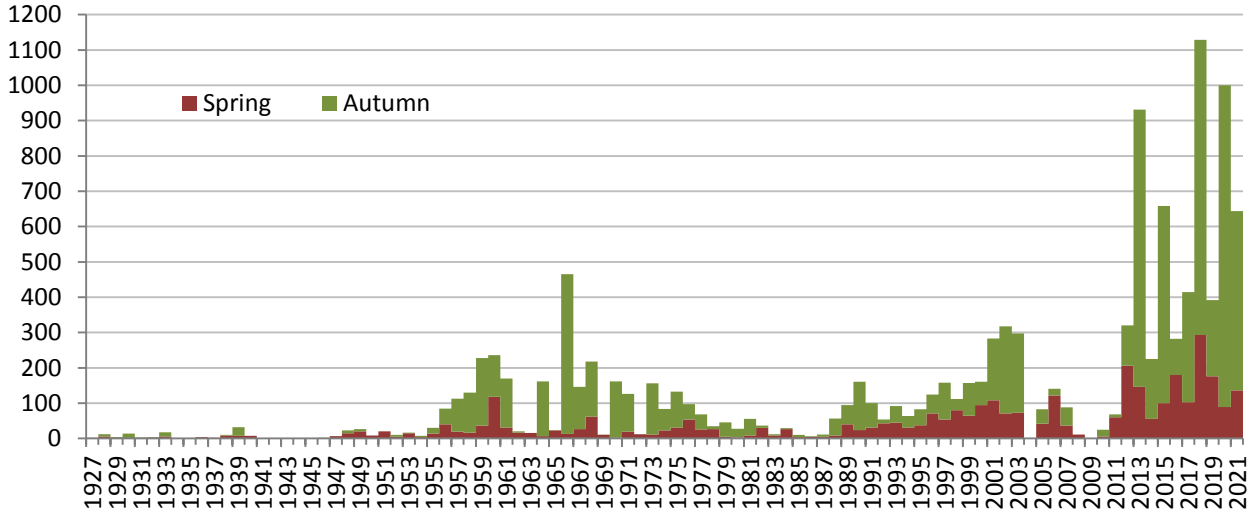
A flyover on 20th April was nine days later than the first of last year, but matched the 2013-2020 first bird mean; there have been 14 earlier bird-days, with flyovers on 25th March 2002 and 26th March 2003 the earliest. Flyover singles on the 25th and 26th and two singles over on the 30th took the all-time April tally to 54, 28 of which have been logged since 2014. Sightings on 11 May dates included one singing at Orchid Bog on the 18th and highs of four on the 24th and five on the 27th; a bird-days total of 20 was only down on the 29 of 2002, the 24 of 2013 and the 54 of 2016. One over on 20th July was unseasonable; there have now been 24 bird-days in this month, with highs of six in 1959 and 1981. There were no September or October birds for the fourth time in nine years (there have been 79 September bird-days, including 40 since 2014, and 206 October bird-days, including 64 since 2014). Flyover singles on the 2nd, 5th and 21st November were the last of the year, taking the post-2013 November tally to 21 and the all-time total to 30. Of the 662 bird-days now recorded on Skokholm since the first four were seen in 1950, 322 have occurred in spring (including 163 since 2013) and 340 have occurred in autumn (including 130 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
29 trapped
1947-1976: 68 trapped, 2011-2020: 181 trapped, 5 retrapped, 3 controls

A lone flyover on 5th March was the earliest spring bird since 2001 when one lingered from late February. Sightings on five further March dates peaked at six on the last day of the month, with a bird-days total of 13 only being down on the 14 of 1965 and the 21 of 2000. Goldfinch were present on 27 April dates, with highs of eight on the 4th, seven on the 10th and 11 on the 21st which took the bird-days total to 81; there have been higher April daycounts in three years, with a peak of 21 in

2018, whilst the only higher April totals are the 112 of 2012, the 116 of 2018 and the 98 of 2019. Sightings of up to five birds on 18 May dates included a singing male on two dates to the 7th and tallied 36 bird-days; there have been higher May daycounts in 22 years, including peaks of 16 in 2013 and 23 in 2018, and higher May totals in 13 years, with highs of 91 in 2013, 113 in 2016 and 136 in 2018. Two on the 4th and singles on four dates took the all-time June total to 252, 115 of which have been since 2013. There was no July record for the second time since 2014.

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




One along the North Coast on the 29th was the 38th August bird-day, 12 of which have been since a record 18 were logged in 2015. It proved a disappointing September by recent standards, with two on the 22nd and 30th, three on the 28th and five on the 29th the only birds logged; although September counts in recent years have fluctuated widely, there are only two lower totals this decade, whilst the all-time bird-day highs are the 120 of 2017, the 237 of 2018 and the 328 of last year. Although sightings on 19 dates included 15 single-figure daycounts, October proved the fourth most productive to date, with highs of 279 on the 10th, 65 on the 11th and 59 on the 12th taking the tally to 467; the only higher daycount in any month is the 285 of 14th October 2013, whilst the bird-days total was only down on the 746 of 2013, the 582 of 2018 and the 523 of last year. Goldfinch were present on 11 November dates, with 25 bird-days logged and five on the 4th and eight on the 21st the only daycounts of more than two; there have been higher daycounts and bird-day totals in 12 Novembers (with 30 in 1968 the maximum daycount and 138 in 2015 the maximum tally). The first five days of December saw singles on the 2nd, 3rd and 4th.

**Siskin** *Spinus spinus* **Pila Gwyrdd**
**Uncommon** sometimes Scarce and with records in just 12 previous springs
4 trapped
1959-1975: 37 trapped, 2017-2020: 3 trapped

One east on the 1st was the first of a record April, with further singles on five dates, three on the 16th and two on the 24th and 25th taking the all-time April tally to 31, 23 of which have been since 2016. A single on the 6th made this the fourth May with a sighting; there was a female for two days in 1958, five together in 2012 and one in 2016. One went over Crab Bay on 18th June; the only previous record in this month is of one between the 27th and 30th in 1986 which lingered to 1st July (this one of only three July bird-days). There have only been 46 bird-days in the first half of the year, this now including 34 since 2012 and 15 this year. Seven east on 10th October were the first of the autumn, these 20 days later than the 2013-2020 first of autumn mean; there have been no previous August sightings, but 332 bird-days over 15 previous Septembers include 187 since 2015. Sightings on 16 further October dates included further highs of nine on the 12th and 13th (one was eaten by a Merlin

on the latter date) and seven on the 15th which took the bird-days total to 71; there have been higher daycounts in 19 Octobers, with highs of 100 in 1959, 1200 and 800 in 1988 (all grounded by fog) and 180 in 1993, whilst the total was down on eight previous years and highs of 210 in 1975, 2156 in 1988 and 405 in 1993 (the 2013-2020 October bird-days mean is 43.5). There were 37 November bird-days, with sightings on 11 dates and highs of seven on the 3rd and 12 on the 4th; the peak daycount was a new November record, topping the nine of last year, whilst the bird-days total was up on previous highs of 24 in 1996, 19 in 2015 and 17 last year. Siskin have now been noted in 42 years, including 1949 when the first 11 were logged (2014 was the most recent blank year).

**Lapland Bunting** *Calcarius lapponicus* **Bras y Gogledd**
**Scarce** but recorded in only 49 previous years and with just five spring records, most recently in 2017
**Earliest** 30th July 1957 (13th November 2021) **Latest** 8th June 1963 (21st April 2021)
1956: 1 trapped, 2017-2020: 2 trapped

One on the heathland near Wardens' Rest on 21st April later circled the Quarry before heading east (GE); this was a rare spring sighting, indeed the only other records are of males on 10th May 1948, 8th June 1963, 14th May 1981 and 18th May 1995 and of two on the 23rd and 24th March 2017, one of which lingered to the 26th. The only autumn sighting was of one which flew over the Tabernacle and onto the Table on 13th November (RDB); a single autumn bird-day was down on a 2013-2020 mean of 4.6 and recent highs of 13 in 2016 and seven last year. 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 (8th October 2021) **Latest** 25th April 1959
1967-1968: 6 trapped, 2014: 1 trapped

The first of the autumn flew over Home Meadow and settled on North Plain on 8th October (RD *et al*.); there have been 85 earlier autumn bird-days, although a nominate bird on 6th October 2014 is the only one this century. One at Wallsend on 10th October was possibly taken by a Merlin that afternoon, whilst photographs revealed that one to the south of Winter Pond on the 12th was a different individual; the latter was present in a similar area on the 14th. November saw a flyover

logged on the 2nd, one heard twice over the Farm and later found at Howard's End on the 19th and one west over the Farm on the afternoon of the 20th. A 2021 autumn bird-days total of seven matched that of 2014 and was up on a 2013-2020 mean of 2.6, but was down on the eight of 2019. There are seven autumn totals higher than that of 2019, with peaks of 44 in 1961, 63 in 1967, 128 in 1968 and 26 in 1975, whilst the record daycounts are of 17 in 1961, 15 in 1967 and 12 in 1968.

**Reed Bunting** *Emberiza schoeniclus* **Bras y Cyrs**
**Scarce Breeder and Scarce Visitor** bred in 1960, in most years 1967-1980 and since 2005
2 trapped, 6 retrapped, 1 control
1949-1976: 163 trapped, 2010-2020: 98 trapped, 163 retrapped, 5 controls

A male was singing at Orchid Bog on 28th February, however encounters during early March were sporadic, with no more than two seen on nine dates to the 16th. Four were first logged on 17th March, whilst five on 29th April and the 6th and 19th May were the highest daycounts in a disappointing year for this species (although females were seen in all territories this year, sightings were infrequent). The only spring records perhaps not attributable to the Skokholm breeders were of singles at the Bluffs on 17th March, over the Lighthouse on the 22nd and 30th March and near the Sugarloaf on 2nd April, although these were perhaps birds from the South Pond territory pushed west by a pair occupying the area between the South Pond Lower Drain and East Bog (the male of this pair wore a ring but was not retrapped). Additional pairs were between the Well and North Haven and between the Farm and the Hills. A total of four territories was one down on last year and down on a 2013-2020 mean of 5.4; an all-time high of seven territories were mapped in each year between 2015 and 2017, with three in 2019 the lowest total during this period. Two Skokholm ringed adults were retrapped this year; a male ringed as an adult in September last year was at the Well in late March, but was probably that which went on to occupy the territory to the west of the Farm, whilst a female ringed on 16th April 2017 was at the Well (she was retrapped twice in 2018 and four times in 2020, but not in 2019). Additionally a female ringed on Skomer as a juvenile in 2019 was back for a second year (see below), this probably the bird paired with the retrapped male.

A female provisioning young at East Bog on 6th May was the only indication that any chicks hatched on Skokholm this year, however a pair were seen mating in the same area the following day. A pair were also seen mating at the Well on 15th May, this the last breeding behaviour to be witnessed in

2021 (although males were regularly heard singing until 17th June). This was the first year of the last decade without a successful breeding attempt; although only 0.60 fledglings per pair were logged last year, this the lowest productivity estimate of the last eight years, the 2013-2020 mean is 1.66 ±se 0.25 (the high during this period was the 2.50 of 2018). Unsurprisingly there were no juveniles ringed before the end of August; there were singles in both 2019 and 2020, but between five and nine in each year between 2013 and 2018. Indeed there were no Reed Bunting encountered at all between 8th July and 20th September, an absence unprecedented in recent years; the 2013-2020 August bird-days mean is 103.3, with highs of 130 in 2013 and 179 in 2015 and lows of 40 in 2019 and 35 last year. 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 have proven difficult to detect now that a breeding population has again established, however it is possible that all of the birds recorded this autumn were immigrants. Three on 21st September included two over the Lighthouse, whilst an adult female and a juvenile were trapped at North Pond the following day; a September bird-days total of five was down on a 2013-2020 mean of 97.9 (there was a high of 171 in 2014 and a low of 22 in 2019). Singles on seven October dates likewise led to the lowest October tally this decade; the 2013-2020 October bird-days mean is 76.0 (with a high of 123 in 2014 and a low of 38 in 2016). Singles on four November dates led to a total well down on a 2013-2020 mean of 18.5 and highs of 47 in 2013 and 37 in 2014. One at North Pond on the 2nd was only the second Reed Bunting to be seen in December following one on the 1st in 1967.

**Ringing recovery** AKF6123
**Originally ringed** as a juvenile, SKOMER ISLAND, PEMBROKESHIRE 23rd August 2019
**Previously recovered** as an adult female, WHEELHOUSE HELIGOLAND, SKOKHOLM 20th April 2020
**Previously recovered** as an adult female, COTTAGE HELIGOLAND, SKOKHOLM 22nd April 2020
**Recovered** as an adult female, WHEELHOUSE NET, SKOKHOLM 29th April 2021
**Distance travelled** 4km at 163 degrees (SSE)
**Days since ringed** 615

## The Non-avian Report

The 2021 season was another exciting one for records of non-avian species. Observations made during the daily census were supplemented by targeted surveys to produce a fascinating list covering a range of taxa. Despite a long history of intensive field studies on the Island, 2021 again saw the discovery of species not encountered previously. Whilst many of these were only notable in a Skokholm context, a **Vagrant Emperor** was just a seventh for Pembrokeshire, whilst the moth trap produced the sixth **Kent Black Arches** and the eighth **Tawny Pinion** for Pembrokeshire. The 2021 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. In an attempt to prolong the period in which it holds water, regular efforts have been made to remove a build-up of silt at North Pond, however this year it was empty for longer than usual (from 22nd July until 19th October). Despite the exceptionally dry year, Orchid Bog and the small Wheelhouse and Courtyard Ponds again held water throughout the season; unsurprisingly these sites provided many of the Odonata records. There are now 20 species on the Island list but, predictably, species diversity varies between years. The vast majority of records are of transient individuals, with very few the product of breeding on the Island; indeed only **Emperor Dragonfly** *Anax imperator* and ***Red-veined Darter*** *Sympetrum fonscolombii*

have been observed ovipositing in the last nine years, whilst **Broad-bodied Chaser** *Libellula depressa* is the only species known to have bred successfully. Increased temperatures caused by climate change are thought to be driving positive trends in both abundance and distribution of many dragonfly species in the United Kingdom (Taylor *et al.*, 2021); four species, whose arrival is likely linked to such changes, were added to the Skokholm list in the last nine years: **Red-veined Darter** (first seen in 2013), **Banded Demoiselle** *Calopteryx splendens* (first seen in 2017), **Lesser Emperor** *A. parthenope* (first seen in 2018) and **Vagrant Emperor** *A. ephippiger* (first seen this year).

**Blue-tailed Damselfly** *Ischnura elegans* (Vander Linden, 1820)
A male basking in a sheltered corner of Orchid Bog on 23rd August was the first since a male found at North Pond on 27th June 2019. This makes 2021 just the fourth of the last nine years with a record; there were two in 2013 and a single insect in 2014. This is a scarce species on Skokholm, with the only records prior to 2013 being of one in 1997 and six in 1999.

**Migrant Hawker** *Aeshna mixta* (Latreille, 1805)
A single hawking above Crab Bay on 4th August was the first of the year, this eight days earlier than the first of 2020 and matching the first two of 2014 as the earliest in at least a decade. There were no further August observations, with two in Billy's Dyke on 15th September the next to be logged. One on the 22nd was the only other record during a below par September. There were two October sightings, with a female at North Pond on the 6th and a single along Isthmian Heath on the 22nd which was the last of the year. A 2021 total of six was down on the 13 of last year and was the third lowest tally of the last nine years; although there were no sightings in 2013, there were 15 in 2014, 36 in 2015, 13 in 2016, 21 in 2017, nine in 2018 and three in 2019. Single hawkers, seen too briefly to confidently assign to a species, were recorded on seven dates between the 24th and 31st July; whilst these records are all within the typical flight period of the Migrant Hawker, it is worth noting that this species has never been observed in this month on Skokholm (indeed the only Island hawker records in July are of a Common Hawker *A. juncea* logged on both the 15th and 17th in 2006).

**Emperor Dragonfly** *Anax imperator* (Leach, 1815)
One near the Lime Kiln on 13th July was the first of the year, this 19 days later than the first of 2020. A single present at the same location the following day was probably the same insect. Sightings of a single at the Lighthouse on the 17th, 18th and 19th were also assumed to refer to a lingering individual, although the presence of a second dragonfly at Sugar's Delight on the latter date suggested a small arrival during this period. Two further July sightings took the monthly dragonfly-days tally to eight; there were no July records last year. An ovipositing female was accompanied by a male at Orchid Bog on 23rd August, whilst three further August singles included one over the Courtyard on the 28th which was the last of the year. An annual total of 13 is the third highest of the last nine years and 41% up on the 2013-2020 mean (9.25 ±sd 7.8).

**Vagrant Emperor** *Anax ephippiger* (Burmeister, 1839)
Following sunset on the evening of 9th September, a male Vagrant Emperor flew through the open window of the Stewards bedroom in Lockley's Cottage; the room was occupied at the time by Work Party chef Sam O'Shea, the lights no doubt acting as a lure. After circling the room, the dragonfly settled to roost on some shelving where it spent the night. Sam boxed it up the following morning, allowing staff to identify and photograph this stunning addition to the Skokholm list (there have now been 20 species of Odonata recorded on the Island). Its appearance followed a brief incursion of warm southerly winds from North Africa at the beginning of September, a local shift from northeasterlies to a gentle southeasterly on the 8th no doubt aiding its arrival to the Island. The breeding range of this long-distance migrant extends across Africa, the Mediterranean and the Middle East, whilst British records have increased in frequency in recent decades (British Dragonfly Society, 2021); the majority of British sightings are from the south coast, although there were six Pembrokeshire records between 9th January 2011 and 25th February 2019.

**Red-veined Darter** *Sympetrum fonscolombii* (Sélys, 1840)
A male hunting near the South Pond Lower Drain on 29th June was the first since 2019 and the only Red-veined Darter to be positively identified this season. Additionally, a male *Sympetrum* dragonfly was present at East Bog on 22nd July, however key identification features could not be confirmed during brief views. Following the first Island record in 2013, this species was recorded annually until 2019, with breeding pairs encountered in 2015, 2017 and 2019. Although this is a fairly frequent migrant to the south of Britain, the number arriving to Skokholm has fluctuated; single insects were

logged in 2013, 2014, 2016 and 2018, whereas there were a record 31 in 2015, 24 in 2017 and 12 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 intensively at times, particularly during the late 1990s, putting recent findings into context can thus be challenging. However the effort afforded to the study of Skokholm's moths has now been relatively consistent for nine consecutive years, allowing us to look at patterns and trends in the numbers of some of our breeding and migrant species. A splendid diversity was again encountered, including 34 Island scarcities (moths occurring in no more than five previous years) and nine additions to the Island list (there were seven additions in 2018, 17 in 2019 and ten last year). Of the Island scarcities, six species (**Brown House Moth**, **Common Flat-body**, **Brown-spot Flat-body**, **Bracken Neb**, **Dotted Shade** and **Thistle Bell**) are almost certainly under-recorded. Two **Four-spotted Footman** were the first since 1937 and two **Northern Rustic** the first since 1968. Of the Island firsts, perhaps the most significant were singles of **Kent Black Arches** and **Tawny Pinion**, these just a sixth and eighth for Pembrokeshire respectively.

On the whole, 2021 was a rather average year for encounters with migrant species. The earliest Skokholm **Pearly Underwing** saw this species back on the moth list following a blank 2020 and it proved to be the second best year of the last nine for encounters with **Dark Sword-grass**. Although numbers were far from impressive, it was a better year for **Diamond-back Moth** (+100%), **Rusty Dot Pearl** (+54%) and **Rush Veneer** (+667%). A **Scarce Bordered Straw** provided some less-than-annual excitement and made 2021 just the fourth year with a record. It was the eighth consecutive season with a **Convolvulus Hawk-moth**, whilst it was the poorest of the last nine for encounters with **Hummingbird Hawk-moth**. Given that 2020 was the best year in Skokholm's history for numbers of **Vestal**, an absence this season was conspicuous, whilst it was an unremarkable year for **Silver Y** with numbers 44% down on those of 2020.

The 2021 records listed here are the result of both nocturnal trapping and ad hoc field observations. The majority of trapping was carried out using the solar mains powered Skinner Trap situated at various sheltered sites around the Farm. Additional trapping was carried out by Wheatear researcher Ian Beggs and visiting moth enthusiast Steve Jones who, through the use of mobile 12 volt systems, were able to trap at a range of sites including the Well, North Haven, East Bog, the Dip, the Lighthouse, the South Coast Path and the Quarry. 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.

3.001 **Orange Swift** *Triodia sylvina* (Linnaeus, 1761)
The first three of the year were taken from the trap on 23rd August. A single was attracted to light on the 25th and two September records were of a trapped individual on the 5th and a diurnal male on the 8th. Although an annual total of six is an improvement on the three of last year, it is down on the 25 of 2018 and the 19 of 2019. However only two of the 2018 moths and seven of the 2019 moths were attracted to light, the majority of sightings being made by staff walking along the Lighthouse Track at dusk; this routine was missing from the last two seasons as COVID-19 restrictions saw the evening Birdlog moved to the Lighthouse.

3.002 **Common Swift** *Korscheltellus lupulina* (Linnaeus, 1758)
A total of 51 trapped between 19th May and 13th June included a peak catch of 27 on 3rd June. A single found by day on 17th June was the last of the season, taking the 2021 tally to 52 which is the

best showing for this species in recent history. This is often the most abundant of the Swift species to be found on Skokholm, with previous highs of 47 logged in both 2016 and 2018, however there were lows of seven in 2014 and one in 2015.

