Scottish Birds

published by the
SCOTTISH ORNITHOLOGISTS' CLUB

VOLUME 40(4) DECEMBER 2020

Scottish Birds

Established in 1958.

Published quarterly by:
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To advertise in *Scottish Birds* or obtain back issues, please contact Waterston House.

Designed and typeset by:
Pica Design, 51 Charlton Crescent,
Aboyne, Aberdeenshire AB34 5GN.
Email: picades@ifb.co.uk

Printed by:
Swallowtail Print Limited,
Unit 2 Drayton Industrial Park,
Taverham Road, Drayton
Norwich, Norfolk NR8 6RL.

Front Cover:
Little Egret, Aberlady, Lothian, January 2019. © *Ian Andrews*

ISSN 0036-9144

Scottish Birds is the quarterly journal for SOC members, and is published in March, June, September and December annually.

Containing original papers relating to ornithology in Scotland, topical articles, bird observations, reports of rare and scarce bird sightings, alongside branch and Club-related news, our members tell us that *Scottish Birds* is one of the key benefits of belonging to the SOC. Its different sections have been developed to meet the wide needs of the birdwatching community, and the publication is renowned for its first-class photography.

An archive of the journal is available on the SOC website, where links can be found to other Club publications including the *Scottish Bird Report* online.

More about the SOC…

On the one hand, a birdwatching club. Established in 1936, the Scottish Ornithologists' Club (SOC) is Scotland's bird club with 15 branches around the country and a growing membership of over 3,000. Through a programme of talks, outings, conferences and other events, it brings together like-minded individuals with a passion for birds, nature and conservation.

On the other, a network of volunteers across Scotland, gathering vital, impartial information about our wild birds. The data we collect is made available to conservationists, planners and developers, and is used by organisations such as the RSPB, as one of the first points of reference in informed conservation planning.

Club Headquarters can be found at Waterston House, Aberlady, overlooking the scenic local nature reserve. Housed within, is the George Waterston Library, the largest ornithological library in Scotland, and the Donald Watson Gallery - one of the jewels in the Waterston House crown, exhibiting wildlife art all year-round.

Join us…

As well as receiving *Scottish Birds* every quarter, SOC members have access to a programme of talks and outings across Scotland and affiliation to a local branch of the Club. New members will receive a welcome pack on joining, plus a thank you gift if paying their subscription by direct debit.

Annual membership rates*

Adult (aged 18 and over)	£	36.00
Family (2 adults and all juniors at same address)	£	48.00
Junior (aged 17 or under)	£	14.00
Student (in full-time education)	£	14.00
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For non-UK addresses, there is a £15.00 supplement to all categories to cover postage.
Rates valid until end of August 2021 (†31 December 2021), subject to change thereafter.

For more information about the Club and its activities, including details of how to join, please visit www.the-soc.org.uk or contact Waterston House on 01875 871 330, or email membership@the-soc.org.uk

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Winners and changes

Plate 210. The Marsh Award.

One of the most gratifying forms of praise, I always think, is being recognised by your peers and colleagues. It was therefore wonderful to learn in mid-October that the SOC had been nominated for one of the BTO's prestigious Marsh Awards – The Marsh Award for Local Ornithology – for the production and publication of the *Where to Watch Birds in Scotland* App. Praised for its innovation, for its links to bird recording, and for the fact that it is freely available for all, we were even more delighted to be announced winners of the award at the online event at the end of October. In his acceptance speech, Jeremy Wilson, our Vice President for Birding and Science, gave special praise to Jane Allison, Martin Cook and Alan Knox for their roles in leading this project through to its hugely successful conclusion. Congratulations are due to them and to all involved in the project, and very many thanks are due to our friends and colleagues at the BTO for the award.

The celebrations didn't stop there, though: Michael Sinclair from the Clyde branch, known to many of us through his help at the annual conferences, won the Young Ornithologist Award for his work, especially in Linn Park in Glasgow, against strong competition from across the UK. We offer our hearty congratulations to Mike and look forward to working with him for many years to come!

I also want to mention Graham Appleton, known to many of us as a past Edinburgh resident, who won the Dilys Breeze Medal for his work in communicating science to the wider world through *Wader Tales* (wadertales.wordpress.com), his own superb blog. Graham has a wonderful way of explaining the complexities of wader science in simple English, presenting wonderful stories about a fascinating and fantastic group of birds. Take a look, have a read...

The autumn has also been a period of change for the SOC. We managed to reopen Waterston House for sales and the art gallery, and we hope to continue this through the winter. At the end of October, Stuart Rivers, our Birding Officer, left us for pastures new. We wish him well in his new career and thank him for all he did in a new role for the Club. We are delighted to welcome Shenaz Khimji onto the front-of-house team as Visitor Experience Officer. If you're passing Waterston House at the weekend, you'll meet her soon enough.

The other major changes afoot are with two of our key volunteer positions. Andy Thorpe has intimated to us that he wishes to stand down as Treasurer, as he intends to move south in the very near future. Ian Andrews has also said that he wishes to step down as Co-ordinating Editor of *Scottish Birds* in the coming months. Both have done fantastic jobs for us for many years, but we now need to find replacements for both. If you think you might be interested, or know someone who might be, there are more details on pages 328–329 or please do get in touch with Wendy to discuss the possibilities. As a small Club, we rely on our volunteers; please consider whether you might play a (bigger) part.

Ian Bainbridge, SOC President.

The rise and fall of the Nigg Ferry Eider colony

R.L. SWANN & I.K. BROCKWAY

This paper charts the changing numbers and breeding success of Eiders at Nigg Ferry on the Cromarty Firth, Highland. Numbers of Eiders increased to a peak of 144 nests in 2002, matching a similar rise in the number of nesting Great Black-backed Gulls at the same site. Eiders laid from mid-April to late June with a peak in early May. The median clutch was four eggs and a decline in clutch size was noted throughout the study period. Clutches of over six eggs, probably involving more than one female, were unusual. From 1990 to 2002 breeding success was high. From 2003 to 2005, a shortage of food led to a complete breeding failure for the Great Black-backed Gulls and resulted in a sharp decline in numbers. This was associated with an increase in predation rates on Eider nests and a decline in their breeding numbers.

Introduction

The Eider *Somateria mollissima* is a widely distributed resident breeding duck found around all the coasts and major island groups of Scotland. In many areas, such as the north mainland, birds nest in low numbers, often just isolated pairs but at a few sites, such as The Sands of Forvie (North-east Scotland), birds can nest in large colonies (Waltho 2007). During the late 20th and early 21st centuries, breeding Eider numbers increased in some parts of Scotland but experienced dramatic declines in other areas (Waltho 2007). A study at Nigg Ferry on the Cromarty Firth (Highland) charted the rise, then rapid decline, of a large colony of breeding Eiders. The colony was located at the Nigg oil terminal, where there was also a breeding colony of Great Black-backed Gulls *Larus marinus* and a large number of breeding terns.

Plate 211. Eider on nest, Nigg Ferry, Highland, June 2014. © *Bob Swann*

Methods

In 1990 Eiders were found nesting on the rock armour bounding the Nigg Oil Terminal at Nigg Ferry near the mouth of the Cromarty Firth. This colony was studied annually until its demise in 2006. By walking along the rock armour, it was possible to find and count all the Eider nests which were located in a very narrow band between the yard's security fence and the high tide line on the rock armour. Each breeding season each nest was marked, its clutch and outcome recorded and in many instances the brooding female was caught. A small number of females nested within the yard. These nests were also included in the study.

Visits were made roughly every 10 days between early May and mid-July. Clutch size was taken as the maximum number of eggs a brooding female was incubating, which was normally confirmed over two or three nest checks. Female Eiders lay one egg per day (Waltho & Coulson 2015) and normally do not start incubating until the final egg is laid. Calculating first laying dates was straightforward from partly completed clutches or those where hatching was observed. For those nests that had completed clutches on their first visit, data was used from subsequent visits to work back and calculate a laying date. This was not possible for all nests, particularly ones that failed. Where possible the outcome of each nest was recorded. The characteristic 'leathery' membrane partly attached to the hatched eggshells indicated successful hatching of ducklings. Predated eggs could be recognised either by large holes, or egg fragments lacking the membrane found on recently hatched shells. Occasionally, neither of these indicators were found so that the actual outcome could not be accurately determined.

Adjacent to the core of the Eider colony was a fenced enclosure known as the 50 m strip which lay between the oil terminal and the oil platform construction yard. Within this site there was a large colony of Great Black-backed Gulls. The nests in this colony were counted each year and productivity calculated by rounding up and ringing all the large chicks within the fenced area. The site was then checked to record the number of young that had died prior to fledging. Common Terns *Sterna hirundo* and Arctic Terns *Sterna paradisaea* nested at the oil terminal and their populations were also monitored on an annual basis.

Results

Eider numbers

In 1990, 27 Eider nests were found in the study area. By 2002, this had increased to 144 nests (Figure 1). There was then a rapid decline to only 16 nests in 2006 when monitoring ceased.

Note: In 2003 many nests failed prior to incubation commencing resulting in an undercount.

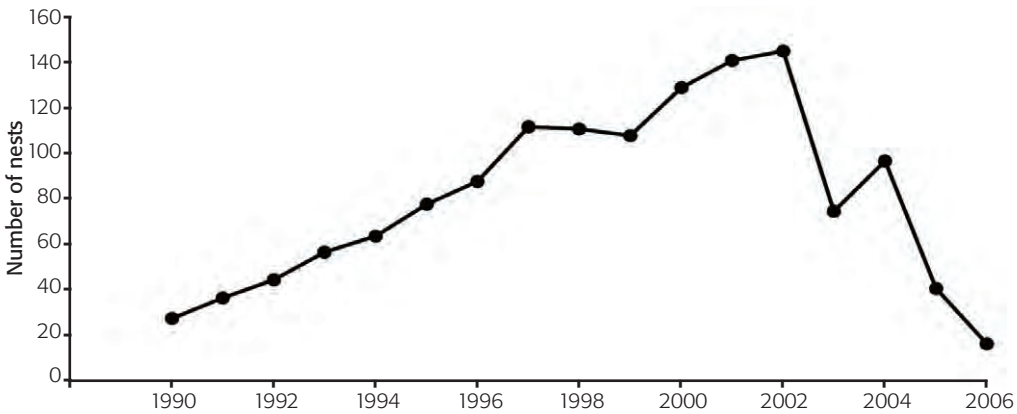

Figure 1. Number of Eider nests at Nigg 1990–2006.

Laying date

Laying occurred from mid-April to late June with a peak in the first half of May (Figure 2). There was considerable variation in laying dates from year to year over the period of the study but no long-term trend in average first egg laying date (Figure 3).