3.003 **Map-winged Swift** *Korscheltellus fusconebulosa* (De Geer, 1778)
A light trap set along the South Coast Path on 30th June produced a single male along with an individual of the plain form *gallicus*; the latter is a less frequent find across this species' range and was the first to be documented on Skokholm this decade. A further two Map-winged Swift visited the moth trap at the Farm on 8th July and three taken at the Lighthouse on the 13th were the last of the year. Annual tallies peaked at just 27 in 2014, indeed double-figure totals are surprisingly rare; a 2021 moth-days total of seven is up on the three of last year and is the highest since 2018.

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* 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, whilst a number of new areas containing larval mines were also identified this year. On 27th June a minimum of 500 mines were counted whilst staff searched for Great Black-backed Gull chicks in the Bog; it is not unusual for a significant amount of time to be spent searching under the Bracken *Pteridum aquilinum* for skulking chicks, however a sparser 2021 covering in some areas (a result of the May storms) perhaps made it easier to see the larval spirals. Two mines were on a single leaf at Windmill Gully on 7th July and on 12th August 30 were counted on leaves at the top of North Haven. A minimum of 50 mines were found along the South Coast Cut on the latter date, whilst a more extensive search along 30 metres the following day located 581. The last sighting of the year came from a small area to the east of Wallsend on 6th October where four spirals were noted. For the four years following its discovery, Sorrel Pigmy were found only in areas adjacent to North Pond. However since 2019 larval signs have been seen at Little Bay Wall, Winter Pond, the South Coast Cut, North Haven, the Bog, Windmill Gully and Wallsend. It is unclear whether this apparent increase in distribution and abundance reflects genuine population growth or increased observer awareness.

11.012 **Common Bagworm** *Psyche casta* (Pallas, 1767)
The larval cases of this unobtrusive species, first recorded on Skokholm in 2013, were again found among the inspection hatches of the Lighthouse Manx Shearwater study plot. Although no targeted surveys have taken place, the number of cases encountered at this site has seemingly declined over the past two years. A further case was on top of the Lighthouse Compound Wall on 20th March. Whilst the majority of observations of the larval stage 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. Adults are encountered less frequently; the apterous case-bearing females crawl to higher positions, such as up the walls of the Lighthouse and surrounding rocks, whilst males fly in warm sunshine in search of them. Three males on the wing in the early evening of 7th July were the only adults seen this year; males have now been observed in six of the last nine years.

12.036 **Skin Moth** *Monopis laevigella* ([Denis & Schiffermüller], 1775)
One found in Bridge Toilet after dark on 1st September was the only record of the year and just the third sighting of this species on Skokholm; singles were logged on 13th May 2017 and on 15th May 2019. A fairly common and well distributed moth throughout the British Isles, adults can be found on the wing between May and September, whilst the larvae feed during the winter on a variety of organic foodstuffs, items such as dead animals, pellets and detritus found within old bird nests.

16.005 **Willow Ermine** *Yponomeuta rorrella* (Hübner, 1796)
A single *Yponomeuta* attracted to the lit windows of the Lighthouse on 25th July was retained for inspection. There are four species in this genus which are very similar in appearance and structure; there are no absolute genitalic differences and the forewing pattern is not thought to distinguish any with absolute certainty. It is thus suggested that, unless present in an occupied larval web or reared from one, they should be recorded as *Yponomeuta* agg.. The Lighthouse moth did however show a combination of features indicative of Willow Ermine. It had an overall grey suffusion, leaving the dorsal half and pre-terminal costal patch white (*Y. cagnagella* shows no grey suffusion, *Y. padella* shows a variable amount with the terminal cilia matching the terminal area of the wing and *Y. mallinus* has contrasting grey terminal cilia). Additionally there were eight black dots in the dorsal row above the fold and seven dots below the fold; the other three species typically show four to six dots above the fold and four to seven below (British Lepidoptera, 2021). Although all four of these *Yponomeuta* have been recorded in Pembrokeshire, Willow Ermine has proven the least abundant, whilst none of these species are on the Skokholm list.

18.001 **Diamond-back Moth** *Plutella xylostella* (Linnaeus, 1758)
It was another poor year for records of this migrant on Skokholm. One observed on 31st March was the first of the year. There were singles on three June dates, one in July and one on 11th October which was the last. An annual moth-days total of six was the third lowest of the past nine years, up on the five of 2018 and the three of last year, but well down on counts which peaked at 4425 in 2016. The number of moths arriving to the UK also fluctuates widely from year to year.

28.010 **Brown House Moth** *Hoffmanophila pseudospretella* (Stainton, 1849)
One in the Wheelhouse on 17th June was the only record of the year and the first since one trapped in 2019. Although this species is almost certainly overlooked, it has only been noted in three further years; there was one in 2011, 31 taken over 24 summer trapping sessions in 2014 and two in 2016.

32.018 **Common Flat-body** *Agonopterix heracliana* (Linnaeus, 1758)
Given that it is common and widespread, the nondescript Common Flat-body is another species which is probably overlooked on Skokholm. Four trapped at the Farm between the 15th and 26th April were the only records this season; there were two in 2020, with the only other sightings occurring in 2014, 2016 and 2017.

32.031 **Brown-spot Flat-body** *Agonopterix alstromeriana* (Clerck, 1759)
One trapped on 31st March and another on 13th April were the only 2021 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; following the first three Island records in 2013, there were 16 in 2014, five in 2015, one in 2019 and two last year.

32.036 **Parsnip Moth** *Depressaria radiella* (Goeze, 1783)
In some years the caterpillars of this species can be found in large numbers on Common Hogweed *Heracleum sphondylium* plants growing in the Courtyard and to the west of Home Meadow. Although there was an abundance of such plants this year, particularly in the latter location, the usual decimation caused by Parsnip Moth caterpillars was not evident. No adults were taken from the light trap and during the process of closing down for the winter (when hundreds of adults are typically found hibernating behind mirrors and picture frames) very few were encountered.

32.039 **Dingy Flat-body** *Depressaria daucella* ([Denis & Schiffermüller], 1775)
One taken from the light trap in the Courtyard on 3rd April was just a third for Skokholm following singles in 2019 and 2020. 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 East Bog. It is plausible that adults of this moth have been misidentified or overlooked previously, especially given the usual abundance of the similar *D. radiella*.

35.065 **Bracken Neb** *Monochroa cytisella* (Curtis, 1837)
One found above Crab Bay on 2nd July was the first record since 2017 of this unassuming and easily overlooked Gelechid. Although it was first discovered on Skokholm in 2014, when a total of nine came to light during seven July trapping sessions, the only other year with a record is 2016. This species has a propensity to hide amongst large swathes of Bracken, the larval foodplant, which perhaps explains the paucity of records.

35.130 **Coast Groundling** *Caryocolum vicinella* (Douglas, 1851)
Following the discovery of this attractive, Nationally Rare Gelechid on Skokholm in 2014, it has been recorded annually at locations across the Island, albeit in low numbers. Nevertheless a single found inside the Lighthouse on 22nd August was the only record this year; there were five in 2020 and a peak of 16 moths was logged in 2016, 15 of which were found in South Haven during late June. Low

counts of this distinctive species are in part due to its inconspicuous nature and its 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 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 in low numbers almost annually, although the year total crept up to 38 in 2020. This year an impressive 140 were taken from the trap between 31st May and 15th September, with a peak catch of 39 on 17th August and double-figure counts on four further dates. The larval foodplant is Sheep's Sorrel *Rumex acetosella* which is widespread and often abundant on Skokholm.

41.002 **Dingy Dowd** *Blastobasis adustella* (Walsingham, 1894)
This species was accidentally introduced to Ireland at the beginning of the 20th century and later became established and widespread throughout the United Kingdom (De Prins *et al*., 2009). 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 262 individuals taken from the trap between 1st August and 9th September, this down on the 331 logged last year but up on the 109 of 2019.

45.037 **Dusky Plume** *Oidaematophorus lithodactyla* (Treitschke, 1833)
It was a better year for records of this recently discovered (presumed) Skokholm breeder following two consecutive seasons with just a single sighting. One trapped on 4th August was the first of the year and a further four came to light between the 5th and 8th. One resting on Well Stream vegetation on the 14th was the last, taking the 2021 moth-days tally to six, this the highest since 19 were logged in 2018. The 22 counted in 2016 remains the highest annual total, this in the year of its discovery on the Island. The larval foodplant is Common Fleabane *Pulicaria dysenterica*, a species which grows in Well Stream, Billy's Dyke and Orchid Bog and the abundance of which varies markedly from year to year; varying foodplant availability may in part explain the fluctuating annual totals.

45.044 **Common Plume** *Emmelina monodactyla* (Linnaeus, 1758)
One trapped at the Farm on 31st March was the first of the year. The next encounter was not until 10th September when one was found resting in vegetation at Windmill Rocks. Two were observed during nocturnal seabird work the following evening, whilst a further four plumes not seen well enough to allow for an identification were probably this species. The final two of the year were on a lit Lighthouse window on the extremely mild evening of 10th November, these taking the year tally to six. Following single specimens taken in 2014, 2015, 2016 and 2020, this becomes the first year with

multiple sightings. This is one of the commonest British plume moths whose larvae feed primarily on Bindweeds *Convolvulus* spp., however they can also use Orache *Atriplex* spp., of which five species have been found on Skokholm (Thompson, 2007). It is unclear whether an increase in Skokholm records reflects recent colonisation, an increase in breeding numbers or the chance arrival of insects on calm and warm evenings such as experienced on 11th September and 10th November.

48.001 **Common Nettle-tap** *Anthophila fabriciana* (Linnaeus, 1767)
The first of the year was outside of the Ringing Hut on 20th June. There followed two in July, two in September and one in October. A total of six is disappointing compared to the 50 moth-days recorded last year, although it may in part be attributable to recorder effort. This diminutive Nettle specialist 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 found on Skokholm until 2016, however it has been encountered in each year since. One taken from the light trap on 13th June was the first in what was a second excellent year for numbers of this distinctive Tortrix. A singleton found resting on vegetation at the Farm on 5th July was followed by an impressive 34 trapped over three July dates, with a new daycount record of 27 taken on the 7th. One trapped on 28th August and two on 3rd September took the year tally to 39 which is a new high; there were singles in 2016, 2018 and 2019, five in 2017 and 20 in 2020. Although this is primarily a woodland moth whose larvae feed on deciduous trees, its annual occurrence and increasing numbers suggest that it has colonised.

49.045 **Dotted Shade** *Eana osseana* (Scopoli, 1763)
Recorded for the first time in 2014 when 319 were trapped in late June and July, there have since been records of one in 2015, two in 2016 and three in 2017. This year a total of 17 were attracted to

light between 17th June and 12th July, with an additional two field observations on the latter date, these ending a three year absence from the Skokholm records. This nondescript species is widely distributed on the mainland but easily overlooked; it is likely that it is far more abundant on the Island than recent records suggest.

49.077 **Garden Rose Tortrix** *Acleris variegana* ([Denis & Schiffermüller], 1775)
Singles trapped on the 3rd, 6th and 9th August produced the best ever tally in what was just the third year in which this species has been encountered on Skokholm. Two were logged last year, with one in 2015 the only other record. The larvae of this species feed on a variety of plants and shrubs, including Bramble *Rubus fruticosus*, mature examples of which exist near the trapping site.

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. A total of 11 were taken between 1st June and 28th August; although an improvement on the five of 2020 and a blank 2019, the tally was well short of a peak of 80 logged in 2016. 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 rootstock. The number present is likely to correlate with Common Ragwort availability, this a plant which fluctuates in abundance dramatically between years and which has been particularly plentiful for the past two years.

49.164 **Thyme Marble** *Celypha cespitana* (Hübner, 1817)
The first of the year was trapped on 10th July. A further 21 were attracted to light during nine trapping sessions between 1st August and 19th September. With the exception of 2018, this primarily coastal micro has been logged in each of the years since its discovery in 2014. A 2021 total of 22 is the highest on record, with 17 in 2019 the next best tally. The low plants on which its larvae feed, such as Wild Thyme *Thymus polytrichus* and Thrift *Armeria maritima*, are heavily grazed by Rabbits but thrive on the more sheltered and inaccessible cliff faces.

49.166 **Common Marble** *Celypha lacunana* ([Denis & Schiffermüller], 1775)
Singles were taken during three trapping sessions between 29th May and 12th June. This is one of the commonest members of the Tortricidae to be found on Skokholm and is often disturbed from Bracken during daylight hours, however it is easily overlooked. That there were no diurnal records this year no doubt reflects observer effort.

49.285 **Thistle Bell** *Epiblema scutulana* ([Denis & Schiffermüller], 1775)
A total of ten came to the light between the 17th and 28th August, this matching the 2017 tally as the second highest to date. 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 was just one in 2020 and a peak of 14 in 2016.

49.294 **Bramble Shoot Moth** *Notocelia uddmanniana* (Linnaeus, 1758)
This species was first logged on 27th June 2016 when one was attracted to a light trap at the Well. Two were taken in both 2017 and 2019, whilst a late single on 6th August made this just the fourth year with a Skokholm record. Given that this common and widespread species is easily identified, a paucity of earlier Island sightings may suggest that it is a recent colonist, with low counts reflecting the limited number of mature Bramble patches on which the larvae could feed.

49.338 **Codling Moth** *Cydia pomonella* (Linnaeus, 1758)
One taken from the trap on 6th August was the first record for Skokholm. This distinctive species is fairly common on the Pembrokeshire mainland, but given that the larvae feed inside cultivated and

wild fruit (such as apple and pear) it is possible that it was an accidental import to the Island. That being said, it is also conceivable that this individual drifted over on southeasterly winds.

49.341 **Marbled Piercer** *Cydia splendana* (Hübner, 1799)
Singles taken from the light trap on the 2nd and 20th August were just the second and third records for Skokholm following one on 25th July 2014. This is a species of deciduous woodland which favours areas where oak or Sweet Chestnut *Castanea sativa* grow. However it has a known tendency to disperse widely, this no doubt responsible for records on an Island lacking larval foodplants.

52.003 **Lunar Hornet Moth** *Sesia bembeciformis* (Hübner, 1796)
The 2020 discovery of a Lunar Hornet Moth exuvia protruding from the base of a mature Grey Willow *Salix cinerea* at the Well was thrilling. Over the days that followed, regular inspection of the area revealed a further 12 emergences (one of which failed) and eight adults which included two pairs in copula (one of the mated females was later seen ovipositing). There was no indication of an emergence this year, however three distinct piles of fresh frass at the foot of known breeding sites on 26th July suggested that live larvae were present.

52.016 **Thrift Clearwing** *Pyropteron muscaeformis* (Esper, 1783)
It was a seemingly late and disappointing year for records of this Nationally Scarce clearwing, a species which on Skokholm is predominantly found along the North Coast clifftops where its larval foodplant abounds. A single to the west of North Gully on 8th July was the first, this over five weeks later than the first of 2020. Two found above the Dents on the 14th and two at Steep Bay on the 29th were the only other records. A total of five moth-days was down on the ten of last year (when there were sightings between 29th May and 2nd June). Although the use of a pheromone attractant in both 2018 and 2019 contributed to annual totals of 38 and 49 moth-days respectively, 43 were found without a lure in 2017. That being said, just seven were logged in 2015 and there were nine in 2016. The caterpillars of this species feed and overwinter inside the roots and stems of Thrift, typically 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)
A single on the wing at North Pond on 7th July was the first of the year, this 13 days later than the first of 2020. Although nine were present at the same site the next day, there was an apparent lack of insects for the eight days that followed, this despite ideal weather conditions and reasonable observer coverage. There was a lone insect at East Bog on the 17th and 46 were counted on the 18th,

45 of which were near North Pond. There were intermittent sightings during the remainder of July, with a further 175 moth-days logged over eight days and highs of just 68 on the 22nd (50 of which were near North Pond) and 69 on the 23rd (all of which were at North Pond). A July moth-days tally of 232 almost matched the 243 of 2020 and was up on the 149 of 2019, though there were 756 in 2018 and 1436 in 2017. Numbers typically decline sharply in August, however two on the 3rd was the poorest August showing of the last nine years (six in 2018 was the previous low, with 146 in 2015 the high during this period).

62.072 **Meal Moth** *Pyralis farinalis* (Linnaeus, 1758)
Two found in the Lighthouse Kitchen on 19th July were the first for Skokholm. A third moth, showing different patterning and wear, was found in a similar location the following day. With fewer than 20 Pembrokeshire records, the origin of these moths is a mystery, however given that they all appeared within a small area of the Lighthouse, it seems likely that they were accidentally imported to the Island via a foodstuff (whilst they typically use damp and improperly stored grains as larval food, they can also feed on vegetables such as potatoes).

62.077 **Rosy Tabby** *Endotricha flammealis* ([Denis & Schiffermüller], 1775)
One above Crab Bay on 10th July was the first in what was a phenomenal year for records of this distinctive Skokholm breeder. There were 20 encountered nocturnally along the Lighthouse Track on the 14th, after which numbers rose sharply. There were minimums of 100 logged on the 16th and 200 on the 19th and 20th (a scan over the Bog Bracken on the latter dates suggested that numbers were in the thousands, although a closer inspection was not made). Just 11 were counted on the evening of the 21st, however a walk in the early hours of the 22nd revealed a minimum of 1000 along the same route, perhaps suggesting an overnight emergence. Three-figure estimates on three further dates produced a July tally of 2237 moth-days. The contents of the light traps did not reflect the field observations; a total of 15 were taken between the 13th and 25th July, with a peak catch of ten on the latter date. A further 78 came to light during 13 August trapping sessions between the 1st and 28th, with a peak of 27 on the 9th. A minimum of 200 were present along the Lighthouse Track on 4th August, although numbers had started to decline. There were 80 between the Top Tank and East Bog on the 17th and just 25 there two days later. A single on the 3rd and two on the 5th were the only September records, these taking the 2021 moth-days total to 2666, this dwarfing the 21 logged last year and the previous high of 214 recorded in 2018.

63.018 **Elder Pearl** *Anania coronata* (Hufnagel, 1767)
A single trapped at the Farm on 7th July was just a fourth for Skokholm and the first to be taken from the light trap. The larval foodplant, Elder *Sambucus nigra*, 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 first record in July 2019 was presumed to be a wanderer from the mainland. Nevertheless, with two 2020 records along with that of this season, it can perhaps now be

considered likely that Elder Pearl have colonised (this will hopefully become more apparent over the coming years).

63.025 **Small Magpie** *Anania hortulata* (Linnaeus, 1758)
The first of the season was found in the Workshop on 10th June. Two were attracted to light on the 14th and a further single was found in the Bird Loo on the 24th. July saw singles present around the Farm on the 3rd and 5th and one taken from the light trap on the 7th which was the last of the year. An annual tally of seven moth-days is poor, down on the 21 of 2020 and the lowest of the last eight years (the previous low of eight was logged in both 2016 and 2018). Interestingly, recent highs of 79 in 2014 and 50 in 2015 occurred in the years with the lowest Rabbit numbers (a result of the 2013 summer population crash); Small Magpie larvae primarily use Common Nettle *Urtica dioica* as a foodplant during August and September, a plant which the Rabbits often decimate in late summer when other resources are low.

63.031 **Rusty Dot Pearl** *Udea ferrugalis* (Hübner, 1796)
It was a slightly better year for records of this regular Skokholm immigrant. The first of the season was taken from the light trap on 12th June, this eight weeks earlier than the first of 2020. A further single was at the light on the 13th and one was found in the Ringing Hut on the 16th. There followed one in July, eight in August, ten in September (including four field observations), 13 in October (including three field observations) and two in November, the latter attracted to lit Lighthouse windows on the 10th and 13th. An annual total of 37 moth-days was up on the 24 of last year, but down on the 64 of 2019. The highest total this decade was in 2014 when 576 moth-days included a daycount of at least 150 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. One taken from the light trap at the top of North Haven on 20th July was the first of the year, whilst singles were found to the north of the Wheelhouse on the 25th and 27th July. A 2021 moth-days total of three continues a recent run of low annual tallies; there was one in 2013, three in 2014, one in 2015, none in 2016, four in 2017, five in 2018, two in 2019 and one last year. Given that the larvae feed on Common Nettle, it is perhaps surprising that the only other years in which Mother of Pearl have been documented 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 but has since been recorded annually. One at Crab Bay on 6th July was the first in what was the best year on record for sightings of this species on Skokholm. There followed a further 11 diurnal July moth-days (including a count of nine on the 14th), with an additional six taken from light traps situated at North

Haven, the Farm and the Lighthouse. Six were logged in August, one was along the Lighthouse Track in September and one taken from the trap at the Farm on 14th September was the last of the year. A 2021 moth-days total of 26 was up on the single found last year and a previous high of 16 logged in 2016. This distinctive, Nationally Scarce B, is distributed along the southerly coasts of Britain, the larvae feeding on decaying plant matter (on Skokholm probably that of trefoils and plantains).

63.052 **Rush Veneer** *Nomophila noctuella* ([Denis & Schiffermüller], 1775)
One found along the South Coast on 6th June was the first in what proved to be a much busier year for sightings of this familiar immigrant. The first to come to light was taken on 13th June, this followed by one in August and 12 in September. The majority of records were diurnal field observations made during the autumn; a total of 31 moth-days were logged between the 3rd and 25th September, with a peak of six on the 13th. A 2021 moth-days total of 46 was up on the six of last year, but well short of a recent high of 236 recorded 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. Five found in the field on 27th May were the first of the year and two attracted to light at the Farm on the 29th were the first to be trapped. There were a further two diurnal moth-days in May and 30 in June, with 20 on 6th June the maximum daycount. The traps produced an additional 28 moths-days in June and 15 in July.