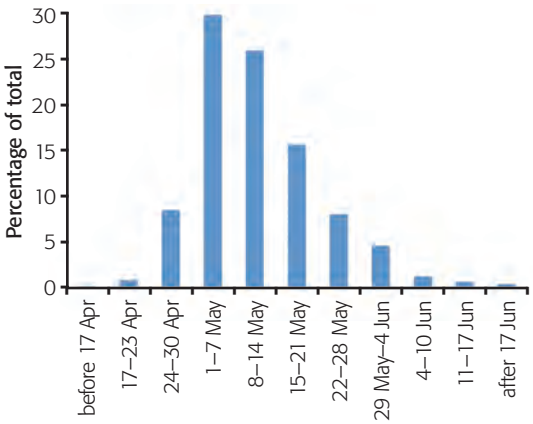

Figure 2. First Eider egg laying dates as a percentage of total laid. Note: 1 nest before 17th April (0.2%).

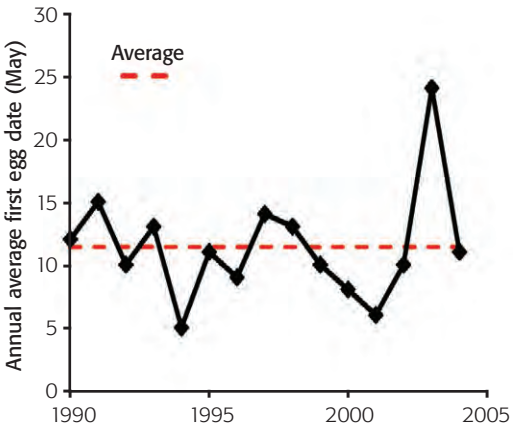

Figure 3. Average annual first Eider egg date 1990–2004.

Number of eggs per nest

Figure 4 gives details of the maximum number of eggs recorded in each nest, which ranged from one to 12 eggs. Clutches of 3 and 4 dominated with the median clutch size being 4 and the mean clutch size 3.7.

It is known that Eiders will engage in parasitic egg laying, where they lay single eggs in the nests of other females and on occasions two females can lay an entire clutch in the same nest (Waltho & Coulson 2015). Waltho & Coulson also suggested that clutches of seven and over were likely to be a result of one of these activities and that true clutches laid by a single female were between one and six eggs. At Nigg, 59 out of 1310 clutches (4.5%) were greater than six eggs. These large clutches were mainly found in the earlier part of the laying season. Of 30 large clutches where laying date was known 12 had a first egg date in April, 17 in the first half of May and only one thereafter.

In order to examine changes in clutch size within a season, data from five years were examined. These were lumped into two groups: 1994, 2000 and 2001 when nesting was 'early' with a mean first egg laying date between 5 and 8 May and 1997 and 1998 when nesting was 'late' with a mean first egg laying date from 13 to 14 May. Large clutches, where more

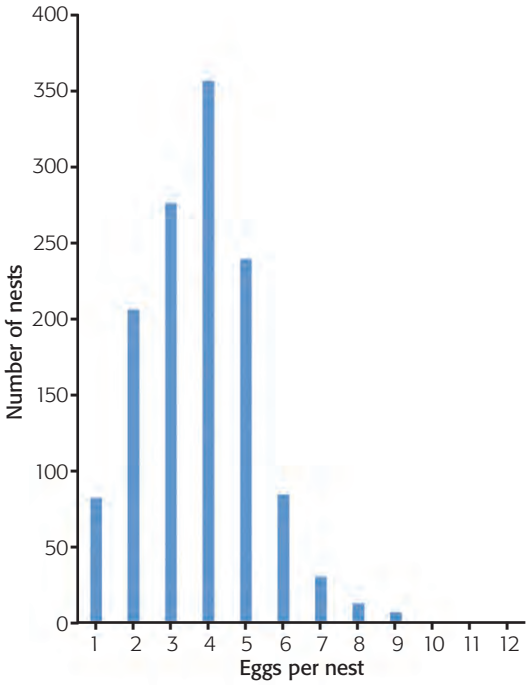

Figure 4. Number of Eider nests according to content 1990–2005. Note: clutches of 10 (2), 11 (0) and 12 (1).

than one female was probably involved, were excluded, as they add bias to clutches laid early in the season. Table 1 shows that the largest clutches were found during the peak laying period in the first half of May, but otherwise there was no obvious trend.

Table 1. Mean clutch size and sample size (N) according to laying date for Eiders in early and late laying years.

		Up to 7 May	8–14 May	15–21 May	22–28 May	29 May–4 Jun	5 Jun onwards
early	N	71	88	36	20	17	13
	mean	3.8	3.7	3.4	3.2	3.2	3.6
late	N	13	33	59	36	19	20
	mean	3.5	4.1	3.6	3.6	2.7	3.6

During the course of the study there was a decline in the number of eggs per nest (Figure 5). In the early years of the study (1990–92) the median clutch size was 5 and the mean 4.8. By the end of the study (2003–05) the median was 3 and the mean clutch size had dropped to 3.4.

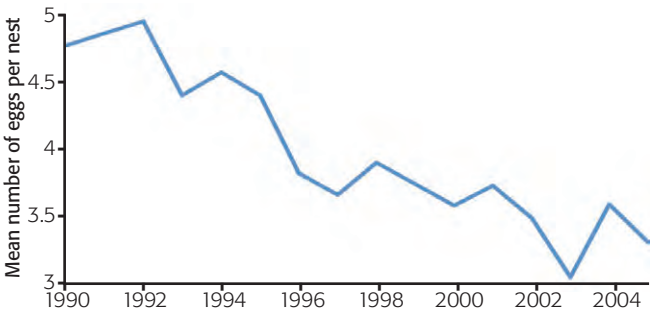

Figure 5. Number of eggs per Eider nest 1990–2005.

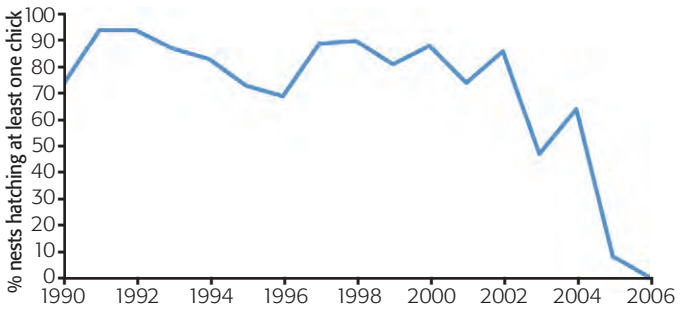

Figure 6. Hatching success of Eider nests 1990–2006.

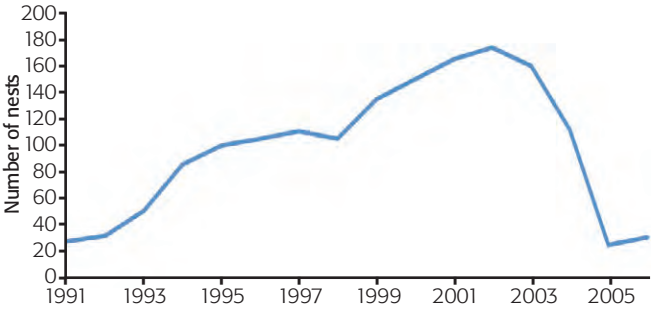

Figure 7. Number of Great Black-backed Gull nests in the 50 m strip Nigg, 1991–2006.

Success rate

Hatching success, as measured by the number of nests hatching at least one chick, was generally high (Figure 6) averaging 83% for all clutches laid between 1990 and 2002. In 2003 it dropped to 42%, in 2004 was higher at 67% but in 2005 collapsed to 13% and 2006 saw a complete failure of the few clutches that were laid. This decline in hatching success was linked to an increase in the number of clutches being predated.

Great Black-backed Gull

The number of nests increased from 27 in 1991 to a peak of 173 in 2002. Numbers fell to 111 nests in 2004, prior to a major decline down to 24 nests in 2005 with 30 nests in 2006 (Figure 7).

Breeding success in the gull colony was monitored between 1991 and 2005. From 1991 to 2002 success was generally high varying between 0.8 and 2.2 chicks fledging per nest, with a mean of 1.7 young/nest. From 2003 to 2005 there was a complete failure with no chicks fledging.

Discussion

Laying date

The timing and pattern of first egg laying at Nigg is typical of that found at sites in eastern Scotland and north-east England (Waltho & Coulson 2015) with laying starting in mid-April and continuing to the end of June with the mean lying in the second week of May. There was no observed trend in timing over the 16-year study period.

Clutch size

The percentage of large clutches of seven or more eggs at Nigg at 4.5% is far lower than the 13.5% recorded at Inner Farne (Waltho & Coulson 2015), though as with Inner Farne most of these large clutches were laid in the early part of the breeding season. On Inner Farne, large clutches were typically found in areas of high nest density. The Eider nests at Nigg were generally laid out in a linear pattern along the rock armour with a high percentage at the base of the security fence. With 2 km of rock armour available for nesting there was no shortage of potential nest sites, though there was a concentration of birds in the vicinity of the 50 m strip, but nowhere were densities particularly high.

Long-term data from Coquet Island in north-east England showed a decline in clutch size from around five in the early 1960s to 3.5 in the 2000s (Waltho & Coulson 2015). The data from Nigg shows a similar decline but between 1990 and the 2000s. At Nigg, much of this decline in average clutch size occurred during the period when the colony was increasing in numbers. It may be that with a finite food supply, increasing numbers of birds led to more competition for food, so that breeding females found it more difficult to build up the reserves to lay a large clutch. Between 2003 and 2005, clutches were particularly low as a result of high levels of predation during the laying period.

Numbers and breeding success

The build-up and demise of the Eider colony very closely followed the build-up and demise of the adjacent Great Black-backed Gull colony. In addition, between 1990 and 2003 there was a large Common Tern and Arctic Tern colony within the terminal grounds. Nesting within a fenced enclosure meant that the birds were safe from predation by Red Foxes *Vulpes vulpes*, though Pine Martens *Martes martes* were occasionally recorded by the yard security cameras climbing over the fences. Although there was 2 km of rock armour bounding the terminal, most of the Eiders nested in the sections adjacent to the 50 m strip where the gulls nested or adjacent to the areas where the terns nested. This suggests that the increasing number of gulls and high number of terns were

Plate 212. Great Black-backed Gulls, Nigg Ferry, Highland, 2000. © *Bob Swann*

providing the Eiders with some form of protection from predators, which led to a concentrated build-up of nesting females. This view is backed up by the relatively high success rate of the Eiders up to 2002, with very few failures being attributed to predation, from mammals or even gulls.

After 2002 everything changed, with a dramatic decline in the number of breeding Eiders, terns and Great Black-backed Gulls. One hypothesis for this could be the arrival of a predator creating a 'landscape of fear' resulting in the birds moving to safer breeding localities. Although we cannot completely rule out this hypothesis, we found limited evidence to support it. No predated adults were found, no caches of eggs or chicks and no predated eggs with teeth marks. Indeed, all the predated eggs tended to have a large hole with jagged edges almost certainly caused by a large bill.