63.067 **Little Grey** *Eudonia lacustrata* (Panzer, 1804)
One taken from the light trap at the Farm on 19th August was just a third for Skokholm following singles on 17th June 2016 and 30th June 2018. This moss feeding species is fairly distinctive and distributed widely across the British Isles.

63.071 **White-line Grey** *Eudonia lineola* (Curtis, 1827)
A total of six were taken between 8th July and 10th August from traps situated at the Farm, North Haven and the Lighthouse, this an improvement on the single attracted to light last year. It is likely that this *Xanthoria* lichen feeding, Nationally Scarce B is under-recorded on the Island; unlike other members of this genus which often flush from grassland during the day, White-line Grey can be difficult to encounter unless attracted to light.

63.080 **Garden Grass-veneer** *Chrysoteuchia culmella* (Linnaeus, 1758)
A total of 75 were trapped between 4th June and 19th July, with highs of 21 on 13th June and 15 on 7th July. This Crambid is easily disturbed during the day, although it is hugely under-recorded in the majority of years.

63.081 **Inlaid Grass-veneer** *Crambus pascuella* (Linnaeus, 1758)
One trapped on 8th July was just a third for Skokholm and the first encounter with this species since two were trapped on 29th August 2011. This is a common and widespread species in Britain which feeds on a range of grasses; quite why it has been trapped so infrequently on Skokholm is unclear.

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 two on 10th August (this a late date for the first encounter), a further 50 were taken during six trapping sessions. A peak catch of 17 was made on 25th August and a single on 3rd September was the last of the year.

69.004 **Convolvulus Hawk-moth** *Agrius convolvuli* (Linnaeus, 1758)
The only 2021 record of this impressive migrant was of one discovered whilst watching gulls from the Neck Hide on 21st August; the moth was at rest, low down on a north facing cliff. The first for

Skokholm was logged in 1940, however there were no further encounters until one was found in the Well Heligoland in August 2014. There followed one in 2015, nine in 2016, three in 2017, one in 2018, three in 2019 and two last year; this thus becomes the eighth consecutive year with a record.

69.010 **Hummingbird Hawk-moth** *Macroglossum stellatarum* (Linnaeus, 1758)
A single found at Migration Rocks on 11th June was the first of the year and 12 days later than the first of 2020; one present at the same warm and sheltered site on the 13th and 14th may well have been the same insect. The next sighting was not until 18th August, when a single was nectaring on Sea Campion near the Lighthouse Hide at dusk. One was in the Courtyard on 9th September and one at the Ram two days later was the last of the year. A 2021 total of six moth-days was disappointing and the lowest of the last nine years; the nine moth-days of 2014 was the previous low, whilst there were 16 last season and highs during this period of 40 in 2017 and 45 in 2019.

70.011 **Single-dotted Wave** *Idaea dimidiata* (Hufnagel, 1767)
The first three of the year were trapped above North Haven on 19th July. A further six came to light during the remainder of the month, with an additional insect found indoors on the 27th. Six were taken during four August trapping sessions, taking the annual total to 16. Following records in 1937 and 1960, there was a 54 year absence until six were discovered in 2014. There has since been a run of encounters with this infrequent Skokholm *Idaea*, with this year's tally the highest on record. This is primarily a species of moist areas (indeed over half of this season's observations came from near damp patches at North Haven and Billy's Dyke), where its larvae feed during the autumn, primarily on the flowers of Cow Parsley *Anthriscus sylvestris*, Burnet Saxifrage *Pimpinella saxifraga* and Hedge Bedstraw *Galium mollugo*; given that none of these species are known from Skokholm, the regularity of recent Single-dotted Wave records suggests the use of less typical foodplants such as Blackthorn or species in the Compositae and Plantago families.

70.016 **Riband Wave** *Idaea aversata* (Linnaeus, 1758)
There are two distinct forms of Riband Wave found in the British Isles, with the darker, ribboned form exhibiting a dark band across all four wings and the plain form *remutata* having two narrow cross-lines instead of the dark band (UK Moths, 2020); whilst both forms are thought to occur in similar proportions in the southern half of its range, the frequency of *remutata* increases to the north. A single of the darker form found in the Courtyard on 22nd June was the first in a busy year for encounters with this splendid Skokholm breeder. A further 15 trapped between the 7th and 20th July included an impressive ten taken from North Haven on the 19th; the latter catch included three darker form and seven *remutata* imagoes. The four darker form moths found this year were unusual; one trapped on 7th July 2020 was the first to be seen on Skokholm in eight years.

70.023 **Mullein Wave** *Scopula marginepunctata* (Goeze, 1781)
This species, which is double-brooded in the south of its range and which has a mainly coastal distribution in the British Isles, is now recorded almost annually on Skokholm, albeit in low numbers. The only first brood imago taken this year was at the Lighthouse on 13th July. A total of ten second generation moths were trapped between 3rd August and 5th September, with an additional two attracted to a lit window of the Lighthouse on the latter date. A moth-days total of 13 was up on the two of last year and recent highs of five logged in 2014, 2016 and 2019; this probably reflects increased trapping effort in more diverse locations rather than a genuine increase in numbers.

70.041 **July Belle** *Scotopteryx luridata* (Fabricius, 1775)
A single taken from the moth trap at the top of North Haven on 19th July was an exciting find and a first for Skokholm. July Belle can be confused with the very similar Lead Belle *S. mucronata*, of which there is a single Skokholm record from 1937. The flight season of these two species differs somewhat, with Lead Belle typically on the wing between mid-May and mid-June and July Belle flying later in the season, from mid-June to early August. The position and shape of the black

forewing spot is perhaps the most reliable external feature separating these species; this year's moth showed a small round spot situated closer to the second cross-line than the third, whereas this spot is typically tear-shaped and central between the second and third cross-lines in Lead Belle (often closer to the third). July Belle is clearly a wanderer from the mainland; Gorse *Ulex* spp. and Petty Whin *Genista anglica* are the larval foodplants, neither of which now occur on Skokholm (the former is only recently extinct).

70.049 **Garden Carpet** *Xanthorhoe fluctuata* (Linnaeus, 1758)
Four were attracted to light at the Farm between 25th August and 19th September. Just one was taken last year and a single in 2019 was the first since 2016, indeed there have been records in just four of the last nine 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.

70.051 **Red Twin-spot Carpet** *Xanthorhoe spadicearia* ([Denis & Schiffermüller], 1775)
A first generation moth trapped on 19th April was the only record this year. This is seemingly a much scarcer species on Skokholm than the Dark-barred Twin-spot Carpet, this being the first record since 2017 when 14 were taken between 13th June and 26th August. The only other 21st century record is of a single on 4th August 2013, whilst this species was also logged in 1910, 1912, 1937, 1960 and 1968. Separating worn individuals from the red form of Dark-barred Twin-spot Carpet can be challenging; two moths taken from the trap on 25th July were probably this species and an additional 58 caught between 20th July and 25th August were also aggregated as *X. ferrugata*/*spadicearia*.

70.052 **Dark-barred Twin-spot Carpet** *Xanthorhoe ferrugata* (Clerck, 1759)
It was a better year for records of this common Skokholm breeder. One trapped on 19th May was the first. There followed a further five in May (eight in 2020), nine in June (one in 2020), 11 in July (none in 2020), 26 in August (three in 2020) and five in September (none in 2020). One on 6th September was the last of the season. An annual moth-days total of 57 was up on the 12 of last year and a much more typical showing for this species; there were 57 in 2016, 58 in 2017, 101 in 2018 and 56 in 2019. See above for an additional 60 moths aggregated as *X. ferrugata/spadicearia*.

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 but one which is only occasionally found in the moth trap. The first of the season was above Crab Bay on 11th June, this 13 days later than an early 2020 sighting. A further 98 moth-days were logged during the remainder of the month, including the first to be trapped on the 17th and a peak count of 31 on the 26th (there were 122 logged in June 2020). A total of 95 moth-days were noted in July, of which five came from the light trap (a total of 94 were logged last year). Four of the 36 August moth-days were trapped (there was an August total of only four in 2020). A single found on 1st September was the last of the year.

70.086 **Broken-barred Carpet** *Electrophaes corylata* (Thunberg, 1792)
One flushed from vegetation in the Courtyard on 20th June was the first Skokholm record of this distinctive carpet. The larvae of this single-brooded species feed on the leaves of broadleaved trees and shrubs, the adult moths unsurprisingly more common in woodland and scrubland habitats. Given a lack of previous records, this individual is likely to have wandered from the nearby mainland.

70.141 **Double-striped Pug** *Gymnoscelis rufifasciata* (Haworth, 1809)
One taken from the moth trap on 22nd August was the first to be seen since October 2019. There followed one at a lit Lighthouse window on the evening of the 25th, two at the same location on 5th September and a diurnal record of one resting on the Lighthouse Seawatch Hide on the 19th. With the exception of 2020, this species has been sighted annually since 2013, however a year tally of five is the highest to date. The only records prior to this decade were logged in 1990, 1998 and 2000.

70.155 **Netted Pug** *Eupithecia venosata* (Fabricius, 1787)
The only sighting this season was of two freshly emerged adults found resting on the exterior walls of Lockley's Cottage on 28th May, this the first since four were encountered in 2019. Although logged in only four of the last eight years, it is likely that this species is more abundant than the records suggest; the larvae feed within the seed capsules of Sea Campion, a species dominant across many parts of the Island.

70.173 **Lime-speck Pug** *Eupithecia centaureata* ([Denis & Schiffermüller], 1775)
It was an excellent year for sightings of this bird dropping mimic. A peak catch of 20 taken from the trap at the Farm on 25th August contributed to a moth-days total of 106 logged between 29th May and 14th September. This is the highest annual tally on record; the previous high was the 60 of 2016, whilst recent totals were only 27 in 2019 and 39 in 2020. Although this is seemingly a common Skokholm breeder, a single caterpillar found feeding on a Ragwort plant in the Courtyard on 17th September was the first to be documented on the Island.

70.179 **Wormwood Pug** *Eupithecia absinthiata* (Clerck, 1759)
One trapped on 2nd August was the first of the year. There followed seven more, taken over five trapping sessions between 16th August and 24th September. 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 50 in 2014 when the foodplant was plentiful around the Farm, but only one in 2017, six in 2018, seven in 2019 and five in 2020.

70.222 **Brown Silver-line** *Petrophora chlorosata* (Scopoli, 1763)
This Skokholm breeder is often flushed from Bracken during late spring and early summer and can be quite conspicuous when present in good numbers. However it was a quiet year for records, indeed the total was the poorest since 2017. One trapped on 20th April was the first, this nine days later than that of 2020 and one day later than that of 2019, but over three weeks earlier than the first of 2018. There followed four in May (90 in 2020), 50 in June (46 in 2020) and seven late insects in July. An annual total of 62 moth-days (47 of which were taken from the trap) fell short of last year's tally by 57%; a 2016 total of 203 is seemingly the highest on record, whilst there were 48 in 2017, 83 in 2018, 142 in 2019 and 144 in 2020. Given the ubiquitous nature of the larval foodplant, Bracken, fluctuations in adult numbers perhaps reflect overwinter survival of the pupae. Two unseasonal storm events in May might further explain this year's low total.

70.226 **Brimstone** *Opisthograptis luteolata* (Linnaeus, 1758)
One found inside the Ringing Room on 11th July was the first to be seen since September 2019 when two were taken from the trap. There were singles in 2013 and 2016 and two in 2018, whilst the only other years with a sighting are 1937, 1960, 1994 and 1995. This unmistakable moth utilises a large range of larval foodplants, particularly Hawthorn and Blackthorn, and is common and widespread across much of Pembrokeshire where it can produce three overlapping generations each year.

70.241 **Scalloped Oak** *Crocallis elinguaria* (Linnaeus, 1758)
Following moths in 1937, 1960, 2014 and 2016, a single trapped at North Haven on 19th July and another taken at the Farm on 9th August were just the fifth and sixth Skokholm records of this common mainland species.

71.012 **Iron Prominent** *Notodonta dromedarius* (Linnaeus, 1767)
A stunning second generation individual, taken from the light trap at the Farm on 25th August, was a first for Skokholm. This is a fairly common mainland species, particularly in broadleaved woodland and riverine habitats where its larvae feed on birches *Betula* spp. The moth was in good condition, suggesting that it had only recently emerged on the nearby mainland.

71.025 **Buff-tip** *Phalera bucephala* (Linnaeus, 1758)
An adult, found resting at the Well on 13th July, was the first in what proved another interesting year for records of this cryptic species. What was thought to be a different individual was present in the Wheelhouse Heligoland the following day, this the only other adult to be logged. Although a total of two was down on the nine of last year, this becomes just the sixth season in which an imago has been encountered following further records in 1992, 2011, 2014 and 2019. On 13th August 27 caterpillars were found feeding on a willow in Well Stream and a check of the willows in the Wheelhouse Heligoland produced a remarkable count of 336; the latter tally comprised six discreet gatherings. A total of 363 larvae is the highest Skokholm count by some margin; breeding had only been confirmed in 2011, 2014, 2019 and 2020, with a previous high of 81 caterpillars noted in 2019.

72.002 **Straw Dot** *Rivula sericealis* (Scopoli, 1763)
An extremely worn individual taken from the light trap on 6th September was the first since 27th August 2017 and just the second this century. Although a relatively common mainland moth, whose

larvae feed on a range of grasses, the only other years with a Skokholm record are 1910, 1912, 1937, 1960 and 1968.

72.017 **Vapourer** *Orgyia antiqua* (Linnaeus, 1758)
A male at the Knoll on 1st August was the first to be seen on the wing, however there were no further sightings until 4th October when one was flying over the cliffs at Far Bay. There followed one in the Courtyard on the 11th and another in South Haven on the 12th which was the last of the year. The flightless female was not encountered this year, although a vacated, egg-laden cocoon was present on a willow trunk in the Well Heligoland on 29th August. This was the second cocoon to be seen this year following an overwintered example, again with eggs, found attached to Bracken along the Neck Wall on 7th May. A caterpillar in the Well Heligoland on 29th August was the only larval stage individual to be found. There have been regular sightings of Vapourer larvae since 2013, albeit in low numbers, but records of adult males were rare until 2017 when nine were found; there followed 11 males in 2018, 15 in 2019 and 20 last year. The much less conspicuous females were not encountered until 2018 when two were logged; there followed singles in 2019 and 2020.

72.019 **Buff Ermine** *Spilosoma lutea* (Hufnagel, 1766)
The first of the season was taken on 19th May and a further eight were trapped during the remainder of the month. There followed 42 in June, 68 in July, 75 in August and one on 14th September which was the last of the year. The September record continues a run of late season observations, part of an unusual second generation emergence first noted in 2019. A moth-days total of 195 is the highest on recent record; there were 191 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 again the case this year.

72.020 **White Ermine** *Spilosoma lubricipeda* (Linnaeus, 1758)
One attracted to a lit Lighthouse window on 12th May was the first of the season. Three on 3rd June were the first to be taken from the light trap and a further four were logged over three June dates. There were three in July, with one on the 25th the last of the year. Despite its ubiquitous mainland status, Skokholm records are becoming scarce; a moth-days total of 11 was the lowest on recent record, down on tallies of 56 in 2017, 84 in 2018, 25 in 2019 and 13 last year.

72.022 **Muslin Moth** *Diaphora mendica* (Clerck, 1759)
It was a poor year for records of this species, with just three males taken over three dates between 17th April and 29th May. A total of 54 males were encountered in 2016, whilst there were 22 in 2017, six in 2018, 20 in 2019 and 21 in 2020. Quite why so few came to light this year is unclear, although the May storms perhaps had an impact. 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 taken from the light trap at the Farm on 3rd June. There were no further records until July when a single was caught at the Lighthouse on the 13th. A total of 42 moth-days were recorded during August, including the only two diurnal observations of the year (these singles along the Lighthouse Track on the 15th and 21st) and two attracted to a lit Lighthouse window on the 25th which were the last of the year. A year total of 44 moth-days was the highest since 2015 when 49 were logged; there were 16 in 2019 and 27 last year.

72.026 **Garden Tiger** *Arctia caja* (Linnaeus, 1758)
An adult taken from the Farm light trap on 1st August was the only 2021 record of this instantly recognisable species. Despite an abundance of Common Nettle, one of the larval foodplants, this is seemingly a scarce moth on Skokholm; there have now been records in seven of the last nine years, with five moth-days recorded in 2015, 2017, 2018 and 2019, 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 was on the wing at East Bog on 13th June, this 18 days later than the first of 2020; it was thus the first year since 2013 without a May imago. Three attracted to light on the 14th were the first to be trapped. There followed a further six diurnal June moth-days, with a peak of three on the 17th. A June tally of ten moth-days was the lowest this decade and continues a sharp decline in June sightings; 1037 were logged in 2017, 1010 in 2018, 66 in 2019 and 12 in 2020. A single trapped on 7th July was the only imago to be encountered during the month and a total of 15 caterpillars were observed (seven along the Lighthouse Track and eight at East Bog). A single caterpillar on the 10th was the only August record, this despite a detailed inspection of Ragwort plants between the Knoll and East Bog on the 17th, indeed there were no further 2021 sightings. Whilst the rapid decline seen

recently is alarming, this species has undergone local extinctions in the past, with several years elapsing without an Island record (Thompson, 2007). 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, 2020 and 2021 did not halt 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.

72.041 **Four-spotted Footman** *Lithosia quadra* (Linnaeus, 1758)
Two males taken from a trap at the top of North Haven on 19th July were just the fourth and fifth Skokholm individuals and the first since 1937. The historical database contains entries for two further years, 1910 and 1912. This species was previously considered an immigrant from the Continent (and still arrives as such), however it is now well established along the southwest coasts of Wales and England. The larvae feed primarily on deciduous tree lichens; whilst seemingly suitable habitat is available on Skokholm, a lack of records suggests these two wandered from the mainland.

72.044 **Dingy Footman** *Eilema griseola* (Hübner, 1803)
Two trapped above North Haven on 19th July and one there the following evening were the first to be encountered since 1st August 2019 when a single was taken at the Farm. The first Island record was trapped as recently as 25th July 2014, whilst a catch of five was taken on 22nd July 2017. This year's records thus make 2021 just the fourth season in which this species has been recorded here. This is a common moth in the southern half of Wales, where its larvae feed on sea-cliff lichens; that there have been so few Skokholm records may thus reflect limited light trapping along the coast.

72.046 **Scarce Footman** *Eilema complana* (Linnaeus, 1758)
This summer-flying species was first recorded in July 2017 when three were trapped, these followed by singles taken on 6th August 2018 and 3rd August 2019. One on 8th August this season thus makes 2021 just the fourth year with a record. As with the closely related Dingy Footman, a paucity of Island records may reflect a preference for trapping around the Farm; this species has a mainly coastal distribution in Wales, with the larvae feeding on a variety of mosses as well as lichens.

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, although the only moth seen this year was attracted to a lit Lighthouse window on 5th September. Four were trapped last year, a tally which equalled the 2017 record. Although logged in six of the last nine years, 2021 becomes just the tenth 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 a dearth of sightings of this likely Skokholm breeder.

72.061 **Pinion-streaked Snout** *Schrankia costaestrigalis* (Stephens, 1834)
One trapped at the Farm on 21st September was a new moth for Skokholm. This is a species of damp and marshy habitats, although surprisingly no one has encountered their larvae in the wild; in captivity they will use lettuce, heather, Wild Thyme, Water Mint and withered Sallow leaves.

73.001 **Spectacle** *Abrostola tripartita* (Hufnagel, 1766)
Following a disappointing 2020 total, it was a much-improved year for records of this distinctive Skokholm breeder. The first was taken from the trap on 30th May. There followed 15 in June (peaking at five on the 14th), ten in July and 11 in August, with one on the 23rd the last of the year. A total of 37 moth-days is the highest this decade; there were 32 in 2018, 20 in 2019 and just nine last year.

73.012 **Burnished Brass** *Diachrysia* chrysitis (Linnaeus, 1758)
The first since 2019 was taken from the trap at the top of North Haven on 20th July, whilst a second brood imago attracted to light at the Farm on 15th September was the only other record. Despite the abundance of Common Nettle, one of its preferred larval foodplants, records of Burnished Brass on

Skokholm are scant; although there were 15 in 2014 (when a single night of trapping at North Haven produced 11 individuals), there was only one in 2016, two in 2017, one in 2018 and three in 2019.

73.015 **Silver Y** *Autographa gamma* (Linnaeus, 1758)
One found in the Quarry during 22nd April was the first of the year, this ten days later than one last year which is the earliest on record. There were no further sightings until a single was seen on 3rd June, after which a further 15 June moth-days were logged. There were diurnal tallies of 40 in July, 85 in August, 231 in September and two in October (both the latter on the 15th and the last of the year). The light trap contributed a further single in July, six in August and three in September. An annual total of 385 moth-days was down on the 684 of 2020 and was the fourth lowest tally of the last nine years; there were 542 in 2013, 142 in 2014, 627 in 2015, 458 in 2016, 99 in 2017, 1474 in 2018 and 128 in 2019.

73.022 **Gold Spot** *Plusia festucae* (Linnaeus, 1758)
A pristine individual taken from the light trap on 23rd August was just a seventh for Skokholm and the first since one caught on 6th September 1999. The only other records are of two in September 1996 and singles in the Octobers of 1992, 1994 and 1996. There are no shortage of larval foodplants on the Island, with Yellow Flag *Iris pseudacorus* being particularly common, so it was perhaps surprising that this was the first record of the 21st century.