Our alternative hypothesis is that the Great Black-backed Gulls that had been providing a protective shield for the Eiders had become the predators. 2002 saw a change in fortunes with the previously productive gull colony recording a complete breeding failure. Up till 2002, the main source of food for the gull chicks was sandeels *Ammodytes* spp., as revealed by numerous regurgitations during ringing operations. From 2003 to 2006 there appeared to be a shortage of sandeels. The terns, which also exploited sandeels, also had a complete breeding failure in 2003 and 2004 and had ceased to breed by 2005. At the nearby North Sutor colony the breeding success of Shag *Phalacrocorax aristotelis* and Kittiwake *Rissa tridactyla* also declined markedly at this time (R.L. Swann pers. obs.).

It appears that the hungry gulls were forced to switch diet and some started predating Eider nests, resulting in the high predation rates observed in 2003, 2005 and 2006. The decline in gull and tern numbers also meant that the Eiders began to lose their protective cover. As a result of this change in circumstances the Eiders began to abandon Nigg as a breeding site.

Eiders are very long lived and there was no evidence of direct predation on adults. It was likely that the adults moved to a new, safer breeding location. In 2015, we rediscovered them, confirmed by the presence of Nigg-ringed birds, 8 km west at Invergordon where at least 89 nests were located on the rock armour within the Cromarty Firth Port Authority complex and in very close proximity to a large colony of Common Terns. They had apparently been breeding here for some time.

Acknowledgements

We would like to thank all those that helped with the monitoring work at Nigg, mostly members of Tain Royal Academy Bird Club and to the terminal staff who facilitated access. We are also grateful to John Coulson who did much of the analysis of the Eider nest record cards that we had submitted to the British Trust for Ornithology nest record scheme. As well as passing this analysis on to us, John also kindly commented on a first draft of the paper. Chris Waltho also provided useful comments, particularly with regard to the discussion.

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Revised ms accepted April 2020

Delivering robust population trends for Scotland's widespread breeding birds

B. DARVILL, S.J. HARRIS, B. MARTAY, M. WILSON & S. GILLINGS

Introduction

Our understanding of the changing fortunes of the UK's commoner terrestrial breeding birds is, to a large extent, based on the combined efforts of many dedicated and skilled volunteers who take part in the Breeding Bird Survey (BBS) each year. This survey, coordinated by the British Trust for Ornithology in partnership with JNCC and RSPB, was launched in 1994 and is based on standardised annual bird counts undertaken by volunteers in randomly located 1-km squares (Box 1, Harris *et al.* 2019). Data from the BBS and its predecessor, the Common Birds Census, are combined to give long-term bird population trends, running from the 1960s to the present (Massimino *et al.* 2019). These trends inform our general understanding of the status of the c.117 commonest terrestrial breeding birds and have many applied and research uses. It is due to these schemes, for example, that we have robust quantitative information about ongoing declines in many farmland birds (Massimino *et al.* 2019) and a growing understanding of the problems facing breeding waders (Franks *et al.* 2017). This information has helped to prioritise, shape and then subsequently monitor the effects of conservation management in both the lowlands (e.g. Baker *et al.* 2012) and the uplands (Calladine *et al.* 2014).

The BBS has been designed to provide robust information at relevant spatial scales (Box 1), with country-level trends of critical importance to the quality of devolved decision-making. In addition to the applied and political relevance of reporting at this scale, there are also real geographical differences in some species' population trends (e.g. Willow Warbler *Phylloscopus trochilus* and Cuckoo *Cuculus canorus*; Balmer *et al.* 2013) which might otherwise be overlooked. However, the breadth and robustness of the trend information that can be provided by the BBS is closely linked to the level and geographical spread of survey coverage achieved by volunteers. For example, in 2018, surveys in 3918 1-km squares contributed to the reporting of UK trends for 117 species (Harris *et al.* 2017), all but four of which are regular breeders in Scotland. In the same period, surveys in 557 squares in Scotland (equivalent to about 0.7% of Scotland's land area) enabled Scottish trends to be produced for 69 species. Bird Atlas data (Balmer *et al.* 2013) show c.200 species bred in Scotland during 2008–11 but that includes c.25 largely coastal species such as seabirds, Eider *Somateria mollissima* and Rock Pipit *Anthus petrosus* which BBS is not designed to cover. The Scottish avifauna also includes a number of very rare and localised species such as Green Sandpiper *Tringa ochropus* and Slavonian Grebe *Podiceps auritius* which a random survey cannot hope to monitor. Forty-four species occurred (probable & confirmed breeding) in fewer than 30 10-km squares, leaving 130 species that one might consider reasonable widespread, and BBS produces long-term Scottish trends for approximately half. The key prerequisite for production of Scottish trends is for a species to have been recorded in an average of at least 30 BBS squares each year since the start of the survey. Hence as things stand we cannot use BBS data to produce Scottish trends for a range of high-interest species such as Whinchat *Saxicola rubetra* (25 squares on average per year since 1994), Dipper *Cinclus cinclus* (22), Greenshank *Tringa nebularia* (10) and Ring Ouzel *Turdus torquatus* (7), as well as more widespread species such as Mute Swan *Cygnus olor* (21) and Jay *Garrulus glandarius* (26).

Box 1. Design of the Breeding Bird Survey and unintended consequences.

The BBS employs a stratified random sampling approach. This entails randomly selecting 1-km squares within BBS regions, most of which follow similar boundaries to traditional counties. The number of 1-km squares initially allocated in each region was determined relative to the number of BTO members in the region to reflect the likely size of the volunteer base.

Superficially, this appears to bias the set of squares towards lowland areas where more people live. However, when done in a predetermined way this can be handled in the production of trends by down-weighting data from regions with a high number of squares relative to their area and up-weighting squares from regions with a low number of squares.

Crucially, this approach requires that the squares covered *within* a region be representative of the region. For this reason, BBS squares in a region should be assigned to volunteers in a random order but this is rarely practical and it is much harder to find long-term volunteers for remote squares. Over time, this can lead to bias in the set of squares surveyed, particularly in areas of Scotland with very large regions and low population densities.

In some regions new volunteers are unable to take on a nearby square because only inaccessible remote squares remain from the original list. New BBS squares are typically only released in regions when coverage exceeds 75% of the original list, but this threshold is often not met in regions with many inaccessible remote squares.

Although these rules were designed with the best intentions of maintaining a gold-standard monitoring scheme, in some parts of Scotland, biases may already exist and the rules may be preventing further increases in coverage and constraining our ability to monitor certain species.

An increase in the overall number of squares surveyed annually in Scotland would increase the likelihood that trends could be produced for these and other species, as well as enhancing our ability to produce finer-scale, regional trends. Despite ongoing efforts to recruit new volunteers in Scotland, there are severe constraints that limit further growth of the BBS in Scotland (Box 1). Some of these constraints may be leading to biases in the squares actually covered, with the consequence that some trends may not be as representative of Scotland's landscapes and avifauna as we would like. In this study, we examine the historical pattern of coverage of Scottish BBS squares and assess biases in coverage. We assess the relative importance of geographical factors in determining coverage of squares by volunteers, using the results to evaluate options for improving coverage and reducing biases.

Methods

To assess the representativeness of existing surveyed BBS squares we collated the history of coverage of all BBS squares in Scotland. The BBS has been running since 1994 but during 1994–98 paid surveyors conducted surveys in some remote areas. Unfortunately, we cannot identify the affected squares, and as the focus is on coverage achieved by volunteers, we focus on the period 1999–2016. We discounted coverage in 2001 due to the Foot and Mouth outbreak which significantly restricted access. We also excluded the following squares from the analysis:

- squares which had been permanently marked as 'uncoverable' due to access restrictions (e.g. military land), particularly dangerous terrain, or their being mostly water (so containing too little land to undertake a bird survey);
- an extra sample of woodland-dominated squares that were surveyed by professional field-workers during 2007–09;
- 'upland adjacent' squares. These are paired with 'core' BBS squares and are surveyed by the same volunteer on the same day, hence are not independent;
- squares on the island of Rum. In this unique case the island contains five BBS squares but no public roads. Analyses involving distance to or ascent from the nearest public road would therefore have been confounded if these squares had been retained.

For each of the remaining 958 BBS squares in Scotland, coverage was expressed as the proportion of visits undertaken out of the total number of possible visits (two visits per year, in each year since the square was made available for coverage). For an overview of coverage we summarised patterns of coverage by 200m elevation classes. Next we assessed whether geographical factors were associated with coverage of individual 1-km squares. A number of explanatory variables were derived using geographical information system software for each BBS square (Table 1). Where appropriate, variables were log-transformed and then tested for their degree of inter-correlation. To assess the importance of the different variables in determining square coverage a logistic regression model was produced using all variables. All variables were included as continuous variables except for BTO Region which was included as a random effect. The model assumed binomial error structure and was fitted using the statistical software package R (www.r-project.org). The best-fitting model was selected from the full model (containing all variables) using backwards selection based on AIC (Akaike Information Criterion).

Table 1. The variables used in models to explain variation in coverage among BBS squares.

Variable name and expected direction of effect	Variable definition and source
Human (+)	human population size within the 10-km square in which each BBS square occurred. Derived from Scotland's Census 2011
Elevation (-)	mean elevation of the BBS square. Derived from a digital elevation model (UK 90m Shuttle Radar Topography Mission DEM).
Medium (-)	the proportion of the land surface of the BBS square which had a medium slope, defined as 5–20% in gradient. Derived from the digital elevation model.
Steep (-)	the proportion of the land surface of the BBS square which was steeply sloping, defined as 20% or greater in gradient. Derived from the digital elevation model.
ForestBL (+)	the proportion of the land surface area of the BBS square which was covered by broad-leaved forest. Derived from the Corine Land Cover map
ForestCon (-)	the proportion of the land surface area of the BBS square which was covered by coniferous forest. Derived from the Corine Land Cover map
Remoteness (-)	the distance from the centre of the square to the nearest public road, based on the Ordnance Survey 'Open Roads' GIS layer (https://www.ordnancesurvey.co.uk/opendatadownload/products.html#OPROAD)
Ascent (-)	the absolute difference in elevation between the square's centre and the nearest public road (crudely approximating to required ascent/descent when walking to and from the square).
BTO Region (no hypothesised direction of effect)	these are areas used by the BTO to administer surveys and approximate to the Scottish counties in many cases. This variable was included because some determinants of square coverage may be region specific, such as differences in the aggregation of people, the quality of the road network, and the willingness of the local population to engage in voluntary activities.

Results

Patterns of BBS coverage in Scotland

Of the 958 Scottish BBS squares analysed, 740 have been surveyed by a volunteer at least once and 218 were never surveyed during 1999–2016. Forty-one percent of BBS squares have been surveyed on at least half of available visits. A total of 10,925 survey visits were completed, relative to a total of 25,870 available visits, equating to 42% coverage overall. Mapping the pattern of coverage revealed coarse geographical differences, such as high coverage in the central belt (Figure 1), but also that patches of low and high coverage were dotted throughout Scotland.

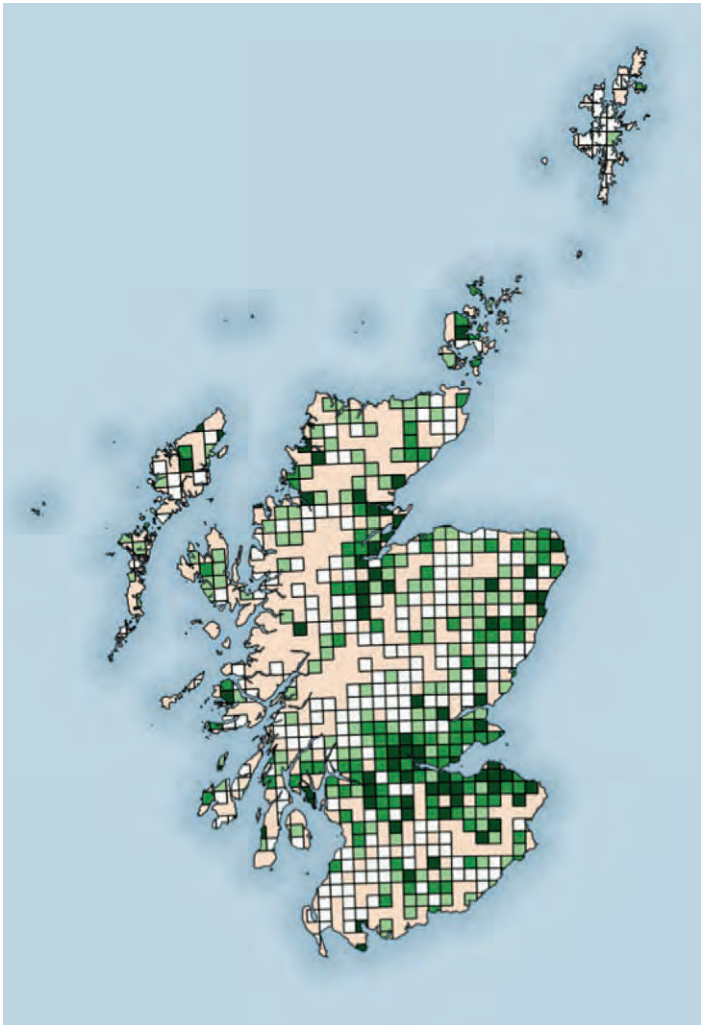

Figure 1. The observed pattern of BBS coverage summarised at a 10-km square scale. Squares are shaded according to four coverage categories: white (0–25% average coverage) through to dark green (75–100% average coverage). The remaining areas contain no BBS squares, partly due to the randomised way in which squares were originally selected, but gaps are also more likely to occur in regions with low population density because fewer squares overall were selected there.

In low lying areas of Scotland (0–200 m elevation) there are 565 BBS squares which have been surveyed, on average, on 44% of available visits (Figure 2). This contrasts markedly with squares above 600 m which have been surveyed on c.20% of visits (Figure 2).

Correlates of coverage

The model including the eight environmental variables plus BTO Region explained 20% of the variation in the proportion of visits completed to a BBS square. Six of the eight environmental variables made a statistically significant contribution to the model (Table 2) while Remoteness and Medium Slope did not make any contribution to explaining coverage. Human population density had a strong positive effect on coverage, as can be seen from the shape of the curve in Figure 3. Cover of coniferous woodland had a negative effect on coverage, with negative effects of similar magnitude for the amount of steeply sloping ground, elevation of the square and ascent from the nearest road to the square (Table 2, Figure 3). After accounting for these square attributes, the BTO region in which the square fell also had a very strong effect on coverage.

Discussion and solutions

The stratified random sampling design of the BBS aims to avoid bias in site selection to ensure that robust and representative information can be provided on the commoner breeding birds in the UK and constituent countries. However, although the squares selected for coverage were randomly chosen, we demonstrate that their historical coverage in Scotland is non-random, being systematically lower where there are few people and where land is remote, steep or at high elevation.

Two factors affect how many BBS squares are available for coverage at different elevations. Firstly, there is considerably less land above 800 m (775 1-km squares) than below 200 m (46,582 1-km squares) so purely randomly generated squares will rarely fall in high altitude areas. This effect is

Table 2. The direction and statistical significance of retained environmental variables in explaining variation in coverage of BBS squares. The Z statistic and P value test whether the parameter estimate was significantly different from zero. BTO Region was also a statistically significant variable in the model.

Variable	Parameter estimate (± SE)	Z	P
Human	1.31 ± 0.09	14.23	<0.001
Steep	-0.06 ± 0.01	-4.55	<0.001
ForestBL	0.30 ± 0.13	2.34	<0.05
ForestCon	-0.50 ± 0.06	-9.05	<0.001
Ascent	-0.06 ± 0.02	-3.48	<0.001
Elevation	-0.12 ± 0.02	-44.8	<0.001

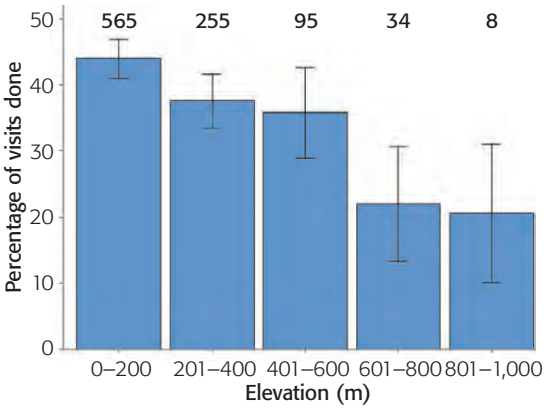

Figure 2. The average percentage of possible visits undertaken to BBS squares in different elevation bands. Numbers above bars show the total number of BBS squares present in each elevation band. Error bars show 95% confidence intervals.

compounded by the stratified design of the BBS which originally made more squares available in regions with high human populations, which are more often in the lowlands. The consequent differences in the number of squares between regions is analytically accounted for during trend production, but non-random coverage within a region is not, meaning that differences in trends between upland and lowland areas may not be adequately reflected in Scottish BBS trends.

Squares in some regions are much more likely to have been regularly surveyed than in other regions, even once other explanatory variables are taken into account. These inter-region differences are likely caused by multiple and inter-related factors, such as the activities of individual participants and organisers, aspects of human demographic variation not included in our analysis (e.g. distribution, average age, interest in birds), differences in the availability, connectivity and quality of roads, required driving distance/time and other factors related to accessibility. Inter-region differences in overall coverage are taken into account by 'regional weighting' during the production of BBS trends. However, while this ensures that each region contributes information in proportion to its area, it cannot correct for within-region biases due to non-random uptake of allocated survey squares. It would be valuable to further analyse differences in uptake in lowland areas.

Evaluation of possible solutions

Identifying acceptable interventions to reduce biases and increase coverage in

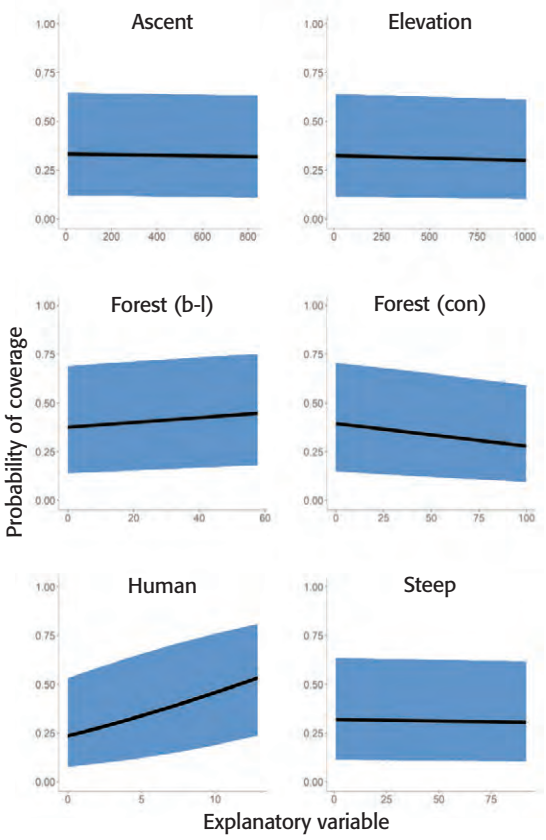

Figure 3. The relationships between attributes of BBS squares and their observed level of coverage. Lines show the fitted relationship from statistical models, shading shows the confidence limit around the relationship.

Scotland requires careful balancing of multiple costs and benefits. The value of BBS trends depends on the robust nature of the survey they are based on. Whilst accepting that the biases we identify here need to be addressed, it is critical that we do not make changes that have unintended negative consequences. Table 3 lists a number of possible changes that have been proposed at various times and considers likelihood of success and unintended consequences, such as possible effects on 'noise' (increased uncertainty) in the reported trends. The possible solutions are ordered by the degree of intervention required on the basis that we should first consider solutions that require the least modification to existing protocols. It should be noted that these interventions are mostly targeted at upland and remote areas, as these are the areas where under-sampling is most severe, and where increasing coverage would be likely to resolve obstacles limiting coverage at a wider scale (see Box 1).

Improved promotion and associated engagement and training require no methodological intervention but it is our view that they will have limited success in isolation. In some instances, promotion identifies new people keen to take part in lowland areas where there are no available squares. Instead we think that substantial reductions in bias will be best achieved by using public engagement to support and build upon the implementation of one or more of the other structural changes to the survey design which in the long term should also increase availability of new squares in upland and lowland areas. Of the changes highlighted, allowing visiting observers to make single visits without a commitment to take on the square long term seems to offer the best compromise of high return for limited methodological intervention. Single visits to remote squares are already permitted in extreme cases, but relaxing the rules could allow a potentially large pool of visiting surveyors (e.g. holidaying birders) to contribute to the survey.

This approach, promoted as Upland Rovers, was trialled mid-way through the 2017 field season. The analyses described above were used to identify a set of 301 remote and rarely visited squares across the UK. Of these, about half were already allocated to BBS volunteers in 2017; the remaining 156 were publicised as being eligible for visits by Upland Rovers, the majority of these squares being located in Scotland. In that first trial 49 squares were taken on, which was impressive considering the late date the option was promoted, and gave us confidence this was worth extending in 2018. Subsequently, Upland Rovers has proven very popular with 99 squares surveyed in 2018 and 125 in 2019 (all but five of which were in Scotland). The benefits of this increased upland coverage can already be seen, with 125 squares surveyed in 2019 providing data on Meadow Pipits *Anthus pratensis*, giving a 12% increase in sample size over what would likely have been achieved without the Upland Rover approach. Similarly, Golden Plovers *Pluvialis apricaria* were detected in an extra 39 squares giving a 33% increase in sample size in 2019. If maintained, these increased sample sizes and better geographical spread of data will improve the robustness of published trends for such species. For species where a Scottish trend is not currently calculated, Upland Rovers yielded an additional seven Scottish squares with Greenshank, six with Ring Ouzel and seven with Whinchat. These are valuable increases and help to bring sample sizes closer to the critical 30-square threshold.