73.045 **Knot Grass** *Acronicta rumicis* (Linnaeus, 1758)
One trapped on 19th May was the first of the year. Four more were attracted to light during the remainder of May, these followed by eight in June, six in July and 24 in August, with a peak catch of six on 1st August and the last of the season on the 28th. An annual total of 43 is up on the 29 of last

year, but down on the 56 of 2019. Lone examples of the distinctively marked caterpillars, which feed on a range of herbaceous plants, were noted on 17th July and 3rd August.

73.055 **Star-wort** *Cucullia asteris* ([Denis & Schiffermüller], 1775)
It was a quiet year for records of this Nationally Scarce B coastal specialist, with the moth-days total being the lowest since 2018. One taken on 12th June was the first, this followed by singles on 14th June and on the 7th and 10th July. Although first discovered on the Island in 1999, it was not logged again until 2013 when two were taken. 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, 11 in 2019 and eight in 2020 (the latter total perhaps impacted by reduced July trapping effort). This increase in records can be attributed to an expanding distribution of Goldenrod *Solidago virgaurea*, the larval foodplant.

73.076 **Scarce Bordered Straw** *Helicoverpa armigera* (Hübner, 1808)
One found flying around North Plain on the night of 13th September was the first since two were trapped in 2018. Records exist for only two further years; one was trapped in September 1996 and two were observed after dark in September 2016. This thus becomes only the fourth year, but the third of the last six, with a record of this unusual autumn immigrant.

73.085 **Marbled Green** *Nyctobrya muralis* (Forster, 1771)
Despite being a reasonably common maritime moth, this species remains a relatively scarce find on Skokholm. A dark individual trapped above North Haven on 20th July was the first, this followed by singles at the Farm on 25th July and 25th August. A total of three moth-days matches that of last year and makes this the eighth of the last nine years with a record. Single-figure totals are typical, with the four logged in both 2014 and 2016 being the maximum total achieved when only deploying one trap; the use of multiple traps away from the Farm in 2017 produced a moth-days total of 18. It is quite probable that Marbled Green is an under-recorded Skokholm breeder, especially given its unobtrusive nature and excellent camouflage when resting on lichen encrusted rocks.

73.092 **Mottled Rustic** *Caradrina morpheus* (Hufnagel, 1766)
One taken on 16th June was the first since 7th June 2016 and only the third record of the 21st century. Although this is a common Pembrokeshire species, the only other Skokholm sightings occurred in 1937, 1960, 1992 and 2014. The larvae feed on a variety of herbaceous plants, however a preference for Nettle suggests that there should be suitable breeding habitat on the Island.

73.099 **Vine's Rustic** *Hoplodrina ambigua* ([Denis & Schiffermüller], 1775)
The third Skokholm example of Vine's Rustic was taken from the trap at the Farm on 5th September. The first two Island records were trapped just two days apart in August 2019. Despite this being a common species in parts of south Wales, it is seemingly a scarce moth in Pembrokeshire, indeed

there have only been 59 records in the county and only three of these have been since 2000, all of which have been on Skokholm. Primrose *Primula vulgaris* would provide a suitable larval foodplant.

73.113 **Angle Shades** *Phlogophora meticulosa* (Linnaeus, 1758)
One taken from the light trap and another found resting inside the Cottage Heligoland on 31st March were the first, these over two weeks earlier than one in 2020. The trap produced a further three in April, one in June, five in August, 33 in September and four in October. There were an additional 249 moth-days logged in the field, all but two of which were in September; there were four mating pairs on the 5th, seven on the 7th, 19 including 12 mating on the 11th, 47 on the 13th (32 of which were feeding on apples left for migrant birds), 160 on apples on the 16th, five between the 17th and 19th and a freshly emerged adult wing pumping on the 20th. A year total of 297 is 163% up on the record 2020 tally, although the lure of sugary apples no doubt resulted in more insects being observed.

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 than some of the other moths reliant on this food source. One trapped on 12th June was the first, after which a further 12 came to light between 14th June and 23rd August. A late individual found feeding on rotting apples on 16th September was the last of the season. A year total of 14 is the third highest on record and a welcome improvement on the three logged in 2020; there were four moth-days in 2013, five in 2014, 24 in 2016, 15 in 2017, five in 2018 and six in 2019.

73.123 **Rosy Rustic** *Hydraecia micacea* (Esper, 1789)
It was a better year for records of this common mainland moth. Two taken on 16th August were the first, these followed by singles on two August and four September dates. A year total of eight moth-days, whilst seemingly a poor showing, is actually the highest on record; there were two in 2014, five in 2016, four in 2017, singles in 2018 and 2019 and four last year, whilst prior to these 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 another quiet year for records of this late-summer moth whose larvae feed underground in dry grassland. One attracted to a lit Lighthouse window on 26th August and singles trapped at the Farm on the 26th and 28th August were the only moths this year. Although there are regular entries for this species in the Skokholm database, the number encountered is generally low; there were a record 15 moth-days in 2016, but only two in 2017, one in 2018, ten in 2019 and three last year.

73.134 **Large Wainscot** *Rhizedra lutosa* (Hübner, 1803)
It was the best year on record for this species, with a total of 27 imagoes taken during seven trapping sessions between 24th September and 16th October (including peaks of seven on 26th September and eight on 4th October). Although its larval stage is yet to be found, this species has probably established itself as a Skokholm breeder within the last decade; following the first record on 23rd July 2011 and singles encountered in the Octobers of 2016 and 2018, there were ten logged in 2019 and three in 2020. 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 some speculation as to whether this species, along with the Brown-veined Wainscot *Archanara dissoluta*, is responsible for a localised summer die-off of reeds witnessed at the Well over the last three years.

73.144 **Small Wainscot** *Denticucullus pygmina* (Haworth, 1809)
A total of nine came to light during eight trapping sessions between the 2nd and 26th August. This was up on the four of 2020 and matched that of 2017 as the highest tally on record; there were seven in 2014, six in 2016, one in 2018 and seven in 2019. 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)
One trapped on 8th August was the only record of the year and just a tenth for Skokholm, making 2021 the sixth of the last eight years with a sighting; two were taken in 2014, 2016, 2019 and 2020, whilst a single was logged in 2018. 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 Flag. 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)
This double-brooded species is one of the most regularly encountered moths in the Skokholm trap. A total of 293 were taken from light traps over 27 dates between 7th July and 26th September, with a peak catch of 34 at North Haven on 20th July. One amongst a catch of 24 on 18th August was of the dark form *infuscata* (below photograph), this showing a blackish ground colour but conspicuous

markings (it is thus separable from the darker form *aethiops* in which the oval and kidney marks are obscured). Whilst this year's tally was up on the 168 of 2020 (a lower total likely attributable to fewer July trapping sessions), it was close to the 275 moth-days of 2019 and was down on a recent high of 578 recorded 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)
One found at the Red Hut on 1st July was the first of the year. An unprecedented catch of nine were taken from the moth trap on the 7th, whilst a further 12 came to light during three trapping sessions between the 10th and 13th. A single found at the Ringing Hut on 21st July was the last of the year, taking the 2021 moth-days tally to 23. This is an impressive total for a species which is usually a scarce Skokholm find; there were four in 2014, three in 2015, eight in both 2016 and 2018, four in 2019 and three in 2020. Although now logged in seven of the last eight years, there are records for just five years prior to this period, with the most recent being in 1996.

73.171 **Rosy Minor** *Litoligia literosa* (Haworth, 1809)
One trapped on 2nd August was the only 2021 record and the first since a single on 25th July 2014. This species is recorded infrequently on Skokholm; there are entries in the database for 1937, 1960, 1968 and 1995, whilst the most recent encounter prior to 2014 was on 13th August 1998.

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; there was one in 2014, three in 2015, 30 in 2016, 26 in 2017, 43 in 2018 and 67 in 2019, although inclement October weather in 2020 limited trapping and resulted in just 19 moth-days. A total of 42 were taken between 21st September and 23rd October this year, with a peak catch of 15 individuals at the Farm on the 11th.

73.200 **Tawny Pinion** *Lithophane semibrunnea* (Haworth, 1809)
One attracted to light on 13th April was an exciting find and another Island first. Although primarily found in the southern regions of Wales and England, this is an uncommon Pembrokeshire moth, indeed the Skokholm record becomes just the eighth for the county. This is a species of open woodland and marsh where its larvae feed predominantly on Ash *Fraxinus excelsior*; adults on the wing in late autumn hibernate before flying again in April and May.

73.235 **Feathered Ranunculus** *Polymixis lichenea* (Hübner, 1813)
This is chiefly a coastal species, which on Skokholm probably uses Thrift as a larval foodplant. Two taken on 15th September were the first of the year. There followed 11 further September moth-days (taken over four trapping sessions) and 22 October moth-days (taken over seven sessions), with a peak count of six on 10th October. An annual total of 35 was an improvement on the 26 of last year, but was down on recent tallies of 62 in 2017, 58 in 2018 and 45 in 2019. Surprisingly there was only one individual noted in both 2014 and 2015, the former 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 to the grazing of flower stems by Rabbits. Given that its primary foodplant is likely to become restricted to inaccessible cliffs, records of Feathered Ranunculus will perhaps decline in the future.

73.236 **Black-banded** *Polymixis xanthomista* (Hübner, 1819)
This Nationally Scarce A is restricted to clifftops and beaches along the southwest coasts of England and Wales. The first of the year was sadly found dead in the Ringing Hut on 11th September, this followed by a sighting of a live moth on Home Meadow, after dark that same evening. One attracted to light on 15th September was the only individual to be trapped. There was just one trapped in both 2019 and 2020, these the only other records since 2016 when a single was also encountered. There were 16 in 2014 and two in 2015, the former 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. Although the larvae are typically found in the flowers and leaves of Thrift, they will also use Sea Campion; declining Thrift availability (discussed under Feathered Ranunculus above) will perhaps thus have less of an impact on this species.

73.237 **Large Ranunculus** *Polymixis flavicincta* ([Denis & Schiffermüller], 1775)
A total of four were taken across three nights between the 16th and 24th September. This was down on the nine of last year, a total produced during a single South Haven trapping session on 20th September which was the highest annual tally since 21 were trapped in 2014. First recorded on Skokholm as recently as 1992, there were sightings in three further years prior to the record 2014 total; there followed four in both 2015 and 2017, three in 2018 and two in 2019. 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 far from this habitat). 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)
Given that singles in 1992 and on 17th April 2020 were the only Skokholm records of a moth of mature gardens and deciduous woodland, it was assumed that this was an Island immigrant, however this year saw singles taken during five trapping sessions between 21st March and 22nd April. It has been suggested that an early flight season may have had an impact on the number of previous records; insects are on the wing during March and April, two months which often experience weather conditions prohibitive to running the light trap. That both March and April trapping sessions were possible during the first year with multiple moth-days perhaps supports this theory.

73.254 **Antler Moth** *Cerapteryx graminis* (Linnaeus, 1758)
Two trapped on 3rd August were the first, these followed by a further 16 taken over eight trapping sessions during the remainder of the month, with catches not exceeding three individuals and two on the 26th the last of the year. Although a moth-days total of 18 was down on the 64 of 2019 and the 34 of last year, it was up on earlier tallies; there were two in 2014, one in 2015, three in 2016 and seven in both 2017 and 2018. 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 five in May (58 in 2020), 136 in June (36 in 2020), 141 in July (21 in 2020), five in August (15 in 2020) and six in September (one in 2020). A total of 293 moth-days was more than double the 131 of last year and was the highest count in recent years; there were 58 in 2014, ten in 2015, 206 in 2016, 183 in 2017, 118 in 2018 and 194 in 2019, whilst the highest ever tally is the 311 moth-days recorded in 1996. In Britain and Ireland as a whole, this is a species which has declined significantly in abundance since 1970 (Randle *et al*., 2019). On Skokholm, the availability of the larval foodplants orache *Atriplex* spp. and goosefoot *Chenopodium* spp. increases dramatically during the summer, particularly during dry seasons when they proliferate in the waterless ponds.

73.271 **Broom Moth** *Ceramica pisi* (Linnaeus, 1758)
The first example of this common resident was trapped on 19th May and a further three were taken on the 31st. A total of 57 were trapped in June and there were 14 in July. Singletons on the 21st and 24th September were part of an unusual second brood emergence, an event also observed in 2019

(five moth-days) and in 2020 (three moth-days). A 2021 moth-days tally of 77 was the lowest of the last six years, down on totals of 367 in 2016, 197 in 2017, 171 in 2018, 118 in 2019 and 102 last year.

73.276 **Campion** *Sideridis rivularis* (Fabricius, 1775)
It was an excellent year for records of this common Skokholm breeder. A total of 314 moth-days were logged, with the first at the Table on 19th April, the last at the Farm on 21st September and with peaks of 45 at the top of North Haven on 19th July, 106 at the same site the following day (the only larger catches are the 137 taken on 29th July 1996 and the 151 taken two days later), 37 at the Farm on 1st August and 29 at the same site on the 3rd. The moth-days total was the highest on recent record (there were 169 in 2018, 140 in 2019 and 113 last year), whilst an all-time high of 378 was recorded in 1996.

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 an infrequent find on Skokholm. The first three of the year came to light at the Farm on 3rd June, this matching that of 10th June 2016 as the largest catch on record. A single was taken at the Farm on the 13th and one trapped along the South Coast Path on 30th June was the last this year. This becomes the fourth year of the last nine in which there has been a sighting, with a moth-days total of five being the second highest on record; there were seven in 2016, one in 2018 and two last year, whilst earlier records were logged in 1937, 1960, 1992, 1995 and 1996. Sea Campion and Rock Sea-spurrey *Spergularia rupicola* provide the larval food.

73.281 **Lychnis** *Hadena bicruris* (Hufnagel, 1766)
There were seven fresh imagoes identified over five trapping nights between 17th June and 8th August. Although this species is encountered annually, totals seldom reach double-figures; there were three in 2013, two in 2014, four in 2015, two in 2016, ten in 2017, nine in 2018, 12 in 2019 and 14 last year, whilst Lychnis has made it onto the Skokholm list in just four further years. This is a moth which could potentially be overlooked amongst larger catches of Campion, especially when worn individuals of both species are present in a busy trap.

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 97 moth-days were recorded between 13th April and 25th August; with the exception of two singles attracted to a lit Lighthouse window, all were taken from moth traps. Four of the five largest catches were unsurprisingly from traps situated in dense Sea Campion; there were ten on the South Coast Path on 12th April, 12 at the Quarry on the 29th, ten at the Lighthouse on 1st July and 13 there on the 13th. Although the use of a mobile trap perhaps led to a

total up on the 74 moth-days of last year, recent tallies have fluctuated widely; there were 196 in 2016, 22 in 2017, 44 in 2018 and 133 in 2019 (when the largest single catch was of 27 moths).

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 of the year was taken on 13th April, just two days later than the first of last year. There followed a further 81 in April, 15 in May, 34 in June, 151 in July, 106 in August (with a peak of 41 on the 3rd) and seven in September (with the last on the 5th). One of nine moths caught on the South Coast Path on 30th June was paler and more similar to Tawny Shears. An annual total of 395 is an impressive showing and the highest by some margin; there were 174 in 2016, 25 in 2017, 34 in 2018, 105 in 2019 and 100 in 2020.

73.291 **Common Wainscot** *Mythimna pallens* (Linnaeus, 1758)
Although common and widely distributed on the mainland, where it utilises a variety of grasses as larval foodplants, on Skokholm this is a scarcely encountered species. One trapped on 23rd August was the first of the year and the first since 2017. There were further singles taken on 26th August and 5th September, taking the moth-days total to three; this matched the total logged in both 2014 and 2017, these the only other 21st century years with a sighting. Five moth-days in 1998 appears to be the all-time high, whilst 1937, 1960, 1992, 1994 and 1997 are the only other years with a record.

73.293 **Smoky Wainscot** *Mythimna impura* (Hübner, 1808)
It was another good year for encounters with this grass eating species, a moth which, despite almost certainly being a Skokholm breeder, has proven to be an infrequent visitor to the trap. Three attracted to light above North Haven on 19th July were the first of the year. A further six July moth-days, 27 August moth-days (which included a peak catch of 11 on the 2nd) and three September moth-days produced an annual total of 39; this was a new high following the 34 moth-days of last year. Two consecutive high tallies may well reflect an increasing Skokholm population; there were five in both 2014 and 2015, three in 2016, 24 in 2017 (a high total attributable to the use of multiple traps that year), three in 2018 and four in 2019.

73.300 **L-album Wainscot** *Mythimna l-album* (Linnaeus, 1767)
Three taken from the trap on 24th September and a further single on the 26th were the only encounters this season, however 2021 becomes just the third year with a record. The first Skokholm sighting was of an extremely worn individual found resting on grass outside of the Central Block on 25th October 2018. A total of four moth-days were recorded the following year, these in much better condition than the 2018 individual. This species colonised Cornwall and Devon in the 1930s before spreading along the south coast of England. Since 1990 it has colonised Suffolk and south Wales, although the first Pembrokeshire record did not occur until 2007. There have now been multiple county reports, with the majority coming from Skomer Island and the Dale and Marloes Peninsulas.

73.307 **Pearly Underwing** *Peridroma saucia* (Hübner, 1808)
An unusually early example trapped on 31st March was the first of the year, this seemingly the first to be documented on Skokholm in any month other than September or October and the first since 23rd October 2019. Singles on the 21st and 24th September and on 10th October were more expected and the only other 2021 records of this irregular migrant. A moth-days total of four is a good Dream Island showing; there were singles in both 2013 and 2014, eight in 2017 and one in 2019.

73.317 **Heart & Dart** *Agrotis exclamationis* (Linnaeus, 1758)
This species has of late been regarded as a scarce Skokholm resident, with only infrequent encounters at the light trap, however it would appear to be increasing in abundance. The first came to light on 29th May, this followed by 32 moth-days in June (with a peak catch of nine on the 17th), 18 in July and three on 1st August which were the last of the year. A total of 54 moth-days was the highest of the last nine years and just three short of the all-time record of 57 set in 1996; there was only one in 2013, seven in 2014, one in 2015, nine in both 2016 and 2017 and one in 2018, before numbers of this common mainland species increased to 28 in 2019 and 26 last year.

73.319 **Turnip Moth** *Agrotis segetum* ([Denis & Schiffermüller], 1775)
There were four moth-days logged this year, all second brood individuals taken across four trapping nights between 22nd August and 30th September. This is a typical Skokholm showing for a species common on the mainland; there were five in 2014, singles in both 2015 and 2016, four in 2017, two in 2018, an all-time high of 11 in 2019 and five last year.

73.324 **Crescent Dart** *Agrotis trux* (Stephens, 1829)
This moth of cliffs and rocky shores is typically found along the southwest coasts of Britain. On Skokholm it is a fairly common summer species which proved to be unusually abundant this year. Following singles on the 14th and 30th June, an unexpected 191 were taken over nine July nights, with highs of 46 at the Farm on the 8th and 67 at the Lighthouse on the 13th. There were 31 August moth-days, with two on the 28th the last of the year. A 2021 moth-days total of 224 was a new high, up on the 132 logged in 2017 (the 2017 tally was erroneously reported as 32 in previous reports, however this omitted 100 moths attracted to multiple traps on 22nd July). There were 20 moth-days in 2013, 26 in 2014, 76 in 2015, 41 in 2016, 17 in 2018, 56 in 2019 and 23 last year (the latter a year during which fewer July trapping sessions were possible). The larvae of this species will feed on a variety of low-growing coastal plants, particularly Rock Sea-spurrey and Thrift; given that there were no obvious changes in foodplant availability, it is unclear why there were more moths trapped this year.

73.325 **Shuttle-shaped Dart** *Agrotis puta* (Hübner, 1803)
A singleton taken from the light trap on 5th June was just the second to be recorded on Skokholm following one trapped on 6th August 2016. This is a reasonably common moth in southern England and Wales, although it is encountered infrequently in Pembrokeshire; by the end of this year the all-time county total stood at only 74 records.

73.327 **Dark Sword-grass** *Agrotis ipsilon* (Hufnagel, 1766)
The first four of the season were trapped on 31st March. A further 23 were taken in April (with a 2021 high of 13 along the South Coast Path on the 20th), these followed by two in June, one in July, three in August and only six in September. A further 12 were logged after dark during September, with eight on the 13th and two on the 16th watched feeding on rotting apples left for migrant birds. An annual total of 51 moth-days was an improvement on the 22 of last year and the highest tally since 90 were logged in 2017 (a year which saw a significant spring influx into the United Kingdom). Only four were recorded in 2015, whilst there were 14 in 2016, 24 in 2018 and 12 in 2019; despite intensive autumn trapping effort, no Dark Sword-grass were found in 2014.

73.329 **Flame Shoulder** *Ochropleura plecta* (Linnaeus, 1761)
One trapped on 13th June was the first of the year, with another taken on the 17th being the only other first generation insect logged. The next was not until 2nd August, after which a total of 28 second brood moth-days were recorded over 13 trapping nights (there were 25 over ten nights in August, with a peak catch of six on the 9th, and three in September). A total of 31 moth-days was up on the eight of 2019 and the five of last year; although down on the all-time high of 52 logged in 2017, it equalled the third highest tally recorded in 2016. Numbers on Skokholm tend to fluctuate, with low annual totals generally coinciding with low catches of first brood moths (this perhaps reflecting poor overwinter survival of underground pupae). This is a widespread moth on the British mainland which has undergone a 65% increase in abundance since the 1970s (Randle *et al*., 2019).