At present, the total number of BBS squares allocated to a region is only increased when BBS coverage in that region reaches 75% of existing BBS squares. In addition to providing much-needed data on upland species, the additional coverage resulting from Upland Rovers will bring regional coverage totals closer to or past the 75% threshold, thereby resulting in more squares being released into a region and enabling more people to participate in this key survey. This will have a positive impact on sample size in lowland areas and will likely increase the sample size for species such as Mute Swan. However, it is important to emphasise that Upland Rovers is not intended to replace the traditional model of BBS survey, even in the remote upland areas where it is likely to make the biggest difference. Squares where dedicated BBS volunteers commit to carrying out two surveys per year to specific squares are still the 'gold standard' for this survey. Having a single observer carry

Table 3. Possible solutions to the upland coverage issue and an assessment of the degree of change needed to core BBS methods and any costs or unintended consequences.

Proposal	Changes to methods	Likelihood of success, costs and possible consequences
Better promotion, engagement and training: highlight value of upland squares, species and habitats.	None	Increased awareness and skills are great in their own right but if they are not the factors limiting BBS coverage in the uplands, this could be a costly exercise.
Roving Observers: for selected squares, allow visiting birdwatchers to undertake one-off surveys.	Low	More squares with single visits. More year-to-year turnover in volunteers of remote squares. Need to understand how visit timing impacts apparent trends.
Mark more squares as "uncoverable": squares never visited could be marked as uncoverable.	Low	Ill-advised as would lead to dilution of the random nature of the set of surveyed squares. Whilst this would help reach the 75% allocation target to trigger release of more squares, there is no guarantee that the new random squares would be in the uplands, and even if they are, they may be equally remote and "uncoverable" leading to greater upland:lowland bias.
Modify weightings: during analysis adjust weights given to squares within a region to reflect habitat coverage.	Modest	There is a risk that up-weighting the contribution of a small number of upland squares could increase margins of uncertainty in the trends.
Re-stratify uplands into accessible and inaccessible.	Significant	Accessible squares may not be considered representative of inaccessible areas, with the risk this effectively excludes parts of the landscape from the BBS design.
Replacement squares: for long-term uncovered squares identify a set (e.g. 10) of nearby accessible alternatives from which one is selected to replace the original.	Significant	Reliant on our ability to identify squares that are similar in every characteristic except their inaccessibility to observers.
Allocate more upland squares: release new randomly selected upland squares.	Significant	No guarantee that new squares will be accessible and covered. Significantly complicates weighting and disrupts randomised design.
Spatial modelling to produce trends: produce population trends using models that account for square characteristics (e.g. location, habitat, elevation).	Significant	Trends should be less affected by coverage biases but may be noisier due to still small sample size in large upland areas. Increased time taken to run trends.

out surveys in a BBS square over an extended period of time is likely to improve data quality, both by eliminating variation between years due to different observers, and by enabling the surveyor to get to know their square, and how best to survey it (Eglington *et al.* 2010).

Conclusions

Information on the changing populations of Scotland's commoner breeding birds is of enormous value to birdwatchers, land managers and decision-makers. To meet the needs of end-users such trends should include as many species as possible, be robust and unbiased, and should be available at relevant spatial resolutions. This analysis has identified imbalances in the current sampling of Scotland by the BBS owing to low levels of coverage of remote or inaccessible squares, and has highlighted some ways in which these might be addressed. One of these solutions is already helping to reduce the lowland-upland coverage imbalance and is generating valuable data on under-recorded species. It is too early to say if the increased upland coverage is sustainable (or whether the pool of holidaying surveyors is too small).

Without the volunteers who participate throughout the UK the BBS would obviously be unable to function. The geography of Scotland is challenging, both for the volunteers undertaking surveys and for scientists trying to design them. After more than 20 years of implementing the BBS methods in Scotland, this review illustrates some of the constraints and opportunities. We hope that future developments will be effective in building upon existing foundations and that volunteers throughout Scotland will continue to help us provide high-quality information on Scotland's changing bird populations.

Acknowledgements

We would like to thank all the BBS Regional Organisers who work hard to get surveyors to often difficult places, and to the many hundreds of volunteers who have contributed to BBS in Scotland over the years. Particular thanks to those who have battled steep slopes and long walks through coniferous plantations to provide crucial data on bird populations in upland and remote areas. The BTO/JNCC/RSPB Breeding Bird Survey is a partnership jointly funded by the BTO, RSPB and JNCC with fieldwork conducted by volunteers.

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Revised ms accepted April 2020

The first confirmed breeding of Little Egret in Scotland, 2020

B. & R. MEARNS

Little Egret *Egretta garzetta* first bred in the UK in Dorset in 1996. They gradually spread northwards, breeding in Cumbria in 2012 and Northumberland in 2014. In 2014, Mark Holling, then Secretary of the Rare Breeding Birds Panel, wrote, "It is reasonable to suppose that breeding in Scotland will be proved very soon, and Dumfries & Galloway is the most likely location, but any area in southern Scotland where there are heronries close to either saltmarshes, tidal pools or large areas of freshwater (including the lower stretches of rivers) could be candidate areas" (Holling *et al.* 2014).

Their occurrence in Dumfries & Galloway has been well summarised (Collin 2015). They have appeared regularly since 1991 and by 1996 were widespread along the North Solway. By 2009, birds were overwintering but virtually none were seen during the summer, presumably because they move south then. The first indications that they might be nesting in Scotland came in 2013 when two birds were seen playing with sticks in Wigtown Bay, in June. The next year, three birds were seen near an inland heronry and five birds, considered to be a pair with three young, appeared at Caerlaverock WWT Reserve on 8 June 2014. It was thought likely that they had come from Cumbria although at that point the nearest known egret nesting site on the west was in South Cumbria c.80 km away by direct flight. (The first known nesting in north Cumbria was in 2017.) In May 2015, Little Egrets were again seen with sticks in Wigtownshire, but no nests were found. By 2018, records were still scarce during June and July but increased significantly in 2019 (Paul Collin, Dumfries & Galloway County Recorder pers. comm.). In Cumbria, in 2019, three sites had four, nine and 23 apparently occupied nests and in 2020 they bred near the English side of the Solway (Chris Hind, Cumbria County Recorder, pers. comm.).

On 14 June 2020, with lockdown easing, we went birdwatching at a site which we had not visited since 19 March, and were surprised to see a Little Egret flying in the same direction as us on both our outward and homeward walks, as well as two to four feeding at the water's edge. Because we rarely see egrets in June, we wondered if the birds could be breeding. Knowing of a small heronry nearby, we returned three days later and spent two and a half hours at a spot 400 m from, and overlooking, the wood. After half an hour, two egrets flew into the heronry and disappeared from sight for five minutes, then flew out together, heading towards the area where we had watched them feeding. During the next two hours they returned twice and we could faintly hear food-begging chicks.

A week later, on 24 June, we watched from a different angle and could see three large chicks in the top of a Scots Pine *Pinus sylvestris*. Shortly afterwards, both adults came in with food and were greeted by ferociously loud begging as the chicks leapt clumsily from branch to branch. Juvenile Little Egrets leave the nest about 30 days after hatching, and perch out on nearby branches for the next 10–15 days before fledging at 40–45 days (Cramp 1977). When we returned on 2 July we could see two youngsters together and a third in a different tree. They were still being fed by the adults. On 9 July, as we watched three distant (unaged) egrets in the treetops, two took off and flew towards the feeding area: the third appeared to have difficulty keeping up, perched for a while, then returned to the wood. At least one, and maybe three, had fledged successfully. Since incubation lasts 21–22 days and begins with the first egg, it seems likely that laying began in early April and hatching was towards the end of May.

Plate 213. Little Egret eggshell (left) with a larger Grey Heron eggshell, found below the nests. Something to look out for if you take part in the BTO Heronries Census. © *R. Mearns*

On 16 July, we entered the wood to look for signs and located the pine in which we had first seen the chicks. It contained two stick nests, one bulkier than the other and underneath, an egret eggshell (apparently hatched). We also found a heap of white feathers, but no other remains; one of the egrets had died. We sent the flight feathers to Dr Mick Marquiss, who identified them as having come from a chick, "... at the late nestling or branching stage. There were hunger traces in some of the feathers and one pronounced fault bar near the base of one, suggesting stress or a day's food shortage for this nestling when it was well grown." Between 24 June and 9 July, there were some very strong winds and thunderstorms which may have caused the fatality.

We live just a field away from a heronry, and for the first time, in 2020, had one or two egrets frequenting nearby fields well into the season, until at least 26 May, but without making any attempt to nest. We contacted others who, like us, have been looking out for breeding egrets. Paul Collin reported that five were seen, in June, at Crook of Baldoon RSPB Reserve, but are apparently not nesting. Brian Morrell, Centre Manager at WWT Caerlaverock, reported that six birds have been roosting in the avenue trees, but with no sign of nesting, and added, "It is the most we have had on a regular basis in summer, they usually head off at this time of year."

On 21 July, near Annan, we saw a juvenile, probably from Cumbria, in a high tide roost of ten Little Egrets. It would seem that summering Little Egrets are now reaching a critical point across the region, and that we can expect them to become firmly established as a breeding species in Scotland.

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Dr Mark Eaton, Secretary of the Rare Breeding Birds Panel, has commented: "*Breeding has long been anticipated in Scotland, following the rapid northward expansion after the first UK breeding (in Dorset) in 1996. Little Egrets were breeding in Lancashire & North Merseyside by 2001, Yorkshire by 2008, Cumbria by 2012 and Northumberland in 2014 - the latter further north than the Solway coast in Dumfries & Galloway. Although breeding was strongly suspected in Angus & Dundee in 2015, with a pair in a heronry and young birds seen subsequently nearby, it was not proven and there has been no evidence of breeding there since then; more recently the harsh 'Beast from the East' weather in 2018 may have knocked back range expansion along the east coast. As Mark Holling noted presciently in 2014, the first Scottish breeding was always more likely on the west side, given the milder climate and availability of suitable habitat, and Little Egrets have been reported summering on the Solway since 2007. It will be interesting to see if this breeding does lead to a rapid expansion and increase in Scotland. It may not be too many years before the species ceases to be regarded as a 'rare breeding bird' in the UK and hence no longer reported upon by the RBBP.*"

ms accepted August 2020

Continuing decline of Cormorants breeding in Caithness

R.M. SELLERS

The numbers of Cormorants breeding in Caithness showed a marked decrease between the first full survey in 1969 and 1998. Monitoring of the population has continued since 1999 with regular counts at all colonies and confirms that both the overall population and the number of colonies is still declining, and currently stands at about 70 AON in three colonies. Overall, some 92% of the population has been lost between 1969 and 2019. The decline since 1977 has been approximately exponential, averaging 4.6% per annum or a halving of the population every 14.7 years. Productivity between 1969 and 1998 averaged 2.63 chicks per successful nest, but this had fallen to an average of 2.05 chicks per successful nest between 1999 and 2019. Causes of the population decline, possible ways of mitigating them and other potential threats are discussed.