73.333 **Ingrailed Clay** *Diarsia mendica* (Fabricius, 1775)
Singles were taken at the Farm on the 8th and 10th July and at the Lighthouse on the 13th, this the first time in which multiple insects have been recorded in a season. This becomes the fourth year of the last nine, and the eighth year ever, with a sighting. 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 and woody plants as larval food, several of which are present on Skokholm. However, given the sporadic nature of previous records, it is possible that this species has either yet to establish itself on the Island or does so only periodically.

73.334 **Small Square-spot** *Diarsia rubi* (Vieweg, 1790)
A total of 24 were noted between 26th August and 16th September, this up on the five of last year and the highest tally since 33 were recorded in 2017. Trapping on Skokholm rarely produces large numbers, with the 66 logged in 1998 the highest annual total to date; there were 48 in 2014, 20 in 2015, 49 in 2016, 11 in 2018 and eight in 2019. 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. It was however another spring of favourable trapping weather, allowing for a total of 20 to be taken over seven nights between 20th March and 18th April, this including peak catches of four on the 21st and 22nd. Last year also saw good early spring conditions, this resulting in a record moth-days total of 22. This species has been logged in six of the last nine years, albeit usually in lower numbers; there were four in 2016, 11 in 2017, one in 2018 and four in 2019. 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.

73.338 **True Lover's Knot** *Lycophotia porphyrea* ([Denis & Schiffermüller], 1775)
Singles trapped above North Haven on the 19th and 20th July were the first to be taken since one was caught at the Well on 25th July 2014; this becomes just the second year of the last nine with a record. This is a species of moorland and heaths where its larvae feed on heather *Calluna* spp. and heath *Erica* spp.; Rabbits have reduced the extent of the former to a single mature plant protected with wire near North Pond, whilst the latter became extinct on Skokholm in the mid-1980s. There are records of this species in nine further years, with multiple moths recorded in 1968, 1995 and 1997.

73.341 **Northern Rustic** *Standfussiana lucernea* (Linnaeus, 1758)
Singles taken from light traps near the Lighthouse on 8th July and above North Haven on 20th July were the first to be encountered since 1968, this becoming just the fifth year with a record. This is primarily a species of coastal cliffs, scree slopes and quarries which is more regular in the west of Britain. Larval food includes grasses and other low plants; on Skokholm stonecrops *Sedum* spp. would be suitable, these present on the sections of herringbone wall less accessible to Rabbits.

73.342 **Large Yellow Underwing** *Noctua pronuba* (Linnaeus, 1758)
One trapped on 30th June was the first of the year. There followed 28 in July, 75 in August, 75 in September (including a peak 2021 catch of 19 on the 15th and 12 observed feeding on rotting apples, after dark on the 16th) and four in October, with a single on the 16th the last of the year. Historically this is one of the most frequently recorded Noctuids on the Island, although numbers have fluctuated markedly over recent seasons (perhaps due to the irregular arrival of migrant insects). The 2021 total of 183 moth-days is the second highest of the last nine years, down on the 382 of 2019 but up on recent tallies of 53 in 2016, 140 in 2017, 81 in 2018 and 177 last year.

73.343 **Broad-bordered Yellow Underwing** *Noctua fimbriata* (Schreber, 1759)
A dark coloured male taken at the Farm on 15th September was the only record of the year and just the third Skokholm encounter with this widespread mainland species. One caught outside of the

Cottage on 15th August 2020 showed the pale-buff forewing colours typical of a female, as did the first for Skokholm, taken at the Farm on 25th August 2019; this year's moth is thus the first male to be recorded. 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)
A single attracted to light on 24th September was the only 2021 record of this scarce Island find. There have been sightings in eight of the last nine years, more recently with four in 2015, two in 2016, five in 2017, one in 2019 and three last year, whilst there are records in the database for 13 years prior to 2013, with annual totals always in single-figures; the eight of 1997 and the nine of 2000 are the highest tallies to date.

73.352 **Green Arches** *Anaplectoides prasina* ([Denis & Schiffermüller], 1775)
Following its addition to the Island list on 14th June last year, one trapped on 13th July this year becomes just the second Skokholm record of this species of broadleaved woodland. As with the 2020 individual, it was in good condition but had almost certainly drifted over from the mainland during a period of light easterlies (conditions similar to those which preceded last year's moth).

73.357 **Square-spot Rustic** *Xestia xanthographa* ([Denis & Schiffermüller], 1775)
Two taken from the trap on 23rd August were the first of the year, these appearing one day earlier than the first of 2020. A further six were attracted to light over five dates between 25th August and 15th September, taking the moth-days tally to a disappointing eight. The total was down on the 17 of last year and was the lowest since 2014 when just a single moth was logged; there were ten in both 2015 and 2016, 27 in 2017, 24 in 2018 and 21 in 2019.

73.359 **Setaceous Hebrew Character** *Xestia c-nigrum* (Linnaeus, 1758)
It was a good year for encounters with this Nettle eating species. A lone moth trapped on 1st June was the first of the season and a further six first generation individuals were taken between the 12th and 17th. The first second brood moth was trapped on 28th August, after which a further 32 were logged, these including two mating along the Lighthouse Track on 13th September, a peak catch of 11 on 15th September and two attracted to light on 16th October which were the last of the year. A moth-days total of 40 was well up on the 16 of 2020 and was the highest tally of the last nine years.

74.002 **Kent Black Arches** *Meganola albula* ([Denis & Schiffermüller], 1775)
An extremely worn individual taken from the trap on 12th July was an exciting addition to the Island list and seemingly just a sixth for Pembrokeshire. This Nationally Scarce B species was until the 1980s

restricted to the south coast of England, but it can now be found along the east coast of England and in south Wales. Larval foodplants include Dewberry *Rubus caesius* and Bramble *Rubus fruticosus*; although this year's moth was probably a wanderer from elsewhere, Bramble is hopefully present in sufficient levels to allow this species to become established on Skokholm in the future.

**Aggregates and species groups**

73.096/7 **Uncertain/Rustic** *Hoplodrina octogenaria/blanda* (Goeze, 1781/[Denis & Schiffermüller], 1775)
Although specific identification is generally possible on appearance alone, records were again lumped. The first three came to light on 8th July, after which a further 1485 July moth-days were logged, the bulk of which came from remarkable catches of 655 at North Haven on the 19th, 396 at the same site on the 20th and 353 at the Farm on the 25th. There were 14 catches in August, with three-figure counts on the 1st, 2nd and 3rd taking the tally for the month to 736. A 2021 moth-days total of 2224 was the highest on record by some margin; the previous high was the 499 of 2014, whilst there were 157 in 2015, 35 in 2016, 391 in 2017, 314 in 2018, 486 in 2019 and 326 last year.

73.126-9 **Ear Moth agg.** *Amphipoea* agg.
One caught at the Farm on 10th August was not dissected to determine its species. This becomes the fourth year of the last nine in which an Ear Moth spp. has been trapped following singles in 2013, 2016 and 2020. The Skokholm database contains entries for just one of the four *Amphipoea* species, with Crinan Ear *A. crinanensis* logged in both 1937 and 1960; it is thought that the larval foodplant of this species is probably Yellow Flag, with the other three species utilising a range of grasses.

73.169/70 **Common/Lesser Common Rustic** *Mesapamea secalis/didyma* (Linnaeus, 1758/Esper, 1788)
A total of 54 moths were taken over 15 nights between 13th July and 5th September, with a peak catch of 14 on 23rd August. The total was up on the 18 of last year (a tally impacted by reduced July trapping effort), but down on the 157 of 2019 and a recent high of 235 recorded in 2017.

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. Four individuals identified as Square-spot Dart were retained for genital dissection last year, all of which proved to be as anticipated (see Annual Report 2020). Nevertheless, these species were lumped in 2020 and again this season. Two taken from the trap on 9th August were the first this year. There followed a further 101 August moth-days, logged during eight trapping sessions and including a peak catch of 36 on the 22nd. Only two were taken in September, with one on the 5th the last of the season. An annual total of 105 moth-days was the highest of the last nine years, with 143 in 2000 being the only higher tally on record; there were 50 in 2015, 92 in 2016, 95 in 2017, 32 in 2018, 96 in 2019 and 56 in 2020.

73.173-5 **Marbled Minor agg.** *Oligia* agg.
One caught at the Farm on 5th June was not dissected to determine whether it was a Marbled *O. strigilis*, Tawny Marbled *O. latruncula* or Rufous *O. versicolor* Minor. This was just the second individual in this complex to be encountered in the last nine years (following one in 2017), whilst 2021 becomes only the fourth year with a record.

## Butterflies

With 2021 tragically labelled as the year with the lowest ever number of butterflies recorded in the United Kingdom, it is perhaps no surprise that observations made on Skokholm followed a similarly depressing trend. Seven of the nine regularly occurring species dropped below their 2013-2020 means, with the most dramatic falls seen in **Peacock** (-77%), **Green-veined White** (-76%), **Painted Lady** (-73%) and **Small White** (-69%). Five of the nine species were present in lower numbers than last year, with the most striking drops seen in **Peacock** (-77%), **Large White** (-57%) and **Small White** (-57%). Whilst there were welcome increases in the number of **Painted Lady** (133%) and **Meadow Brown** (24%) compared with 2020, this was more a reflection of the poor tallies logged last year. In better news, **Small Tortoiseshell** enjoyed their second best year of the last nine, rising 55% above the eight year mean, and **Small Copper** numbers were 7% above average, this the most abundant Skokholm species for a second consecutive year. The Island scarcities **Speckled Wood** and **Ringlet** added some diversity, however it was the third year of the last nine without a **Clouded Yellow**.

Skokholm butterfly sightings were again recorded during Birdlog. An account of each species encountered is listed systematically below, with the totals for the period 2016 to 2021 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 nine years, the highest and lowest annual totals from the same period and the 2013-2020 butterfly-days mean are listed below the species title. Where relevant, the text compares these with historic butterfly data which is now digitised and readily accessible; this comparison more often than not paints a rather gloomy picture, one which reflects dire declines seen in both the abundance and distribution of many of Great Britain's common species.

**Large White** *Pieris brassicae* (Linnaeus, 1758)
**High** 487 in 2020 **Low** 73 in 2015 **2013-2020 mean** 233.8 ±sd 139.2
**Earliest** 16th April 2021 **Latest** 29th September 2018

A sluggish insect on the wing at the Farm on 16th April was the first of the year, this 23 days earlier than the first of 2020 and the earliest Skokholm record in nine seasons. One present near the

Wheelhouse Heligoland on the 18th was the only other April sighting. There were only three May butterfly-days and no June sightings at all, this the first June of the last nine without a record of this robust Brassica eater (although this month is typically quiet). A single along the North Coast on the 17th was the first of 51 July butterfly-days, this up on the nine of last year but 42% down on the eight year mean (87.4 ±sd 70.4). Caterpillars were found feeding on lettuce in a raised bed at the Farm on the 31st. The August total was typical, although the 14 logged on the 23rd was 51% higher than the mean maximum daycount in this month. The arrival of migrant insects in September bolstered the total; of the 24 logged on the 5th, 21 were along the North Coast including seven watched arriving in from the sea. Although there were just three further dates with double-figure daycounts, a monthly tally of 107 butterfly-days was the second highest of the last nine Septembers; although 16% up on the eight year mean (92.1 ±sd 150.1), the total was dwarfed by the 450 of last September. Two on 20th September were the last of the year, taking the butterfly-days total to 210, a figure 57% down on last year and 10% short of the eight year mean. Sadly but unsurprisingly, the Skokholm data again reflected the situation in the rest of the UK, where a 16% drop in numbers was observed during the Big Butterfly Count 2021 (Butterfly Conservation, 2021).

| Month | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov |
|---|---|---|---|---|---|---|---|---|---|
| 2021 Maximum Daycount | 0 | 1 | 2 | 0 | 14 | 14 | 24 | 0 | 0 |
| 2020 | 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 |
| 2021 Butterfly-days Total | 0 | 2 | 3 | 0 | 51 | 47 | 107 | 0 | 0 |
| 2020 | 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 |

**Small White** *Pieris rapae* (Linnaeus, 1758)
**High** 309 in 2013 **Low** 11 in 2017 **2013-2020 mean** 120.3 ±sd 97.3
**Earliest** 17th April 2019 **Latest** 13th October 2016

Two found at the Farm on 29th April were the first of the season and nine days later than the first of last year. A singleton the following day resulted in the second highest April butterfly-days total of the last nine years, although 2019 and 2020 are the only other years with a sighting in this month; the earliest Skokholm Small White was logged on 28th March 1990. One in the Courtyard on 2nd May was the only record in what has proven in recent times to be a quiet month for this species; there have only been May sightings in five of the last nine years. This species was more common historically; there were 594 May butterfly-days logged between 1948 and 2006, with a 1959 peak of 67 almost certainly an undercount given that a maximum daycount of 50 was logged on the 23rd. Although fewer sightings in this month may reflect population changes nationally, a significant reduction in the cultivation of salad and vegetables on the Island will also have had an impact. The first six second brood imagoes were noted on 25th July, however there were no further records until a single on 2nd August. Following a further 20 day absence, one at North Pond began a six day run of sightings which resulted in a monthly tally of ten butterfly-days; this was the third lowest August total of the last nine and 78% down on the eight year mean (44.8 ±sd 49.2). A female was observed ovipositing on Kale in the Courtyard on 2nd September and a pair were in copula at Orchid Bog on the 4th. A further 14 butterfly-days noted over six dates (including seven on the 3rd which was the peak 2021 daycount), resulted in a September tally of just 17; the September butterfly-days total was 68% down on that of last year. The last of the season on 11th September took the 2021 total to just 37,

this 57% down on 2020, 69% down on the eight year mean and the third poorest showing of the last nine seasons.

| Month | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov |
|---|---|---|---|---|---|---|---|---|---|
| 2021 Maximum Daycount | 0 | 2 | 1 | 0 | 6 | 2 | 7 | 0 | 0 |
| 2020 | 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 |
| 2021 Butterfly-days Total | 0 | 3 | 1 | 0 | 6 | 10 | 17 | 0 | 0 |
| 2020 | 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 |

**Green-veined White** *Pieris napi* (Linnaeus, 1758)
**High** 187 in 2018 **Low** 18 in 2021 **2013-2020 mean** 76.1 ±sd 62.2
**Earliest** 21st April 2014 **Latest** 1st October 2015

For a second consecutive season, it was the worst year on recent record for numbers of Green-veined White; a butterfly-days total of 18 was 76% down on the 2013-2020 average and 14% down on last year's poor showing (nationally this species declined by 9% this year). The first 2021 imago was on Isthmian Heath on 6th June, this 45 days later than an early 2020 record. The next sighting was not until 23rd July when one was at the Farm. A further seven July butterfly-days included a peak 2021 daycount of four on the 25th, this down on a nine year high of 24 logged on 21st July 2013; the highest daycounts occurred in 1948 when at least 100 insects were noted on four July and two August dates. A total of seven butterfly-days was the third lowest August tally of the last nine years and two the following month, including the last of the year on the 4th, was the second lowest September total during the same period. Although the two commoner 'whites' probably accounted for the majority of sightings, an additional 55 'White spp.' butterfly-days were logged between 1st May and 16th September, views being too fleeting or distant to allow for a confident identification.

| Month | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov |
|---|---|---|---|---|---|---|---|---|---|
| 2021 Maximum Daycount | 0 | 0 | 0 | 1 | 4 | 2 | 1 | 0 | 0 |
| 2020 | 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 |
| 2021 Butterfly-days Total | 0 | 0 | 0 | 1 | 8 | 7 | 2 | 0 | 0 |
| 2020 | 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 |

**Speckled Wood** *Pararge aegeria* (Linnaeus, 1758)
One found at the Well on 27th August was the only record, this making 2021 the third consecutive year and the seventh of the last nine years with a sighting. 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 24 of an all-time butterfly-days total of 29 occurring from 1987 onwards and the highest year total being the five logged in 1987. 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, with an 84% increase in abundance noted during the same period (United Kingdom Butterfly Monitoring Scheme, 2021).

**Ringlet** *Aphantopus hyperantus* (Linnaeus, 1758)
One drifting along the South Coast Path on 17th July was the first since an extremely worn individual found in the Wheelhouse Kitchen on 9th July 2018. This becomes just the fourth year of the last nine with a record; there were two butterfly-days in 2013 and three in 2015. This species was logged in 16 years prior to 2013, with peaks of six butterfly-days in both 1956 and 1994.

**Meadow Brown** *Maniola jurtina* (Linnaeus, 1758)
**High** 15,288 in 2018 **Low** 1873 in 2020 **2013-2020 mean** 5168.3 ±sd 4282.0
**Earliest** 9th June 2016 and 2020 **Latest** 18th September 2015

The herald of a Skokholm summer, one at the Well on 26th June was the first of the year, this 17 days later than the first of 2020 and the second latest emergence of the last nine years (two on 4th July 2013 were the latest). A further 22 were recorded during the remainder of the month, with a peak of ten on the 30th; a total of 23 June butterfly-days is the second poorest on record, a figure 90% below the eight year mean (235.3 ±sd 255.6).

| Month | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov |
|---|---|---|---|---|---|---|---|---|---|
| 2021 Maximum Daycount | 0 | 0 | 0 | 10 | 160 | 160 | 0 | 0 | 0 |
| 2020 | 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 |
| 2021 Butterfly-days Total | 0 | 0 | 0 | 23 | 1737 | 558 | 0 | 0 | 0 |
| 2020 | 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 |

There were sightings on all but one July date, including eight three-figure daycounts and a 2021 peak of 160 on the 19th. A July total of 1737 butterfly-days was 44% up on that of last year, although 60% short of the eight year July mean (4384.0 ±sd 4057.4). There was an August high of 160 on the 2nd, whilst daycounts dropped considerably from the 13th; one on Isthmian Heath on the 28th was the last of the year. An August total of 558 was 16% up on that of 2020 and the third highest of the last nine years. Although a 2021 butterfly-days total of 2318 was a welcome 24% increase on the 2020 tally (reflecting national figures which showed a 33% rise between 2020 and 2021), it was nevertheless the third lowest of the last nine years and 55% below the 2013-2020 mean (5168.3 ±sd 4282.0).

**Red Admiral** *Vanessa atalanta* (Linnaeus, 1758)
**High** 3598 in 2014 **Low** 890 in 2015 **2013-2020 mean** 1529.9 ±sd 901.3
**Earliest** 10th March 2014 **Latest** 10th November 2021

One at the Farm on 21st March was the first of the year, this three weeks earlier than the first of last year but 11 days later than an early 2014 sighting. Another single at North Gully on the 30th was the only other March record, this becoming the second year of the last nine with a March butterfly and just the fifth year ever (there were singles in both 1997 and 2003, three in 2012 and six March butterfly-days in 2014). April sightings were sporadic, but a peak daycount of five on the 24th contributed to a monthly total of 25 butterfly-days, this the highest April tally ever recorded (of the 31 previous Aprils with a sighting, the next highest total is the 12 logged in 2007). May was by contrast a quiet month, the six butterfly-days logged between the 29th and 31st being 88% down on last May's total and the third poorest May showing this decade; there were three in 2014 and no sightings at all in 2015, whilst the eight year May mean is 30.9 ±sd 21.5. Although there was an increase in Red Admiral numbers during June, the maximum daycount did not exceed nine, this 69% short of the 2013-2020 mean June peak (28.9 ±sd 21.6). A June butterfly-days total of just 54 was 83% down on that of last year; although the 2020 June tally was the highest on record, this year's total was also 61% down on the eight year mean (137.4 ±sd 91.5). The majority of Red Admiral logged during May and June have arrived from elsewhere.

| Month | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov |
|---|---|---|---|---|---|---|---|---|---|
| 2021 Maximum Daycount | 1 | 5 | 2 | 9 | 24 | 24 | 57 | 13 | 1 |
| 2020 | 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 |
| 2021 Butterfly-days Total | 2 | 25 | 6 | 54 | 182 | 323 | 535 | 84 | 1 |
| 2020 | 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 |

July and August saw higher counts, this likely a combination of late migrants and emerging home-bred insects. A total of 182 July butterfly-days was 6% up on the eight year mean (171.1 ±sd 54.3), however 323 August butterfly-days was the lowest tally in this month since 2015 and 17% short of the mean (389.5 ±sd 152.9). September was the best month for sightings this season, with a high of 57 on the 11th and 19 further double-figure daycounts which took the butterfly-days total to 535. Following an October high of 13 on the 1st, counts tailed off quickly, with only 25 October butterfly-days noted from the 17th. One to the north of the Wheelhouse on 10th November was the only record of the month, the last of the year and the latest Red Admiral this decade. A 2021 total of 1212 butterfly-days was 36% down on the 1898 of last year and 21% below the 2013-2020 mean.

**Painted Lady** *Vanessa cardui* (Linnaeus, 1758)
**High** 5894 in 2019 **Low** 140 in 2020 **2013-2020 mean** 1184.4 ±sd 1933.8
**Earliest** 13th April 2015 **Latest** 22nd November 2014

It was a somewhat better year for records of this vivid immigrant, with an annual total of 326 butterfly-days being 133% up on last year's 140. A single at the Dip on 26th April was the first of the year, this the first April record since 2018. There were no further sightings until two were noted on 31st May, this a month which has proven quiet in recent years (the all-time May butterfly-days high is the 225 of 1996, however the 2013-2020 mean is 14.0 ±sd 16.3). June was quiet for a second consecutive year; whilst a total of 57 butterfly-days was up on the 11 of last year, it fell short of the eight year June mean by 73% (213.1 ±sd 310.8). It was the third poorest July of the last nine, with daycounts not exceeding three, however a butterfly-days total of 15 was still an improvement on the one of 2020. As is typically the case, numbers increased in August; the 27 logged on the 10th was the peak 2021 daycount, this a fraction of the all-time August high of 614 logged on the 1st in 2019.

Although there were sightings on all but one date between the 4th and 17th September, daycounts did not exceed eight and encounters during the second half of the month were scarce, this resulting in a total of just 56 butterfly-days; the tally was 21% down on that of last year, 80% below the 2013-2020 mean (282.8 ±sd 462.6) and the second poorest September showing of the last nine. There were three October butterfly-days, with one on the 25th the last. A 2021 total of 326 was 73% below the eight year average, although this mean was bolstered by a phenomenal 2019 tally of 5894.

| Month | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov |
|---|---|---|---|---|---|---|---|---|---|
| 2021 Maximum Daycount | 0 | 1 | 2 | 8 | 3 | 27 | 8 | 2 | 0 |
| 2020 | 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 |
| 2021 Butterfly-days Total | 0 | 1 | 2 | 57 | 15 | 192 | 56 | 3 | 0 |
| 2020 | 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 |

**Peacock** *Inachis io* (Linnaeus, 1758)
**High** 387 in 2015 **Low** 34 in 2021 **2013-2020 mean** 145.3 ±sd 115.8
**Earliest** 10th March 2015 **Latest** 3rd December 2019

Sadly it was the poorest year of the last nine for records of this unmistakeable species. An annual total of just 34 butterfly-days was 77% down on both last year's tally and the eight year mean, this mirroring the national trend which saw Peacock numbers decline by a rather depressing 63% between 2020 and 2021 (Butterfly Conservation, 2021). One flying south over Isthmian Heath on 16th March was the first of the year, this six days earlier than the first of 2020 and just six days later than an early 2015 record. The next was not until 2nd April, after which a further six butterfly-days were logged over five April dates; a total of seven was 77% down on that of last April and 63% below the eight year mean (18.9 ±sd 26.6). Although numbers are seldom high, there were no May encounters for the first time in nine years, whilst it also became the fifth June of the last nine without a sighting and the first time in nine years that there has been a mid-season absence of well over two months. Indeed there were no further records until 21st July when four were on the wing.

| Month | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 2021 Maximum Daycount | 1 | 2 | 0 | 0 | 4 | 2 | 1 | 0 | 0 | 0 |
| 2020 | 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 | - |
| 2021 Butterfly-days Total | 1 | 7 | 0 | 0 | 18 | 7 | 1 | 0 | 0 | 0 |
| 2020 | 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 | - |

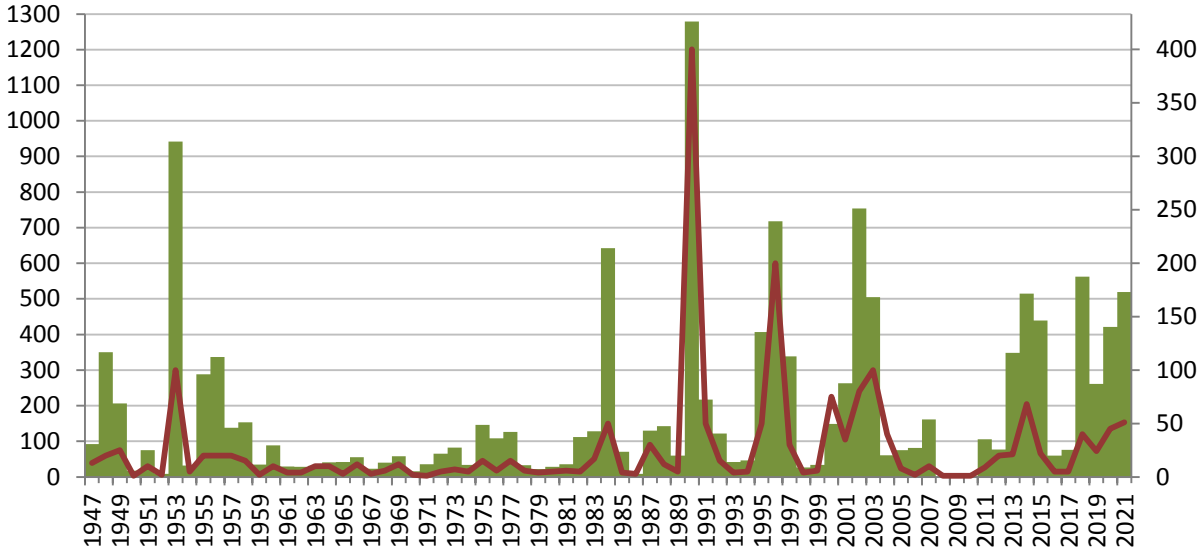
Sightings on eight further dates took the July butterfly-days tally to 18, this 75% short of the 2020 total and 72% down on the 2013-2020 July mean (63.8 ±sd 44.1). A total of just seven butterfly-days was the worst August showing of the last nine, 59% down on the next lowest tally (the 17 of 2018) and 85% below the eight year mean (45.4 ±sd 46.1). One on the Neck on 7th September was the last in a very disappointing year; there have been later records in seven of the last eight years.

**Small Tortoiseshell** *Aglais urticae* (Linnaeus, 1758)
**High** 562 in 2018 **Low** 60 in 2016 **2013-2020 mean** 335.3 ±sd 189.2
**Earliest** 9th March 2014 **Latest** 14th November 2018

One at the Farm on 24th March was the first of the year, this 16 days later than the first of 2020 and the only record of the month. An April peak of three on the 17th matched that of 2015 as the highest of the last nine years, this taking the April butterfly-days total to ten which was the highest since the 17 of 2007 (unsurprisingly numbers used to be healthier, with 35 April butterfly-days logged as recently as 2003, the highs being 66 in 1948 and 53 in 1956). Owing to a gap between the overwintering generation and their progeny, May and June are typically quiet, although a single at the Red Hut on 14th May was a below average showing. The next sighting was of a fresh individual on 22nd June, after which a further 22 June butterfly-days were logged, these including two observed in copula at the Top Tank on the 29th (this an area with large stands of the larval foodplant, Common Nettle). A June butterfly-days total of 23 was 63% down on that of last year and 27% below the eight year mean (31.5 ±sd 31.2). Numbers began to increase in July, with insects noted on 21 dates, these including four arriving from the sea on the 17th and a July high of eight on the 18th. Caterpillars were

noted on several Nettle patches around the Farm on 20th July and large caterpillars near Migration Rocks were being eaten by a juvenile Cuckoo four days later. Whilst a July butterfly-days total of 53 was 21% up on that of last year, it was 33% below the 2013-2020 July mean (78.5 ±sd 67.2).

**The total number of Small Tortoiseshell butterfly-days (green) and the maximum daycount (secondary axis) logged in each year since 1947.**




| Month | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov |
|---|---|---|---|---|---|---|---|---|---|
| 2021 Maximum Daycount | 1 | 3 | 1 | 8 | 8 | 51 | 43 | 1 | 0 |
| 2020 | 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 |
| 2021 Butterfly-days Total | 1 | 10 | 1 | 23 | 53 | 312 | 118 | 1 | 0 |
| 2020 | 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 |

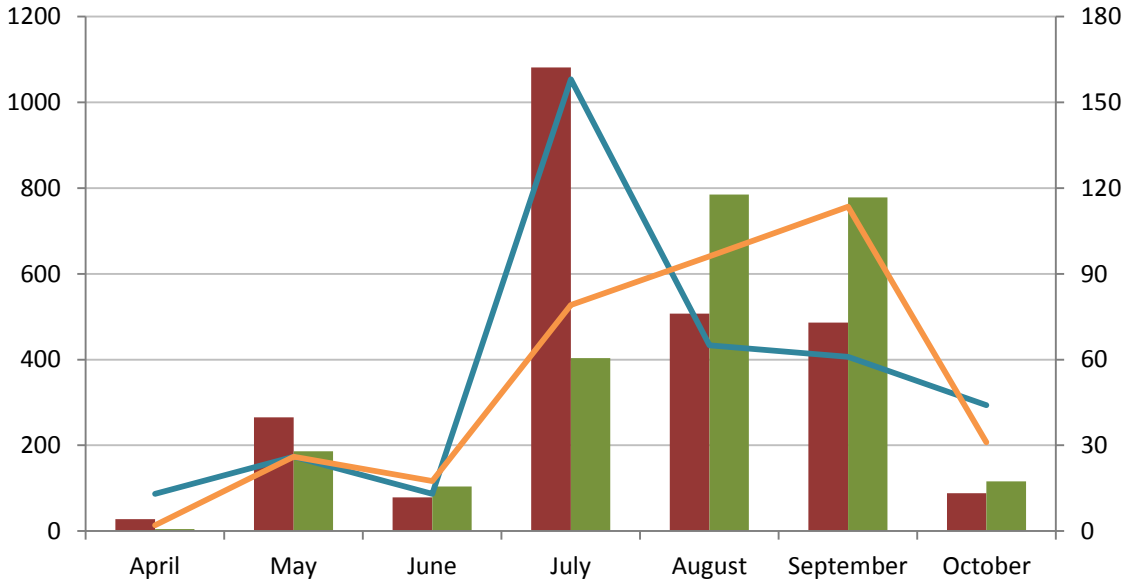
With so many caterpillars observed, it was no surprise that adult numbers increased significantly during August. A total of 15 were on the wing on the 13th, these including three which had hatched

from chrysalises found at the Central Block. There was a sharp rise in numbers from the 21st, with double-figure counts on eight dates and a peak 2021 daycount of 51 on the 29th; this was the highest August peak since 68 were counted on the 13th in 2014. An August butterfly-days total of 312 was 55% higher than that of 2020 and 118% above the eight year mean (143.4 ±sd 117.1). Numbers remained high into early September, with a maximum daycount of 43 on the 3rd including 25 nectaring on a patch of Water Mint *Mentha aquatica* at Orchid Bog; this was the highest September daycount since 80 were logged on the 14th in 2002. Sightings became more sporadic from the 10th and had dropped off entirely by the 22nd, nevertheless a total of 118 September butterfly-days was 67% up on the 2013-2020 mean (70.6 ±sd 40.5). One on 1st October was the last of the year, taking the 2021 butterfly-days total to 519, this 23% up on last year and 55% up on the eight year mean. A 32% decline in abundance was observed in the UK during this year's Big Butterfly Count (Butterfly Conservation, 2021), whilst the UK population of this 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 **2013-2020 mean** 2377.5 ±sd 1462.1
**Earliest** 19th April 2015 and 2020 **Latest** 30th October 2018

The first of the year was found above Crab Bay on 24th April, this five days later than one in a similar location last year. There followed sightings on all but two of the remaining April dates, with a peak of 13 on the 30th taking the total to 28; both the daycount maximum and the butterfly-days total were the highest on record in April. The bulk of first generation adults typically emerge in May, with this year seeing records on 25 dates which took the monthly butterfly-days total to 265; the total was 74% up on last May and 42% higher than the eight year May mean (186.3 ±sd 151.3). A high of 13 on 4th June was an improvement on last year's June peak of just four, although it was 26% short of the average maximum for this month (17.5 ±sd 17.7), whilst a June butterfly-days total of 79 was 558% up on that of last year but 24% lower than the 2013-2020 mean (103.9 ±sd 92.3).

**The number of Small Copper butterfly-days (maroon) and the peak daycount (blue on secondary axis) logged in each month of the 2021 season, along with the 2013-2020 mean butterfly-days total (green) and the 2013-2020 mean peak daycount (orange on secondary axis).**




Numbers increased in July as second brood insects took to the wing, dramatically so in the last two weeks of the month when counts peaked at 158 on the 25th; this was the fourth highest July daycount of the last nine years and doubled the mean maximum for this month (79.1 ±sd 75.4). Mating was observed from 13th July, whilst 15 double-figure and two further three-figure daycounts

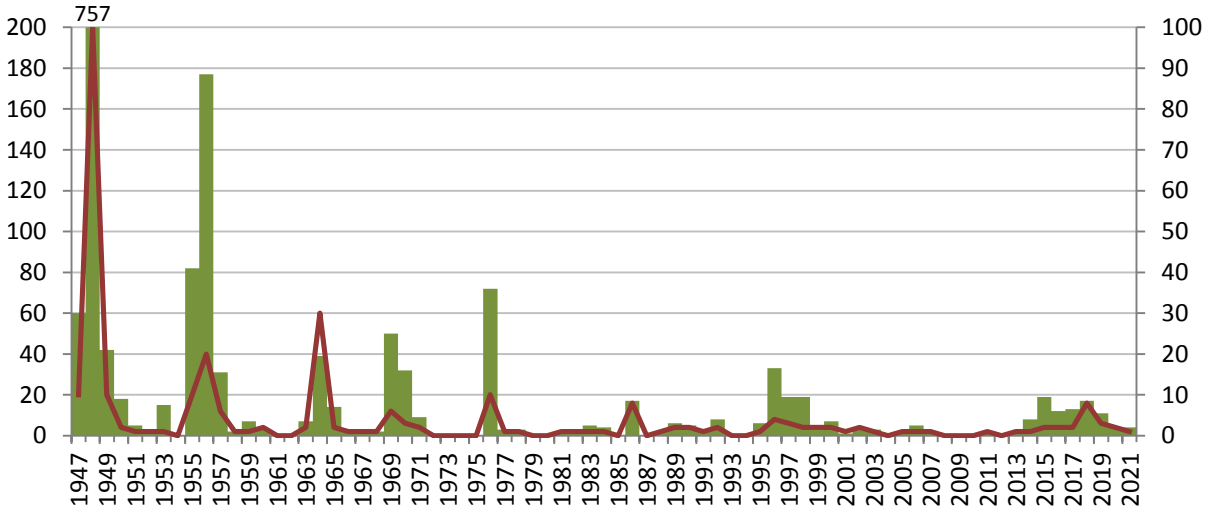
took the butterfly-days total to 1081; this was the highest July tally since 1989 (when 1593 were logged) and the fourth highest to date. Numbers remained high during early August, although declined sharply from the 7th (this a typical lull observed between the flight periods of second and third brood insects); a high of 65 on the 4th contributed to 507 August butterfly-days, the total more than double that of last August but 35% short of the 2013-2020 mean (784.9 ±sd 1061.5). Mating was again conspicuous from 4th September and numbers began to rise from the 15th as third brood insects emerged. It was however a poor third brood showing, with a peak of 61 on the 29th and a September butterfly-days total of 486, the latter 68% down on that of last year and 38% lower than the eight year mean (778.5 ±sd 540.4). Following 44 on the 1st, counts dropped quickly during October, with a further 44 butterfly-days including eight on the 11th which were the last of the year. The 2021 total of 2534 butterfly-days was 16% up on last year and 7% up on the eight year mean, this making Small Copper the most abundant species on Skokholm for a second consecutive year.

| Month | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov |
|---|---|---|---|---|---|---|---|---|---|
| 2021 Maximum Daycount | 0 | 13 | 26 | 13 | 158 | 65 | 61 | 44 | 0 |
| 2020 | 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 |
| 2021 Butterfly-days Total | 0 | 28 | 265 | 79 | 1081 | 507 | 486 | 88 | 0 |
| 2020 | 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 |

**Common Blue** *Polyommatus icarus* (Rottemburg, 1775)

A male above the Ram on 30th May was the first of the year, this two days earlier than the first of 2020 but the only first brood insect to be seen. There were no further encounters until 23rd August when a second brood male was on the wing at the Bluffs.

**The total number of Common Blue butterfly-days (green) and the maximum daycount logged in each year since 1947. Note that the 1948 total of 757 is not accurately represented on this chart.**




There followed two more August males, with one above Crab Bay on the 24th and one at Isthmian Heath on the 30th, the latter the last of the year. No females were observed this season. An annual butterfly-days total of four was another poor showing for this species on Skokholm; the tally was

62% below the 2013-2020 mean (10.6 ±sd 6.1) and matched that of 2020 as the second lowest of the last nine. Common Blue have been recorded in 57 of the last 75 years, however numbers have fluctuated and declined significantly since the first half of the 20th century; the database includes an Island record of 757 butterfly-days in 1948 and a subsequent peak of 177 in 1956, but 18 years without a sighting, 15 of which have been since 1972. 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 believed 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 numbers encountered and an apparent lack of females in the last two years, it would seem likely that the butterflies seen in 2021 were immigrants.

## Hippoboscidae

At the start of this season we joined a UK wide Flat Fly mapping project begun by UK Hippoboscidae Recorder Denise Wawman. The aim of the study was to collect specimens encountered during bird ringing from sites around the UK, with the intention of mapping both their overall geographical distribution and their range on specific host species; as the majority of work on UK Hippoboscidae was undertaken in the 1950s and 1960s, very little is known about their current distributions. On Skokholm a total of 19 Flat Flies were collected from eight host species between 11th June and 25th September. An additional six were collected from the Ringing Hut window (the host species thus being unknown). The following text and results were kindly provided by Denise.

The Flat Flies, known as Louse Flies outside of the UK, are a group of parasitic flies which belong to the family Hippoboscidae. They are perfectly adapted to their lives as bird parasites, with flattened bodies which allow them to crawl between feathers and flatten themselves against the skin (making it harder for a bird to remove them), strong feet to hold on and bristles which can act like Velcro if a fly were to lose its grip.

The 'Mapping the UK's Flat Fly Project' has found six species so far, out of the 13 Flat Fly species previously detected in the UK. Five are commonly found here and four of these were taken on Skokholm in 2021; the rest are considered vagrants. The two most common species on the Island were *Ornithomya avicularia* (above photograph which shows a male) and *Ornithomya chloropus*, whilst a single specimen of *Ornithomya fringillina* was also caught. These are generalist parasites which can be found on a range of bird species. Historically *O. chloropus* was considered to have a more northerly distribution and the other two were considered to be southerly species in the UK, but it is likely that these ranges have changed since the last major studies done in the 1950s and 1960s. Two unidentified 'Chewing Lice' were found on a female *O. avicularia* taken from a Blackbird; these are another type of bird parasite that use Flat Flies to hitchhike between hosts. The other species found was *Stenepteryx hirundinis* (previously *Crataerina hirundinis*); this is usually a parasite

of House Martins, but is sometimes found on other Hirundines, as was the one on Skokholm in 2021 which was on a Swallow.

**The different Flat Fly species encountered on Skokholm in 2021.**

| Host Species | Species of Flat Fly | Number of Flat Flies taken | Number of birds from which they were taken |
|---|---|---|---|
| Blackbird | *Ornithomya chloropus* | 1 | 1 |
| | *Ornithomya avicularia* | 5 | 3 |
| Dunnock | *Ornithomya chloropus* | 1 | 1 |
| Jackdaw | *Ornithomya avicularia* | 5 | 5 |
| Meadow Pipit | *Ornithomya chloropus* | 2 | 2 |
| Pied Wagtail | *Ornithomya chloropus* | 2 | 2 |
| Robin | *Ornithomya fringillina* | 1 | 1 |
| Spotted Flycatcher | *Ornithomya chloropus* | 1 | 1 |
| Swallow | *Stenepteryx hirundinis* | 1 | 1 |
| Unknown | *Ornithomya chloropus* | 2 | |
| | *Ornithomya avicularia* | 4 | |

There are historical studies of Skokholm Hippoboscidae dating back to 1937 when three species were recorded; Gordon B. Thompson of the British Museum identified *S. hirundinis* taken from a House Martin, *O. avicularia* taken from a juvenile Cuckoo and *O. fringillina* taken from a Meadow Pipit, two Rock Pipit, a Wheatear and a Whitethroat (Lockley, 1937). In 1938 Flat Flies taken from a House Martin, a Meadow Pipit and a Wheatear were all found to be *O. lagopodis* (Lockley, 1938), this now considered to be conspecific with *O. fringillina*. A more in-depth study was undertaken in the years 1954 and 1955. Whilst early in the 1954 season parasites were collected by suspending the host bird in a jar containing chloroform (the bird's head shielded with a plastic cape), this method was soon replaced with a more efficient device developed at Fair Isle Bird Observatory; this blew concentrated chloroform vapour through the feathers of the bird whilst the asphyxiated parasites fell out onto a glazed white tile below.

**The different Flat Fly species encountered in 1954 and 1955 (from Stansfield, 1954 and 1955).**

| Year | Host Species | Species of Flat Fly | No. of Flat Flies taken | No. of birds from which they were taken | No. of birds inspected |
|---|---|---|---|---|---|
| 1954 | Meadow Pipit | *Ornithomya fringillina* | 38 | 24 | 76 |
| | Rock Pipit | *Ornithomya avicularia* | 1 | 1 | 127 |
| | | *Ornithomya fringillina* | 54 | 32 | |
| | Skylark | *Ornithomya fringillina* | 12 | 3 | 3 |
| | Wheatear | *Ornithomya fringillina* | 61 | 41 | 114 |
| | Whitethroat | *Ornithomya fringillina* | 4 | 3 | 13 |
| 1955 | Meadow Pipit | *Ornithomya fringillina* | 31 | 11 | 46 |
| | Pied Wagtail | *Ornithomya fringillina* | 13 | 5 | 7 |
| | Rock Pipit | *Ornithomya fringillina* | 69 | 27 | 116 |
| | Spotted Flycatcher | *Ornithomya fringillina* | 5 | 4 | 13 |
| | Starling | *Ornithomya fringillina* | 3 | 2 | 11 |
| | Wheatear | *Ornithomya fringillina* | 105 | 51 | 146 |
| | Whitethroat | *Ornithomya fringillina* | 1 | 1 | 19 |
| | Willow Warbler | *Ornithomya fringillina* | 1 | 1 | 1 |

## Amphibians

**Common Frog** *Rana temporaria*

The return of staff to Skokholm on 26th February allowed for an early check of the main water bodies

for evidence of spawn. On 27th February a survey of North Pond and the surrounding pools revealed 11 rafts of spawn, whilst a walk around South Pond found one (in a wet channel adjacent to South Pond Wall). The following day a 12th clump was found at North Pond. A more thorough inspection of South Pond on 1st March found 11 more clumps. Two patches that had been laid in a shallow puddle alongside North Pond Wall were moved to the eastern pool of North Pond on the 2nd (the puddle was empty a few days later). Freshly hatched tadpoles were found at North Pond the following day. An additional two clumps of spawn found near North Pond on 5th March took the tally for this site to 14, whilst the South Pond total remained at 12.