Introduction

As breeding birds Cormorants *Phalacrocorax carbo* are widely distributed around the coast of Britain, occurring more or less wherever there are suitable places such as cliffs, stacks and rocky islands to place their nests. The most recent national seabird survey, *Seabird 2000*, found a total of 8,470 apparently occupied nests (AON) in Britain, about half of which were in Scotland (Sellers 2004). Numbers overall in Britain have increased over the past half century, but the extent of the changes varies between regions. Numbers in Wales have been stable, whilst England and southern Scotland have seen increases (Kirby & Sellers 1997, Sellers 2004, Newson *et al.* 2013). The only exception to this generally upward trend in numbers has been the North of Scotland, where the breeding population decreased by 63% between the *Operation Seafarer* survey in 1969–70 and *Seabird 2000* (1998–2002), the areas principally affected being Shetland, Orkney and Caithness (Sellers 2004). In 1992, a project was begun in the latter area to investigate the factors responsible for these declines and to monitor future changes in breeding numbers. An analysis of the information collected between 1992 and 1998, which included such aspects of the Cormorant's biology as breeding productivity, food, mortality and movements, showed that the most likely cause of the declines was reduced adult survival (Budworth *et al.* 2000). Monitoring of the population has continued since 1998 and this report summarises the additional information obtained, highlighting in particular that numbers are still declining.

Methods

In continuation of the regular counts made between 1992 and 1998, all Cormorant colonies in Caithness were counted every year between 1999 and 2019, except 2001 when no fieldwork was attempted because of the outbreak of foot and mouth disease. All survey work was undertaken in the latter half of May when most birds were either incubating their eggs or tending newly hatched young, and thus when numbers were likely to have been at their highest. Cormorant colonies often persist in the same place for long periods, but from time to time new ones may be established or existing ones shift location, and a number of such occurrences have been recorded during the period of this investigation. To ensure that none of these new colonies was missed regular checks were made by boat (particularly in the south of the county along the section of coast referred to as the Ord of Caithness) and elsewhere from the cliff top, especially at those sites such as rocky ridges, stacks and small islets that Cormorants in Caithness tend to favour for breeding. For counting purposes, a colony has been treated as any nest or group of nests separated by 200 m from the nearest nest or group of nests. There are no known inland colonies in Caithness.

During the period covered by this report both a national atlas survey of breeding birds was carried out (Balmer *et al.* 2013), and a tetrad survey of Caithness (Davey *et al.* 2015). These should have provided a cross-check on the findings of this investigation concerning the approximate location of Cormorant colonies, but in practice there were some inconsistencies between these surveys and the results of the present investigation. Davey *et al.* show confirmed breeding in three tetrads (ND01Z, ND23M and ND36R) whilst the Atlas data on the BTO's website (on which the maps in Balmer *et al.* 2013 were based) shows a fourth (ND01T) apparently overlooked by Davey *et al.* Between 2007 and 2012 (the period covered by the two atlas surveys) the present investigation found breeding Cormorants in four tetrads: ND01T (3 colonies), ND12G, ND12U and ND23S. All three of the additional tetrads shown by Davey *et al.* were checked regularly during the course of the present investigation but no breeding Cormorants were found.

In Budworth *et al.* (2000) information on productivity was obtained during ringing operations, primarily at the Ceann Leathad and Ord Point colonies. The former has moved to a rocky islet (details below) only accessible by boat, whilst the latter is now confined to inaccessible parts of the cliff, such that very little ringing in the area has been possible in the past 15 years, except for one small part of the Ord Point colony to which access was possible in 2000, 2012 and 2013 and Traigh Bhuidhe where Cormorants were marked in 2002. In consequence, such productivity data as it has been possible to collect was obtained primarily by observation (usually by telescope) from well outside the colony, typically during the last week of June or first few days of July.

Results

Numbers and distribution of colonies

The distribution of all sites known to have been used by Cormorants in Caithness for breeding is shown in Figure 1. At the time of *Operation Seafarer* in 1969–70, there were 12 colonies, two on the north coast (the colony on Stroma had been vacated before this) and ten on the east coast, but by the beginning of the period under review here (1999–2019) both colonies on the north coast had been abandoned and only five remained on the east coast, all on the southernmost 25 km of cliffs. Three others (Portormin, Cnoc na Stri and Dun Glas) were established and abandoned within the same period. Details of all sites used for breeding since 1999 are listed below, and highlight the way in which new sites have been adopted and the factors responsible. The colonies are listed north to south.

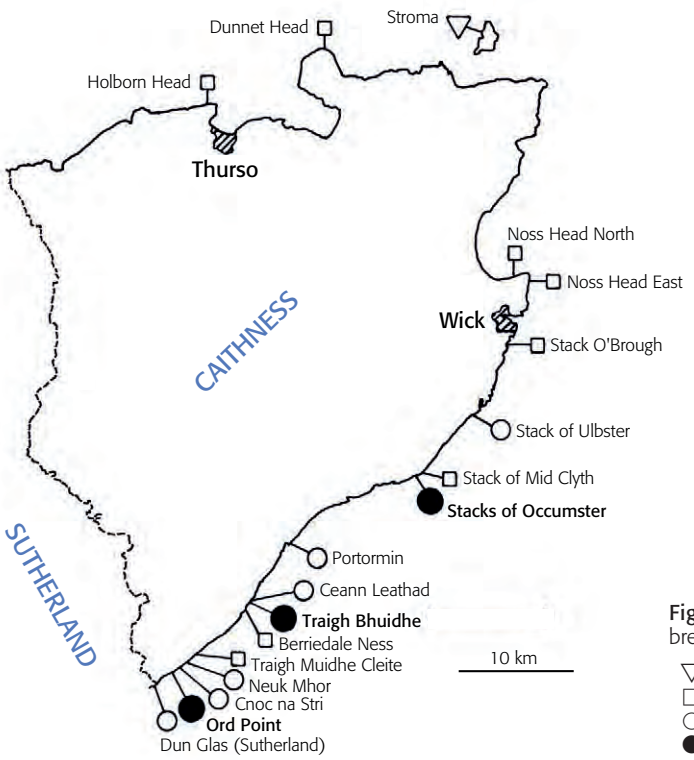

Figure 1. Distribution of Cormorant breeding colonies in Caithness.

▽ colony abandoned before 1969
□ colonies abandoned 1970–1998
○ colonies abandoned 1999–2019
● colonies extant in 2019

Stack of Ulbster. This colony was located on a broad, flat, east-facing ledge close to the top of the stack. It was occupied in 1998, when there were 5 AON, but had been abandoned by the following season and has not been used since.

Stacks of Occumster. The main part of this colony has been located on a broad, flat, southeast-facing ledge on the largest of the six stacks comprising the Stacks of Occumster. From time to time some birds have chosen to breed on the sloping tops of one of the three small stacks immediately to the north-west of the main stack, two facing approximately south-west and the third roughly north. These occasional shifts in location are probably due to the weather conditions prevailing when the birds establish their nesting sites, but may also be a defence against egg predation by large gulls.

Portormin. A small colony on a rocky islet near Dunbeath, used for just three seasons from 2008.

Ceann Leathad/Traigh Bhuidhe. In 2003, the substantial colony on two broad, sloping, south-facing rocky ledges at Ceann Leathad moved *c*.400 m south-west to a rocky islet at Traigh Bhuidhe, a site which has continued to be used ever since. The shift of the Cormorant colony was accompanied by a marked reduction in the numbers of Great Black-backed Gulls *Larus marinus* and Herring Gulls *L. argentatus* breeding here, and it seems likely that a ground predator was responsible. Droppings of Red Fox *Vulpes vulpes* were found on the grassy slope immediately above the southern part of the colony that season and an Otter *Lutra lutra* was seen in the colony; either (or perhaps both) could have been responsible.

Neuk Mhor. Between 1992 and 2000 this colony was located on two broad, sloping rocky areas of the mainland cliff. It was not checked in 2001 but by the following season the birds were arraigned in a line along the top of the cheese-grater shaped stack immediately to the south of the original site (see Plate 215). They bred here again in 2003 and 2004, and between 2006 and 2010, but not in 2005 and not since 2010.

Cnoc na Stri. This colony lies approximately midway between Neuk Mhor and Ord Point and has occupied two small rocky headlands (readily visible from the cliff-top) and a narrow rocky ridge by a sink hole (impossible to see from the cliff-top and but easily viewed from a boat), along about 200 m of cliff. It was first occupied in 2003, the year there was a marked reduction in the neighbouring colony at Ord Point (and likely to have been the source of the birds), and remained in use for the following eleven seasons. It was unoccupied in 2015 and 2016, occupied again in 2017 and 2018, and unoccupied in 2019 (and as such is provisionally taken to have been abandoned).

Plate 214. Part of the Ord Point colony seen from the sea, Caithness, May 2013. © *Robin Sellers*

Plate 215. Cormorant nests in a line along the top of the stack at Neuk Mhor, Caithness, May 2010. © *Robin Sellers*

Ord Point. For much of the period under review this was the largest Cormorant colony in Caithness, though there was a noticeable reduction in numbers between 2003 and 2006 when some birds appear to have shifted north to Cnoc na Stri (details below). Quite why the birds moved is unclear, but, as at Ceann Leathad, it is suspected that a ground predator may have been responsible. The precise location of this colony has varied but most nests have been on a series of rocky ridges immediately south of the burn which flows into the sea *c*.400 km north of Ord Point proper (Plate 214). These are readily seen from Dun Glas or from the beach at Ord Point. Every year a few pairs nest on the north side of this burn; from the land these can only be seen from the cliff top *c*.300 m to the north.

Dun Glas. In 1999 and 2000, a few pairs of birds bred on the rocky slope at the eastern end of the headland known as Dun Glas or Green Table. This is just inside Sutherland, about 300 m south of the boundary with Caithness.

The final four colonies listed above occur along a 2 km stretch of cliff and, for the reasons outlined in the following section, effectively function as a single colony, for convenience referred to as the Ord of Caithness. They are separated from one another by distances of about 500 m, 400 m and 700 m respectively, the precise distances varying from season to season by up to about 100 m depending on which parts of the colonies are occupied.