Between 2017 and 2020, March checks of the main ponds and pools failed to find any evidence of breeding (staff arrived on 28th February in 2019, but between the 6th and 16th March in the other years). Whilst this was initially 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. Some evidence to support this came last year, when two unusual early season daytrips undertaken by WTSWW staff (on 22nd January and 6th February) resulted in a large raft of spawn being found in a small pool to the north of North Pond Wall during the latter visit; there was no sign of this spawn when staff arrived in mid-March. A 2021 total of 26 spawn clumps is the highest of the last nine years, although this perhaps reflects early monitoring; there were two clumps located in 2013, with seven in 2014, 24 in 2015 and five in 2016 (staff arrived on 28th February in 2016 and between the 1st and 5th March in the other years).

There have been very few sightings of adults in recent times, as was again the case this year. One large, reddish adult was found in the entrance of a Manx Shearwater burrow along South Pond Wall, after dark on 30th March. Following rough weather caused by Storm Arwen, an adult was found by day, in a wet flush west of North Pond on 30th November (above photograph); the animal appeared to be swollen and, although it sluggishly moved to the shelter of a nearby roofing sheet, it was found dead the following day. The cause of the swelling is unknown; a significant amount of salt spray during the storm may have had an impact, whilst other factors such as an infection or intestinal blockage can also result in bloating. A total of two matches the second highest adult count of the last nine years; there was one in each year between 2013 and 2016 (with the 2015 record being of a dead Frog), three in 2017, a single in 2018, two in 2019 and one in 2020. The digitised data, although incomplete, suggests 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*

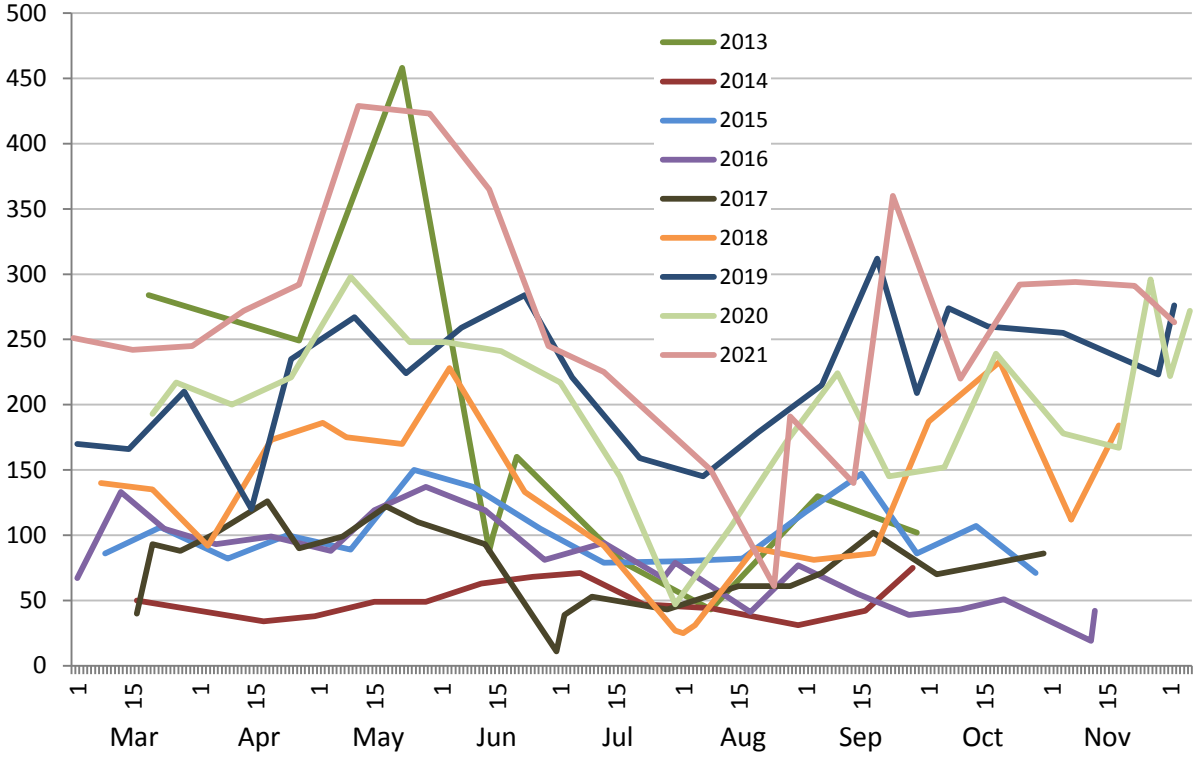
Adults and juveniles, either apparently diseased or intact but dead, were found at various locations during the 2021 season. The first apparently sick animal was a juvenile near the Frank's Point Lesser Black-backed Gull colony on 11th May, this seemingly paralysed and audibly distressed. On the same day a very approachable juvenile was outside of the Wheelhouse. A paralysed youngster was at the Well on the 14th and the first dead juvenile was outside of the Cottage on the 15th. A different dead animal was at the latter site on the 17th. Three dead but intact juveniles were found around the Bluffs boulder slope on 8th June and there was a dead adult at Horse Bottom on the 26th. In July, dead animals were found at East Bog, the Well and Sugar's Delight on the 8th and further singles were in the Top Tank gull colony and along the Lighthouse Track the following day. One on the Lighthouse Track on the 12th flipped backwards before death and fresh dead animals were at East Bog on the 14th and along the Lighthouse Track on the 15th. A strong smell of rotting flesh was around the Cottage Garden and along the Lighthouse Track on four July dates from the 20th. There were dead juveniles at the Farm on the 23rd and at Isthmian Heath on the 24th, a dying animal at the Farm on the 26th (which was perhaps that found dead on the 27th) and a dead animal at the Well on the 28th. In August there was a sick adult at the Red Hut on the 8th, but no dead animals were found until the 29th when one was under a Buddleia at the Farm. Another was dead in Billy's Dyke on the 30th. On 5th September a long-haired Rabbit was dead near the Farm Garage and there were dead adults at the Wheelhouse Heligoland on the 11th, along North Pond Wall on the 13th, north of the Wheelhouse on the 15th and at the Farm on the 26th. There were no October encounters, with one dead and one sick adult found in the Well Heligoland on 6th November the next. A dead adult was in the Wheelhouse Heligoland on the 15th and one was under a Willow at North Pond on the 28th, this the last of the year. A 2021 total of 33 sick or dead Rabbits is certainly an undercount; strong cadaverine odours emitting from areas with no dead surface animals suggested that Rabbits were dying underground. The total is 43.5% up on the 2020 figure, but 46.8% below that of 2019.

This year again 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. The last two years have contrasted with 2019 when approximately half of the sick animals encountered showed symptoms commonly linked with Myxomatosis (namely matted fur and fur loss, a lack of coordination, swollen face, audible breathing and red, infected eyes). 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 for at least 20 years.

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 the two adjacent North Plain plots on 21 evenings between 28th February and 2nd 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).

**The total number of Rabbits logged during evening counts of the North Plain study area between 2013 and 2021.**




Due to the early return of staff, the first survey of 2021 was 20 days earlier than the first of 2020; a total of 251 animals was 30% up on the first count of last year and was the highest post-winter count since the 2013 crash. Perhaps more comparable was the first March survey which took place on the 15th; a tally of 242 almost matched the February count and was 25% up on that of 20th March 2020. The population during early spring appeared to be stable, a survey on 30th March resulting in 245 animals being counted; both March counts were the highest since the crash. Numbers, augmented by an increase in juveniles on the surface, rose in April, with 292 on the 26th (of which 65 were youngsters) being the highest April count of the last nine years (249 on 26th April 2013 was the previous high). Numbers in the plots, and seemingly across the Island as a whole, continued to rise, with an 11th May count totalling 429 (of which 130 were juveniles); this was the peak 2021 count, 44% up on the 2020 maximum and 125% higher than the post-crash 2014-2020 mean high (190.4 ±sd 91.4). This year's peak was just 6% below the 2013 pre-crash high of 458. Sick and dead animals

were first observed in May, however a plot count of 423 on the 29th almost matched the high logged 18 days earlier. There followed a prolonged period of decline, with numbers dropping through June; the count on the 13th was 14% down on the last May total and a further 33% decline was noted on the 28th. Counts got progressively smaller through July, this the peak month for records of dead and sick animals. There were 150 in the plots on 8th August and just 61 on the 24th, although a large North Plain gull roost may well have impacted the latter count; a check just four days later recorded 191. Following a brief dip in early September, numbers began to rise, reaching an autumn peak of 360 on the 23rd; this was 61% up on the September 2020 maximum and was the highest count of the last nine Septembers. Subsequent counts were rather consistent, with 291 on 22nd November and 263 on 2nd December being remarkably similar to totals logged on the equivalent dates in 2019 and 2020.

## Bats

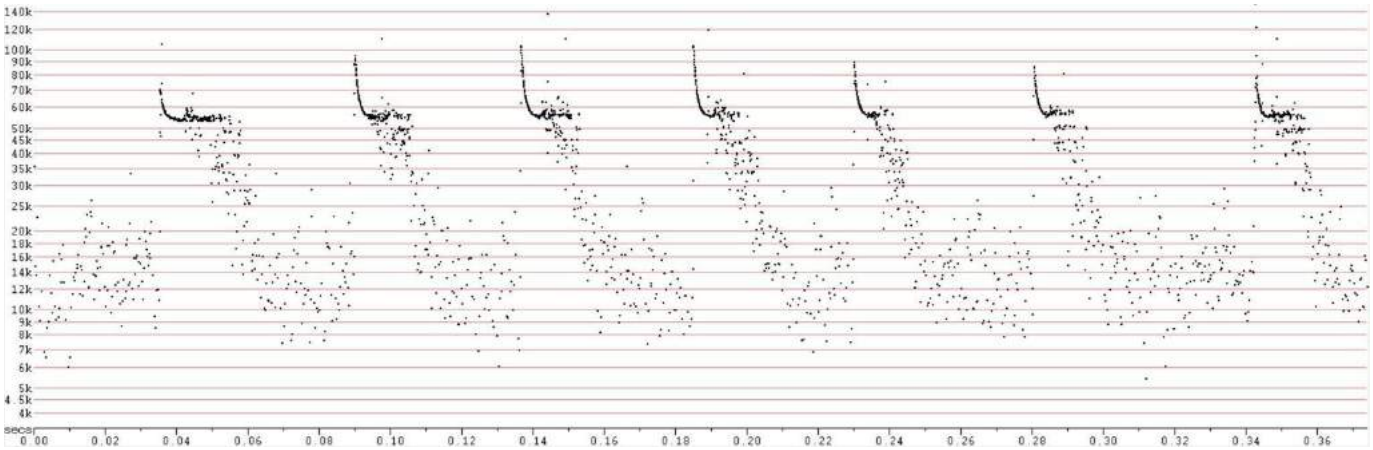
Bats have been surveyed on Skokholm since 2014 using an SM2 (an automated detector which is left in situ to record echo-locating animals which pass within its range). The use of such a device has allowed us to gather regular and systematic data, vastly improving our knowledge of the species which visit the Island. To maintain consistency with the previous seven 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**; a ***Myotis* spp**. was also recorded, however this could not be identified to species level. 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 (an SM4) was purchased in 2019. At some point during this spring, the microphone of the SM4 was punctured, possibly by a crow or raptor perching on top of it; this allowed water and dirt to penetrate, rendering the microphone useless for the season. No monitoring thus occurred at North Pond this year.

Only three species were identified this season, this down on the five of 2019 and the four of 2020. **Common Pipistrelle** was recorded for the first time since 2015, **Soprano Pipistrelle** was logged for the third year running (there have now been records in four of the last seven years) and **Noctule** was once again the most abundant species. Additionally two bats were watched feeding in the shelter of the Quarry on the night of 14th September; one was a large Nyctalus-sized animal, whilst the other was a small Pipistrellus-sized bat (neither were positively identified). In the following text a 'pass' refers to each occasion that the detector was triggered into recording.

**Common Pipistrelle** *Pipistrellus pipistrellus*
A single recording at 0052hrs on 24th July was the first record since one was found roosting inside the Ringing Hut on 20th July 2015. The detector was also triggered at 2331hrs on 27th August and in September at 2204hrs on the 14th, at 2323hrs on the 21st and at 2147hrs on the 23rd. An annual total of five passes is a new record, indeed these are the first recordings of this species since it was added to the Island list in September 2014 (when there were single passes on the 14th and 15th). This species is scarcer on Skokholm than Soprano Pipistrelle.

**Soprano Pipistrelle** *Pipistrellus pygmaeus*
The first pass was logged at the Well at 2330hrs on 23rd July. A second pass was recorded 15 minutes later and further passes were made at 0007hrs and 0013hrs on the 24th. The next recording was not until 2359hrs on 23rd August, after which there were single recordings at 2139hrs on the 24th, at 0348hrs on the 28th and at 2357hrs on the 30th. A total of eight Soprano Pipistrelle passes was a new high. The first for Skokholm was heard in the Courtyard on 25th September 2013, this followed by single calls detected at the Well on 15th August and 3rd September 2014, one pass on 15th September 2015, four recordings made at Purple Cove in 2019 (these on the evening of 19th September and in

the early hours of the 20th) and two passes in 2020, both of which were recorded at North Pond in September. This season's records thus make 2021 the sixth year in which this species has been identified and the first year with a July record. Additional recordings were made where it could not be determined if the calls were from a Common or a Soprano Pipistrelle, these attributed to '50kHz Pipistrelles'; there were two passes on both the 23rd and 24th July and single passes on the 28th and 29th August. Whilst the timings of these 50kHz Pipistrelles closely mirrored recordings made of Soprano Pipistrelles, the presence of multiple animals cannot be ruled out; both Common and Soprano Pipistrelles were present on the same date on at least one occasion this year.




**Noctule** *Nyctalus noctule*

For an eighth consecutive year, Noctule was the most frequently recorded bat species on Skokholm. The first five passes were logged on 19th April and a further 19 triggers during the remainder of the month took the April total to 24 (there were just three in April 2018, but 95 in 2019 and 138 in 2020). There were 26 passes in May (30 in 2018, 83 in 2019 and 20 in 2020), none in June (an absence mirrored in 2018, 2019 and 2020), 132 in July (13 in 2018, 241 in 2019 and none in 2020), 219 in August (236 in 2018, 90 in 2019 and 65 in 2020), 75 in September (13 in 2018, 73 in 2019 and 334 in 2020) and three in October (none in 2018, 11 in 2019 and two in 2020). The last pass of the year was recorded at 2215hrs on the 15th, this one day later than the last of 2020. A year total of 479 passes is down on the 559 recorded at the Well in 2020, but is the third highest of the last eight years; there were 621 in 2014, 143 in 2015, 396 in 2016, 131 in 2017, 295 in 2018 and 461 in 2019.

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 2014, 2015, 2016 and 2020, activity at the Well peaked during September and October, this 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. An 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 between 2017 and 2019 showed Noctule activity peaking in July and August, these arrivals perhaps more indicative of dispersal from nearby; this was again the case this year, with 73% of all Noctule passes occurring in these two months.

**Noctule/Leisler's Bat**

There were again difficulties in attributing some calls to a specific species; this may arise when certain parameters within the sonogram are within the overlap zone of two species, or as is more often the case, this may be as a result of the quality of the recording. A total of 636 passes were logged where it could not be determined if the call had been made by a Noctule or a Leisler's Bat (there were five in April, 29 in May, 161 in July, 315 in August and 126 in September). In 2020 there

were 416 such passes. Leisler's Bat has been recorded in four previous years, with three passes in 2014, two in both 2016 and 2017 and five in 2018; one of the 2018 passes was in May, with all other records being from August or September.

## Seals

**Atlantic Grey Seal** *Halichoerus grypus*
Grey Seals are present in the waters around Skokholm throughout the year. The rocks in South Haven and Crab Bay are the two main low tide haul-outs and it is here where the majority of non-breeding adults congregate. Both locations are part of the daily census route and are visible to overnight guests from the path network; a high proportion of the monthly totals are thus made up of counts from these areas (although visits do not always coincide with low tide). Daycounts are regularly supplemented by small numbers seen elsewhere around the Island, primarily off the Neck.

As was the case in 2020, a reduced number of observers likely impacted the monthly totals this year; a count is less likely to be made at an optimum tide state on every date when there are fewer observers. The maximum monthly daycount is perhaps thus a better indicator of numbers this year; with the exception of May, when the peak fell 14% below the average, the maximum daycount in every month was up on the 2013-2020 mean. The biggest differences were seen in March (when the peak was 95% up on the mean), April (41%), September (38%) and November (also 38%).

A lone animal was off the Lighthouse on 28th February; there have been seven February dates with a staff presence this decade, however this was the first Grey Seal to be logged in this month. A March daycount maximum of ten, recorded at South Haven on the 31st, was the highest March peak of the last nine years; although only one up on daycounts logged in 2018 and 2019, the 2021 high almost doubled the 2013-2020 March mean (5.1 ±sd 2.9). Observations on 19 further dates resulted in a monthly total of 69, this a new March high and a figure 192% up on the eight year average (23.6 ±sd 12.3). As is invariably the case, numbers increased in April; whilst the peak daycount was 24% down on that of 2020, the 29 recorded on the 30th was 41% up on the eight year mean (20.6 ±sd 10.0). The maximum May daycount was down on that of April for only the second time this decade, whilst both the peak daycount and monthly total fell below their 2013-2020 means, the latter by 25% (389.1 ±sd 110.0); a similar drop was noted last year, this perhaps due to the reduced number of observers present during a period with a significant amount of other survey work. Although the June and July totals were 22% and 16% down on the corresponding monthly means, the peak daycounts were

slightly above what is typical for these months. The August total proved the highest monthly tally for the third time in nine years (July produced the high in the other six), although the highest daycount was not logged until 1st September when 51 were counted; this was the highest daycount since 60 were present on 12th July 2017 and was the third highest of the last nine years. Although numbers declined during the autumn, the September tally was 9% up on the 2013-2020 mean (428.8 ±sd 42.3), the October tally was 21% up (217.3 ±sd 48.9) and the 109 animals logged over 22 November dates was 238% up (32.3 ±sd 15.1); weaned pups (from Skokholm or elsewhere) provided 37% of the latter total. The number of Grey Seals present around Skokholm has been rising steadily since 2013; even in a year with reduced observer numbers, it would seem that this may still be the case.

**The total number of Grey Seal logged each month, along with the maximum monthly daycount. Counts from 2016 to 2020 are included for comparison.**

| Month | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov |
|---|---|---|---|---|---|---|---|---|---|
| 2021* Monthly Total | 69 | 182 | 293 | 412 | 555 | 585 | 466 | 263 | 109 |
| 2020* | 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 |
| 2021 Maximum Daycount | 10 | 29 | 26 | 43 | 49 | 45 | 51 | 25 | 10 |
| 2020 | 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 |

* There was one on the last day of February 2021, three in the first three days of both December 2019 and December 2020 and four in the first five days of December 2021.

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, an animal approximately five days old, was found in Peter's Bay on 10th September; this was 12 days earlier than the first of 2020 and was the third earliest of the last nine years (the only earlier pups during this period were found near the Stack on 5th September 2014 and 18th August 2018, neither of which were known to survive). A two day old pup was accompanied by a cow on the rocks below the Crab Bay Hide the following day. There were no further records of new pups until 23rd September when a third was found in the eastern arm of North Haven. A second North Haven pup was born on 24th September and a third was found there on the 27th, this the fifth youngster of the year. The mother of a sixth, found in South Haven on the 29th, had fishing line around her neck; the pup was alive on the morning of 3rd October, however it was dead that afternoon and there was no further sign of the cow. A rare check of Hog Bay revealed a ten day old pup on 8th October and another was in Calf Bay on the 11th. The last pup of the year was found in North Haven on the 26th; it was estimated to be around two weeks old and had not been born at this site. A total of nine pups is the third highest on recent record and 67% up on the eight year mean (5.4 ±sd 3.9); there were three pups discovered in 2013, two in 2014, five in 2015, two in both 2016 and 2017, ten in 2018, 12 in 2019 (a total which included twins in North Haven) and seven last year.

## Cetaceans

It was a poor year for observations of marine mammals. Whilst some totals may have been impacted by a reduced number of observers, there again appears to have been a genuine drop in the number of animals present in the waters off Skokholm. Additionally, there were no records of Risso's Dolphin this year, this ending an eight year run of sightings from the Island. An account of each species encountered is listed systematically below, with the totals for the period 2016 to 2021 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 cetacean-days are the cumulative number of animals seen in a defined period of time (thus the same individual may be included for multiple dates). Additionally the number of days with a sighting is recorded for each month.

**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. Nevertheless data, which has been gathered somewhat consistently for the last nine years, appears to show an alarming decline in both the frequency of encounters and the number of animals seen from Skokholm. It was the worst year in recent history for observations of Harbour Porpoise, with March and November being the only months in which significant declines were not recorded; the cetacean-days total fell below the eight year mean by 42% in April (20.6 ±sd 15.2), by 89% in May (27.5 ±sd 11.1), by 62% in June (21.3 ±sd 20.0), by 80% in July (39.3 ±sd 24.5), by 72% in August (43.1 ±sd 25.1), by 85% in September (40.6 ±sd 27.0) and by 88% in October (8.5 ±sd 7.7).

Two off the Lighthouse on 4th March were the first of the year, these the first March sightings since 2019. Three on the 19th and two the following day resulted in the fourth highest March tally of the last nine. April saw the third lowest total of the last nine, with a peak daycount of three on the 13th matching that of 2013 as the lowest recorded during this period. Sightings became extremely scarce in May, with animals logged on just two dates; this was the lowest number of May sightings in nine years and was 80% less than the eight year mean (10.0 ±sd 4.0). A May Porpoise-days tally of three was the lowest of late, down on recent lows of 17 in 2018 and 14 last year. The eight Porpoise-days logged in June was the third lowest total in this month and eight in July was the worst tally on record, down on a previous July low of 13 last year. The August total was over 85% down on the 2015 high. There were sightings on 72% fewer September dates than average (10.8 ±sd 5.2), this leading to a monthly total which matched the lowest in recent history and which was over 93% down on the 2014 high of 91. There was just one animal seen in the whole of October, whilst a loose group of six off the Lighthouse on 4th November matched the six seen on 5th November last year.

The first Harbour Porpoise calf was logged on 3rd August, with one noted five days later being the only other youngster to be recorded this year.

**The total number of Harbour Porpoise logged during each recording month between 2016 and 2021, 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 |
|---|---|---|---|---|---|---|---|---|---|---|
| 2021 Monthly Total | 7 | 12 | 3 | 8 | 8 | 12 | 6 | 1 | 6 | 0 |
| 2020 | 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 | |
| 2021 Maximum Daycount | 3 | 3 | 2 | 3 | 2 | 3 | 2 | 1 | 6 | 0 |
| 2020 | 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 | |
| 2021 No. of Days Recorded | 3 | 7 | 2 | 4 | 6 | 6 | 3 | 1 | 1 | 0 |
| 2020 | 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 | |

**Short-beaked Common Dolphin** *Delphinus delphis*

A minimum of eight heading southwest past the Lighthouse on 7th March were 23 days earlier than the first of last year and the earliest ever seen from Skokholm; there have been March records in only three previous years, with one logged on the 22nd in 1961, two on the 13th in 1983 and a minimum of four on the 30th last year. Further pods of 20 off the Lighthouse (including two juveniles), of three off the Quarry and of eight off the Bluffs led to a 20th March daycount of 31, this 27 more than last year's record. April is typically also a quiet month for sightings, with this year seeing daycounts of up to nine on three dates take the cetacean-days total to 16; this becomes the fifth April of the last nine with a record, the total being 184% up on the eight year mean (5.6 ±sd 7.0). Although the reason for the absence is unclear, it would appear that Common Dolphins are genuinely missing from the waters around Skokholm in May; the only May records in the last nine years are of three on the 23rd in 2015 and of three on the 30th in 2016. Records on three dates matched the June high logged in 2016 and 2018, whilst a cetacean-days total of 45 was the best June tally this decade and 184% up on the 2013-2020 mean (15.9 ±sd 12.7). There were records on 11 July dates, this also matching the high (there were sightings on 11 dates in 2014 and 2019), however a daycount of 19 on the 10th was 28% down on the mean July high (26.5 ±sd 22.6) and a monthly total of 87, although up on the mean (81.5 ±sd 45.4), was 44% down on a peak of 156 recorded in 2015.

August and September are often the most productive months for sightings, however this year proved disappointing. Although 46 on 3rd August was the highest daycount since September 2017, sightings on 28% fewer August days than average (15.3 ±sd 5.2) resulted in 87 dolphin-days, this 41% down on the August 2020 total and 55% below the eight year mean (192.8 ±sd 112.0). A September cetacean-days total of 90 was 75 down on last year's tally and 55% below the eight year mean (202.0 ±sd 108.8). Although September seawatching effort was rather consistent between years, the 2021 total was impacted by a low number of encounters; on average, Common Dolphins are observed on 13.5 September days, however they were noted on just six this season, this the lowest number of

encounters in the last nine years (there was a high of 20 dates in 2018). There were sightings on just three October dates, however these were of pods of at least 15, six and 14, the dolphin-days tally of 35 being nine more than last year and 237% up on the 2013-2020 mean (10.4 ±sd 10.2). Encounters have usually ceased by November, however this year saw observations on five November dates, including a minimum of ten off the Lighthouse on the 10th which contributed to a record 39 cetacean-days; the total was 32 more than that of 2019, this the only other year with a sighting in this month. An annual dolphin-days total of 438 was marginally down on the 457 of 2020, was 14% below the eight year mean (511.4 ±sd 190.6) and was the fourth lowest total of the last nine years.

**The total number of Short-beaked Common Dolphin logged during each recording month between 2016 and 2021, 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 |
|---|---|---|---|---|---|---|---|---|---|---|
| 2021 Monthly Total | 39 | 16 | 0 | 45 | 87 | 87 | 90 | 35 | 39 | 0 |
| 2020 | 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 | |
| 2021 Maximum Daycount | 31 | 9 | 0 | 25 | 19 | 46 | 30 | 15 | 10 | 0 |
| 2020 | 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 | |
| 2021 No. of Days Recorded | 2 | 3 | 0 | 3 | 11 | 11 | 6 | 3 | 5 | 0 |
| 2020 | 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 | |

A pod of 22 adults on 28th June contained the first three calves of the year. There followed a calf with four adults on 1st July, a tiny calf alongside a lone adult on the 30th, three large calves with a pod of 37 on 3rd August, three with 14 adults on 5th September, three (including one very small calf) with a pod of at least 17 on the 15th and singles with pods of seven on 22nd November, of seven on the 28th and of five on the 29th. A total of 17 calf-days was three more than noted last year and was up on the six of 2018 and the seven of 2019, but was down on a recent high of over 30 logged in 2017.

## Fish

**Common Ocean Sunfish** *Mola mola*
One watched from the Lighthouse on 8th August was the only record of the year, this continuing a sporadic run of sightings of this strange pelagic fish; there were two Sunfish-days in 2015, seven in 2016, four in 2017, one in 2018 (seen from the Irish Ferry, approximately one mile to our south), four in 2019 and two in 2020. There were no encounters in either 2013 or 2014, but sightings in ten years between 1992 and 2012 included highs of five Sunfish-days in 1993, 1995 and 2002.

## Additional Species

***Caulacanthus okamurae***
During the annual Skokholm MarClim survey, undertaken by Natural Resources Wales during the late summer, several patches of the non-native *Caulacanthus okamurae* were found on the west side of South Haven; these are the first examples to be noted on Skokholm. This is a species native to Asia which is found most commonly along the coasts of South Korea (Day, 2018), however it was found in Brittany, France in 1986 and by 2006 it had spread widely (Guiry, 2020). It had reached Plymouth by 2004, after which it spread to Devon, Cornwall and Pembrokeshire. The first record at Jetty Beach, Dale was logged in 2017 and it is now regarded as a common find in Milford Haven (Day, 2018). Surveys of Martins Haven in 2018 and 2019 noted this species as rare, however by 2021 it was common. This is the second invasive Asian species to be found in South Haven in five years; a lone example of Japanese Wireweed *Saragassum muticum* was logged during the 2017 MarClim Survey.

# Observers, Photographers and Literature Cited in the Text

**Observers cited in the text. Many other people provided records at the evening log, far more than can be listed here. We are hugely grateful to everybody who contributed during the 2021 season.**

| | | | | | |
|---|---|---|---|---|---|
| GE | Giselle Eagle | JMH | Jodie Mae Henderson | RD | Richard Dobbins |
| IB | Ian Beggs | LM | Luke Marriner | RDB | Richard Brown |
| JHO | Jenni Hood | PB | Phil Blatcher | | |

All photographs are © Richard Brown and Giselle Eagle except for The Devil's Teeth © Peter Partington, looking north from the Knoll © David Thelwell, Wall Pennywort © David Thelwell, Water Rail chicks © Jodie Mae Henderson, Snipe © Rhodri Llewellyn, Puffin with cap © Rosie Barrett (www.rosiebwild.co.uk), Puffin in flight © Mike Turtle, juvenile Rose-coloured Starling © Phil Blatcher, *Ornithomya avicularlia* © Denise Wawman and *Caulacanthus okamurae* © Mark Burton.

Baillie, S.R., Marchant, J.H., Leech, D.I., Renwick, A.R., Joys, A.C., Noble, D.G., Barimore, C., Conway, G.J., Downie, I.S., Risely, K. & Robinson, R.A. (2010) **Breeding Birds in the Wider Countryside: their conservation status 2010**. BTO Research Report 565. BTO, Thetford

Balmer, D.E., Gillings, S., Caffrey, B., Swann, R.L., Downie, I.S. and Fuller, R.J. (2013) **Bird Atlas 2007-11: the breeding and wintering birds of Britain and Ireland**. BTO, Thetford

Betts, M. (1992) **Birds of Skokholm**. Dyfed Wildlife Trust

Bladwell, S., Noble, D.G., Taylor, R., Cryer, J., Galliford, H., Hayhow, D.B., Kirby, W., Smith, D., Vanstone, A. and Wotton, S.R. (2018) **The state of birds in Wales 2018**. The RSPB, BTO, NRW and WOS. RSPB Cymru, Cardiff

British Dragonfly Society (2021) **Vagrant Emperor *Anax ephippiger*** https://britishdragonflies.org.uk/species/vagrant-emperor/

British Lepidoptera (2021) ***Yponomeuta rorrella* (Willow Ermine)** https://britishlepidoptera.weebly.com/005-yponomeuta-rorrella-willow-ermine.html

Brown, R. and Eagle, G. (2013) **Skokholm Seabird Report 2013**. Online report for the Wildlife Trust of South and West Wales. www.welshwildlife.org/about-us/skokholm-reports/

Brown, R. and Eagle, G. (2014) **Skokholm Seabird Report 2014**. Online report for the Wildlife Trust of South and West Wales. www.welshwildlife.org/about-us/skokholm-reports/

Brown, R. and Eagle, G. (2015) **Skokholm Seabird Report 2015**. Online report for the Wildlife Trust of South and West Wales. www.welshwildlife.org/about-us/skokholm-reports/

Brown, R. and Eagle, G. (2016) **Skokholm Seabird Report 2016**. Online report for the Wildlife Trust of South and West Wales. www.welshwildlife.org/about-us/skokholm-reports/

Brown, R. and Eagle, G. (2017) **Skokholm Seabird Report 2017**. Online report for the Wildlife Trust of South and West Wales. www.welshwildlife.org/about-us/skokholm-reports/

Brown, R. and Eagle, G. (2018) **Skokholm Seabird Report 2018**. Online report for the Wildlife Trust of South and West Wales. www.welshwildlife.org/about-us/skokholm-reports/

Brown, R. and Eagle, G. (2019) **Skokholm Seabird Report 2019**. Online report for the Wildlife Trust of South and West Wales. www.welshwildlife.org/about-us/skokholm-reports/

BTO (2016) **Saving the Curlew by understanding its decline**. https://www.bto.org/sites/default/files/u35/downloads/curlew-appeal/curlew-appeal-leaflet.pdf

Burton, M. (2019) **Unpublished Skokholm South Haven temperature logger data**. Skomer Marine Conservation Zone, Natural Resources Wales

Butterfly Conservation (2015) **The State of the UK's Butterflies 2015.** https://www.butterfly-conservation.org/sites/default/files/soukb-2015.pdf

Butterfly Conservation (2021) **Big Butterfly Count 2021 Results**. https://butterfly-conservation.org/news-and-blog/big-butterfly-count-2021-sees-lowest-ever-number-of-butterflies-recorded

Conder, P. (1989) **The Wheatear**. Helm

Cousquer, G. (2013) **Rabbits, companion animals and arthropod-borne diseases**. Vet Times https://www.vettimes.co.uk/app/uploads/wp-post-to-pdf-enhanced-cache/1/rabbits-companion-animals-and-arthropod-borne-diseases.pdf

Davidson, G.L., Raulo, A. and Knowles S.C.L. (2020) **Identifying Microbiome-Mediated Behaviour in Wild Vertebrates**. Trends in Ecology and Evolution 35 (11)

Day, F. (2018) **Monitoring the marine invasive/non-native species of Jetty Beach, FSC Dale Fort, Pembrokeshire, Wales**. Field Studies Council

De Prins, W., De Prins, G. and Larsen, K. (2009) ***Blastobasis adustella* (Lepidoptera: Coleophoridae), Blastobasinae, new to the Belgian list.** Phegea 37 (3): 118

Donovan, J. and Rees, G. (1994) **Birds of Pembrokeshire**. Dyfed Wildlife Trust

Ferguson-Lees, J., Castell, R. and Leech, D. (2011) **A Field Guide To Monitoring Nests**. BTO

Frost, T., Austin, G.E., Hearn, R.D., McAvoy, S., Robinson, A., Stroud, D., Woodward, I. and Wotton, S.R. (2019) **Population estimates of wintering waterbirds in Great Britain.** British Birds 112 (5): 130-145

Gillham, J. and Yates, L. (2012) **Skokholm Island Annual Report 2012**. Unpublished report for the Wildlife Trust of South and West Wales

Gonzalo-Tarodo, A., Facey, R.J. and Vafidis, J.O. (2020) **Bioacoustic variation in Wren *Troglodytes troglodytes* populations on Welsh islands**. Bird Study 67(2): 173-180

Guiry, D. (2020) **The spread of the European adventive *Caulacanthus okamurae* Yamada (*Caulacanthaceae, Rhodophyta*) to Ireland.** Notulae Algarum 162

Gynn, E. (1984) **Dead shearwaters on Skokholm**. Bulletin of the Friends of Skomer and Skokholm 7:10-11

Harris, M., Heubeck, M., Shaw, D. and Okill, D. (2006) **Dramatic changes in the return date of Guillemots *Uria aalge* to colonies in Shetland, 1962-2005**. Bird Study 53: 247-252

Harris, M., Heubeck, M., Newell, M. and Wanless, S. (2015) **The need for year-specific correction factors (k values) when converting counts of individual Common Guillemots *Uria aalge* to breeding pairs.** Bird Study 62 (2): 276-279

Haycock, A. (2020) **Cetti's Warbler**. https://pembsavifauna.co.uk/category/cettis-warbler/

Holt, C., French, P. and the Rarities Committee (2021) **Report on rare birds in Great Britain in 2020**. British Birds 114: 570-628

Humphreys, E.M., Wanless, S. and Bryant, D.M. (2007) **Elevated metabolic costs while resting on water in a surface feeder: the Black-legged Kittiwake *Rissa tridactyla***. Ibis 149: 106-111

Huntley, B., Green, R.E., Collingham, Y.C. and Willis, S.G. (2007) **A climatic atlas of European breeding birds**. Barcelona: Durham University, the RSPB and Lynx Editions

JNCC (2015) http://jncc.defra.gov.uk/page-2875-theme=default

Keller, V., Herrando, S., Voříšek, P., Franch, M., Kipson, M., Milanesi, P., Martí, D., Anton, M., Klvaňová, A., Kalyakin, M.V., Bauer, H.-G. and Foppen, R.P.B. (2020) **European Breeding Bird Atlas 2: Distribution, Abundance and Change**. European Bird Census Council and Lynx Edicions, Barcelona

Lockley, R.M. (1937) **Skokholm Annual Report 1937**.

Lockley, R.M. (1938) **Skokholm Annual Report 1938.** Telegraph Printing Works, Haverfordwest

Massimino, D., Woodward, I.D., Hammond, M.J., Harris, S.J., Leech, D.I., Noble, D.G., Walker, R.H., Barimore, C., Dadam, D., Eglington, S.M., Marchant, J.H., Sullivan, M.J.P., Baillie, S.R. & Robinson, R.A. (2017) **Bird Trends 2017: trends in numbers, breeding success and survival for UK breeding birds**. Research Report 704. BTO, Thetford.

McInerny, C.J., Musgrove, A.J., Stoddart, A., Harrop, A.H.J. and Dudley, S.P. (2017) **The British List: A Checklist of Birds of Britain (9th Edition).** IBIS 160(1): 190-240

Met Office (2022) **Storm Bella, 26 to 27 December 2020.** https://www.metoffice.gov.uk/binaries/content/assets/metofficegovuk/pdf/weather/learn-about/uk-pastevents/interesting/2020/2020_11_storm_bella.pdf

Met Office (2022b) **Climate Summaries.** https://www.metoffice.gov.uk/research/climate/maps-and-data/summaries/index

Morgan, G. (2013) **Gannet tracking on Grassholm.** http://www.rspb.org.uk/community/placestovisit/ramseyisland/b/ramseyisland-blog/archive/2013/07/31/gannet-tracking-on-grassholm.aspx

Perkins, A.J., Douse, A., Morgan, G., Cooper, A. and Bolton, M. (2017) **Using dual-sex calls improves the playback census method for a nocturnal burrow-nesting seabird, the Manx Shearwater *Puffinus puffinus***. Bird Study 64 (2): 146-158

Plummer, K.E., Siriwardena, G.M., Conway, G.J., Risely, K. and Toms, M.P. (2015) **Is supplementary feeding in gardens a driver of evolutionary change in a migratory bird species?** Global Change Biology 21 (12): 4353-4363

Pritchard, R., Hughes, J., Spence, I.M., Haycock, B. and Brenchley, A. (2021) **The birds of Wales. Adar Cymru**. Liverpool University Press

Randle, Z., Evans-Hill, L.J., Parsons, M.S., Tyner, A., Bourn, N.A.D., Davis, T., Dennis, E.B., O'Donnell, M., Prescott, T., Tordoff, G.M. and Fox, R. (2019) **Atlas of Britain & Ireland's Larger Moths**. Pisces Publications

Rees, G. (2012) **Starling**. https://pembsavifauna.co.uk/category/starling/

Stansfield, G. (1954) **Collection of Flat Flies on Skokholm Island**. Skokholm Bird Observatory Report for 1954. The West Wales Field Society

Stansfield, G. (1955) **Flat-flies and Fleas from Skokholm birds 1955.** Skokholm Bird Observatory Report for 1955. The West Wales Field Society

Sutcliffe, S.J. (2010) **Storm Petrels on Skokholm**. Unpublished review for the Countryside Council for Wales and the Wildlife Trust of South & West Wales

Sutcliffe, S.J. and Vaughan, D. (2011) **Storm Petrel monitoring on Skokholm**. Unpublished report for the Wildlife Trust of South and West Wales

Taylor, P., Smallshire, D., Parr, A.J., Brooks, S.J., Cham, S.A., Colver, E.F., Harvey, M., Hepper, D., Isaac, N.J.B., Logie, M.W., McFerran, D., McKenna, F., Nelson, B. & Roy, D.B. (2021) **State of Dragonflies in Britain and Ireland 2021**. British Dragonfly Society, Old Weston, Huntingdon

Thompson, G.V.F. (2003) **Storm Petrel census on Skokholm in 2003**. Contract science report number 673, Countryside Council for Wales

Thompson, G.V.F. (2007) **The natural history of Skokholm Island**. Trafford Publishing

UK Moths (2020) **Riband Wave *Idaea aversata*** https://ukmoths.org.uk/species/idaea-aversata

UNEP (2021) **Noctule *Nyctalus noctula*.** http://www.eurobats.org/about_eurobats/protected_bat_species/nyctalus_noctula

United Kingdom Butterfly Monitoring Scheme (2021) **Speckled Wood *Pararge aegeria*** https://ukbms.org/species/speckled-wood

Van der Meidjen, E., Van Wijk, C.A.M. and Kooi, R.E. (1991) **Population dynamics of the Cinnabar Moth (*Tyria jacobaeae*): Oscillations due to food limitation and local extinction risks** Netherlands Journal of Zoology 41: 158-173

Vaughan, D. and Gibbons, D.W. (1996) **Storm Petrel census on Skokholm Island, 1995**. Report to Countryside Council for Wales, RSPB and Dyfed Wildlife Trust

Vaughan, D. (2001) **Storm Petrel census of Skokholm Island, Pembrokeshire, 2001**. Report to JNCC and the Wildlife Trust of South and West Wales

Walsh, P.M., Halley, D.J., Harris, M.P., del Nevo, A., Sim, I.M.W. & Tasker, M.L. (1995) **Seabird monitoring handbook for Britain and Ireland**. JNCC/RSPB/ITE/Seabird Group, Peterborough

Westcott, D.G. and Choudhury, B. (2015) **Rabbit Haemorrhagic Disease Virus 2-like variant in Great Britain**. Veterinary Record 176:74

White, S. and Kehoe, C. (2021) **Report on scarce migrant birds in Britain 2019**. British Birds 114: 443-464

Westerberg, K., Brown, R.D., Eagle, G. and Votier, S.C. (2018) **Intra-population variation in the diet of an avian top predator: generalist and specialist foraging in Great Black-backed Gulls *Larus marinus*.** Bird Study 66 (3): 390-397

Wood, M.J., Taylor, V., Wilson, A., Padget, O., Andrews, H., Buche, B., Cox, N., Green, R., Hooley, T-A., Newman, L., Miquel-Riera, E., Perfect, S., Stubings, E., Taylor, E., Taylor, J., Moss, J., Eagle, G. & Brown, R.D. (2017) **Repeat playback census of breeding European Storm Petrels on the Skokholm and Skomer SPA in 2016**. Unpublished report for Natural Resources Wales