Population changes 1999–2019

Individual colony counts made between 1999 and 2019 are summarised in Table 1, and the overall changes in Cormorant numbers in Figure 2. Although there were a number of instances in which numbers increased between years, the general trend has been downward, with about 39% of the population having been lost between 1999 and 2019, and 92% since the first full census in 1969. An exponential function fits the data well and accounts for 84% of the variation in the counts. The slope of the least squares fit of a plot of log (total nests) versus year (i.e. equivalent to the curve shown in Figure 1) yields a mean rate of decline of 4.61 ± 0.37% per annum, or a halving of the

Table 1. Colony counts of Cormorants breeding in Caithness, 1999–2019.[a]

Colony	1999	2000	2002	2003	2004	2005	2006	2007	2008	2009
Stacks of Occumster	15	24	19	19	11	22	19	18	18	10
Portormin	0	0	0	0	0	0	0	0	4	3
Ceann Leathad	33	36	34	0	0	0	0	0	0	0
Traigh Bhuidhe	0	0	0	26	25	21	10	7	9	9
Neuk Mhor	4	6	34	28	15	0	8	15	9	6
Cnoc na Stri	0	0	0	25	18	41	45	12	7	4
Ord Point	56	41	27	6	4	15	4	19	28	22
Dun Glas (Sutherland)[b]	3	2	0	0	0	0	0	0	0	0
Total	*114*	*109* [c]	*114*	*96*	*84*	*96*	*93*	*71*	*67*	*53*

Colony	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Stacks of Occumster	9	17	17	23	9	16	24	18	20	21
Portormin	1	0	0	0	0	0	0	0	0	0
Ceann Leathad	0	0	0	0	0	0	0	0	0	0
Traigh Bhuidhe	14	14	14	11	2	7	7	10	10	13
Neuk Mhor	7	0	0	0	0	0	0	0	0	0
Cnoc na Stri	9	3	2	2	2	0	0	4	4	0
Ord Point	33	33	46	30	37	35	43	37	32	36
Dun Glas (Sutherland)[b]	0	0	0	0	0	0	0	0	0	0
Total	*81*	*67*	*85*	*52*	*57*	*52*	*74*	*69*	*66*	*70*

[a] The colony at the Stack of Ulbster is not listed here as it had been abandoned from 1999, but had held 5 AON in 1998.
[b] Dun Glas (Sutherland) is 700 m south of Ord Point and, though just outside Caithness is, in effect, an offshoot of the Ord Point colony and is included here for completeness. [c] Note that the figure quoted for Caithness in *Seabird 2000* (107 AON in 2000; Sellers 2004) omits the 2 AON at Dun Glas.

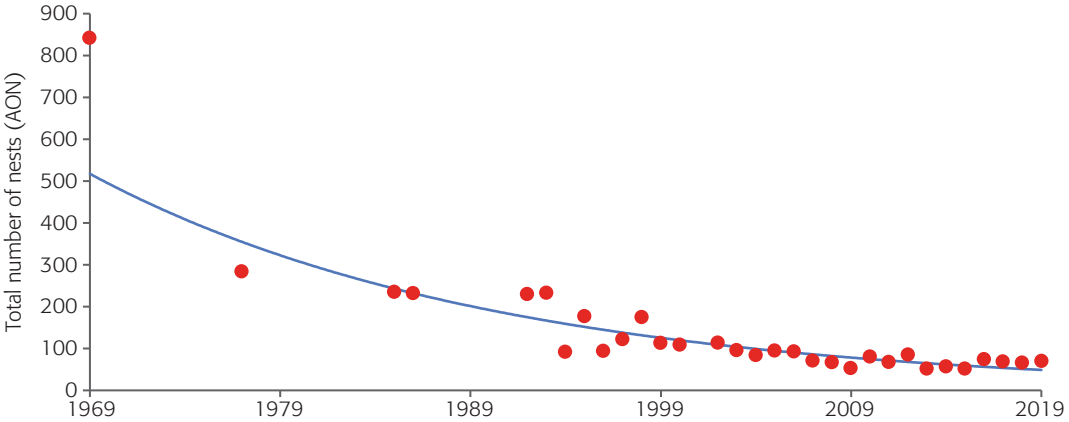

Figure 2. Changes in the number of Cormorants breeding in Caithness, 1969–2019. The curve is the best-fitting exponential trend line.

population every 14.7 years on average. Trends at individual colonies were broadly similar but in some cases with more pronounced changes between years. The only exception was the colony at the Stacks of Occumster which showed no overall change in numbers between 1999 and 2019, though there had been substantial declines here between 1969 and 1998 (Budworth *et al.* 2000).

The counts at Ord Point and Cnoc na Stri showed a strong negative correlation ($r = -0.775$, d.f. 18 $P<0.001$), as did those for Ord Point and Neuk Mhor ($r = -0.503$, d.f. 18, $P<0.05$), whereas those for Cnoc na Stri and Neuk Mhor were not correlated ($r = +0.196$, $P>0.1$, N.S.). It seems that the latter two act as a single entity and form a 'complementary pair' with Ord Point, the three, in effect, functioning as a single colony. A similar situation is described by Lloyd *et al.* (1991) at two colonies, The Lamb and Craigleith, in the Firth of Forth; several similar pairs of colonies in which birds alternate between two sites are known to exist (R.M. Sellers, unpublished observations). Given its proximity to the colony at Ord Point, it is likely that the small, short-lived colony at Dun Glas was also part of the Ord Point/Cnoc na Stri/Neuk Mhor group, but there was too little data to test this statistically.

There was a positive correlation between the combined counts at the four colonies on the Ord of Caithness and those for Ceann Leathad/Traigh Bhuidhe ($r = +0.594$, d.f. = 18, $P<0.01$), but no such correlation between the Ord of Caithness group and the Stacks of Occumster ($r = +0.283$, d.f. 18, $P>0.10$, N.S.) nor between the latter and Ceann Leathad/Traigh Bhuidhe ($r = +0.187$, d.f. 18, $P>0.10$, N.S.). It is apparent that there has been no *large-scale* movement of birds between these colonies, and, such correlations as there are, simply reflect the generally downward trend in numbers. Even so, movements between colonies do sometimes take place, as demonstrated by three ringed birds seen at the Portormin colony in June 2008; it is not known where these birds had been marked, but it is likely to have been at either the Ceann Leathad/Traigh Bhuidhe or Ord Point colonies.

Productivity

The productivity data obtained between 1999 and 2018 are summarised in Table 2. Taken with that collected in 1993–98 (Budworth *et al.* 2000) they show a slight downward trend, but not one that is statistically significant. Eliminating the data for 1999, which was clearly a difficult year for Cormorants in Caithness, made no difference. The mean gross productivity (chicks per successful nest) in these two periods did, however, show a substantial reduction, a difference that was statistically significant (Table 2). In part this was due to a marked decrease in the number of broods with four chicks between the two periods: 30 of 247 broods (12%) in 1993–98 compared with 2 of 97 broods (2%) in 1999–2018, again a statistically significant result (2 x 2 contingency table, Fisher exact probability test, $P = 0.003$), and a decrease in the number of three chick broods (46% of broods in 1993–98, 27% in 1999–2018).

Table 2. Breeding productivity of Cormorants in Caithness, 1999–2019.

Colony	Year	Gross productivity[a]			Footnote
		mean	*SE*	*n*	
Stacks of Occumster	2018	2.35	0.19	17	[b]
Portormin	2008	1.75	0.48	4	
Ceann Leathad	1999	1.59	0.14	22	[c]
	2000	2.12	0.19	17	
Traigh Bhuidhe	2018	2.40	0.27	5	[d]
Ord Point	1999	1.75	0.24	12	
	2012	2.63	0.32	8	
	2015	2.25	0.13	12	
All above combined	1999–2018	2.05	0.079	97	[e]
	1993–1998	2.63	0.050	247	[e, f]

[a] Gross productivity in units of chicks per successful pair; n = number of broods. [b] 17 of 20 nests produced fledged young, giving a fledging success of 85% and a net productivity of 2.00 chicks per nesting attempt. [c] 22 of 31 nests produced fledged any, giving a fledging success of 71% and a net productivity of 1.13 chicks per nesting attempt. [d] 5 of 6 nests produced fledged young, giving a fledging success of 83% and a net productivity of 2.00 chicks per nesting attempt. [e] Comparison of means: d = 6.21, P<0.001. [f] 1993–98 data from Budworth *et al.* (2000).

Discussion

Population declines in Caithness and their possible causes

At the time of the *Operation Seafarer* survey in 1969–70, Caithness held approximately 14% of the British breeding population of Cormorants; by 2019 this had fallen to *c.*1%. Thus, in half a century, Caithness has gone from being one of the most important areas in Britain for the species to one of comparatively minor importance and, overall, has lost about 92% of its breeding Cormorants. When the data for the period up to 1998 were analysed, it had seemed possible that the decline had happened in two phases, an initial more rapid one (66% in the eight years between 1969 and 1977) and a more gradual reduction thereafter (17% in the next eight-year period, and a further 26% between 1985 and 1998). With the additional data now available, it appears that the figures from 1977 on can be accounted for by a single exponential decline (see Figure 2). The slope of the best-fitting line in Figure 2 corresponds to a halving of the population approximately every 15 years. At this rate, the population would fall to 35 AON by about 2035, and around 20 AON by 2050. The evidence for a more rapid decline between 1969 and 1977 depends critically on the very high count in the former year, a figure dominated by the colonies at the Ord of Caithness together with the defunct colony at Traigh Muidhe Cleite, 1.5 km to the north-east. The *Operation Seafarer* counts at these two colonies have quite large uncertainties (Caithness total 797–887 AON of which 455–525 AON were on the Ord of Caithness as defined here, and 152–172 AON were at Traigh Muidhe Cleite), and it is possible that they overestimate the numbers of birds present. However, the Ord of Caithness count is broadly consistent with the figure of 451 AON given by Smith (1969) for a colony he refers to by this name (and which presumably covers the same stretch of cliff as defined here), so if the 1969 total for Caithness is overestimated it is unlikely to have been by very much. On this basis, there does appear to have been a somewhat sharper decline in numbers in the first half of the 1970s than subsequently.

Whatever the reason for the high count in 1969, it is apparent from the foregoing that the declines are the result of a chronic problem, that is, one that has had its effect throughout the past 50 years, rather than one or more isolated incidents, and is fundamentally one of a failure of recruitment to the breeding population to match adult mortality. Budworth *et al.* (2000) found productivity in Caithness to be as good as, if not better than, other areas in Britain. There is some indication from the new data that there has been a small decline in productivity since 1998, but

it remains typical of many other coastal Cormorant colonies in Britain (Sellers 2004 and references therein). Poor productivity *per se* is not the cause of the population declines, but the recent reductions may be exacerbating an already difficult situation. The factor that Budworth *et al.* (2000) did tentatively identify as a possible cause of the declines was poor adult survival. The large reduction in the number of Cormorants ringed in Caithness since 1999 means that few new recoveries have been generated over the past 20 years and no further examination of this aspect of the Cormorant's biology has been possible.

Population declines elsewhere in the North of Scotland

It was noted in Budworth *et al.* (2000) that Cormorant numbers were declining elsewhere in the north of Scotland, notably in Orkney, Shetland and the Western Isles. Subsequent results, especially the counts available from *Seabird 2000*, fully substantiate this as regards the former two areas, and that the declines continued at least until 2000 (Pennington *et al.* 2004, Sellers 2004). By contrast the position in the Western Isles seems to have reversed and viewed over the period 1969–2000 the population there and elsewhere in north-west Scotland, whilst showing some variation, appears to have been more or less stable overall (Sellers 2004). It is presumably no coincidence that the areas with declines are clustered geographically and imply that some common factor is responsible. Ringing recoveries show that birds from Shetland, Orkney and Caithness all winter mainly in the Moray Firth and the east coast of Scotland (*e.g.* Coulson & Brazendale 1968, Budworth *et al.* 2000, Wernham *et al.* 2002) and it may be that excess adult mortality is the result of either a poor winter food supply, or due to shooting, particularly on the rivers flowing into the south side of the Moray Firth (*cf.* Kirby *et al.* 1996).

Can anything be done to arrest the declines?

If, as suspected, the excess adult mortality is due to attempts to control numbers by shooting, then an obvious step would be to prohibit licensed shooting in the key wintering areas used by Cormorants breeding in the north of Scotland, which in practice would mean the coast of the Moray Firth and the rivers that flow into it (but especially those of the Moray coast such as the Spey and the Deveron). There is anecdotal evidence that some, perhaps much, illegal shooting goes on (Kirby *et al.* 1996) and it seems unlikely that this would be affected to any significant extent by changes to what may be shot legally. An alternative approach might be to have designated areas such as marine nature reserves where Cormorants can spend the winter unharmed and with a reasonably assured food supply. Given the difficulties of establishing such reserves and ensuring they have an adequate food supply, this is unlikely to be straightforward, and there is no simple way of protecting the stock of fish unless there are (extensive) areas where fishing is not permitted.

Other potential threats

Concerns have been expressed that the newly constructed windfarms in the Moray Firth off the east coast of Caithness will adversely affect Cormorants (Davey *et al.* 2015). Experience elsewhere, for instance, at the Robin Rigg windfarm in the Solway Firth in Dumfries-shire, suggests that Cormorants can take readily to windfarms as places to rest, dry their plumage and digest their food (and in so doing tend to create problems for windfarm operators by the fouling of access areas *etc* with their guano) (Canning *et al.* 2013). Cormorants typically fly below the height of the rotor blades (*c.*40 m in the case of the Moray Firth aerogenerators) and, if Robin Rigg is anything to go by, Cormorants are well able to coexist with windfarms without apparently coming to harm. The attraction of the Robin Rigg windfarm to Cormorants is that it is sited in shallow water (the whole array is within the 10 m depth contour and most of it within the 5 m contour - see UK Hydrographic Office), and adjacent to a large area of shallow water with sufficient fish to maintain a wintering population of over a thousand Cormorants (R.M. Sellers, unpublished observations). The Moray Firth windfarms, by contrast, are in waters in excess of 40 m deep (UK Hydrographic Office) and, as such, are unlikely to be nearly so attractive to Cormorants, which generally feed in water less than 10 m deep (Debout *et al.* 1995).

Acknowledgements

Mr A. MacAuslan and Welbeck Estates is thanked for permission to count birds on the Langwell Estate, Mr M. Threipland for permission to explore the cliffs on the Dunbeath Estate, and Alex Jappy for providing much needed support over many years with the sea-based surveys.

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Revised ms accepted August 2020

Greenfinch exploiting seeds of Noble Fir

Noble Firs *Abies procera* c.25 years old at the old Dykedale Farm on the east side of Dunblane began producing cones c.10 years ago and the seed has proved very attractive to Greenfinches *Chloris chloris*. Noble Firs produce large cones that disintegrate when ripe leaving a prominent central stalk (Plate 217) enabling easy access to the large winged seeds which have a rather tough leathery capsule round the seed (Plate 216).

Greenfinch seems to be the only finch found locally capable of extracting the seed from the cones. The unripe cones are hard and tightly closed but once the cones are ripe, they can be pulled apart by Greenfinches exposing the seeds. After a few months, the ripe cones disintegrate completely. This means the seed is available for a relatively short time window. Some large flocks have occurred in the winters following a good cone crop. I first recorded Greenfinches at Dykedale Farm in autumn 2009 when a large flock of up to c.700 was present in mid-November. Since then peak numbers have varied between 50 and 100 birds in most winters with 160 on 16 December 2014 and 140 on 2nd January 2015. Summer 2019 saw the development of a good cone crop resulting in flocks of up to 180 Greenfinches during November followed by higher numbers in December with a peak count of 360 on 30th and still 240 on 18 February.

Autumns with lower numbers of birds were characterised by earlier disintegration of the cones during October and November; perhaps this also indicates a poor seed crop. In autumn 2019, most of the cones disintegrated during December but some were still available into February. In calm weather, many seeds are caught up in the branches and these have been fed on by Chaffinches *Fringilla coelebs*, Bullfinches *Pyrrhula pyrrhula* and some Coal *Periparus ater* and Great Tits *Parus major*. Greenfinches take 8 to 10 seconds to dehusk and eat the seed but the effort is clearly worth it as the seeds are larger than those of most other conifers. A large amount of seed ends up on the ground when the cones disintegrate but the finches do not exploit this and it is left to small mammals and birds like Coal Tit to take advantage of the bounty.

Counting the number of birds has proved difficult and the best method has been to wait for something to flush all the Greenfinches together and estimate numbers in flight. Some days they are more cooperative and have perched in the tops of adjacent trees while on others they have just disappeared. I have not seen any crossbills *Loxia* sp. or Red Squirrels *Sciurus vulgaris* exploiting the seeds although both are present in the woods further up the hill towards Sheriffmuir but there was a widespread large crop of Sitka Spruce *Picea sitchensis* cones in autumn 2019 so these species may be in the spruce away from people as the paths through the firs are very popular with local dog walkers.

Cramp & Perrins (1994) state that Greenfinch "eats a wider range of seeds than probably any other *Cardulinae* in the west Palearctic" and give an exhaustive list of species including six conifers but does not mention Noble Fir. Noble Firs are rarely grown commercially for timber in Scotland though there are many fine specimens in the grounds of large estates. Trials of mixes of different conifer species with Sitka Spruce have shown that Sitka

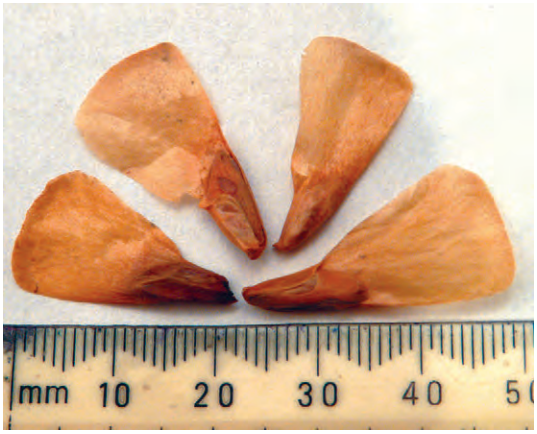

Plate 216. Seeds of Noble Fir. © *M.V. Bell*

Plate 217. Noble Fir showing partially disintegrated cones and cone stalks. © *M.V. Bell*

Spruce/Noble Fir mixes may be useful on some poorer soils (Wilson 2015). It is possible that small numbers of Greenfinches feeding in isolated trees have been overlooked in the past. The situation described is unusual because there are many hundreds of Noble Firs as a legacy of planting for Christmas trees. It would be interesting to know if Greenfinches elsewhere are exploiting the seed of Noble Fir.

Acknowledgements

I thank Mick Marquiss and Clive McKay for helpful comments on a draft of this note.

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Revised ms accepted May 2020

Goshawk 'playing' with pine cones and twigs in North-east Scotland

Since first dabbling with camera traps around ten years ago, we have maintained a camera trap continuously on a nature reserve in North-east Scotland. It has been baited, mostly with a handful of peanuts each time, at roughly three- to six-week intervals. Regular visitors include Fox *Vulpes vulpes*, Badger *Meles meles*, Roe Deer *Capreolus capreolus* and Pine Marten *Martes martes*. Jays *Garrulus glandarius* are the most frequent bird visitors.

We swapped over the memory card on 27 December 2018, our first visit since 25 November. Aside from the usual visitors, seven separate videos showed a Goshawk *Accipiter gentilis*, which closer inspection showed to be a first-calendar-year female (Plate 218). These videos were from three separate dates: 9, 10 and 20 December. In five of the videos, the bird appeared to be 'playing' with twigs or pine cones, sometimes pitching them forward using its talons or bill, then pouncing to land on them, or sometimes jumping up, clutching the item. The camera trap videos can be all viewed at https://bit.ly/33wz17M.

Plate 218. Screenshot from video showing Goshawk 'playing' with a pine cone, North-east Scotland, 20 December 2018. © *Nick Littlewood & Rose Toney*

No mention is made of such behaviour in the monograph by Kenward (2006). Robert Kenward kindly replied to an email about this observation and confirmed that he had not been aware of such behaviour previously. Similarly, another highly-experienced Goshawk worker, Mick Marquiss, confirmed that he, too, had not encountered such behaviour. However, a search of the internet revealed photographs of similar behaviour by a Goshawk in Sweden (Plate 219). The photographer, Måns Söderberg, confirmed that he had observed this playful behaviour among newly fledged birds in July of 2018 and 2019, including on several occasions playing with pine cones and once with a dead Great Tit. This arose from detailed observations of birds prior to dispersal, whilst the North-east Scotland videos show that such behaviour can continue after dispersal.

The North-east Scotland bird's appearance at this precise location, on three separate dates, suggests that some factor influenced its presence there, rather than random chance. Perhaps the frequent visits of Jays had attracted its attention to the site. Goshawks do not breed on this reserve and we have never actually seen the species there. However, there are extensive conifer plantations within a few kilometres that do hold Goshawks, so its occurrence is not especially surprising. There have been no further captures of Goshawks on camera trap on this reserve up to June 2020 at least.

Many thanks to Robert Kenward and Mick Marquiss for responding to queries and to Måns Söderberg for providing information on his observations and permission to use Plate 219.

Reference

Kenward, R. 2006. *The Goshawk*. T. & A.D. Poyser.

Nick Littlewood & Rose Toney, SRUC, Craibstone Estate, Aberdeen AB21 9YA.
Email: nick.littlewood@sruc.ac.uk

Revised ms accepted August 2020

Plate 219. Goshawk 'playing' with a pine cone, Sweden, 15 July 2018. © *Måns Söderberg* (*www.flickr.com/people/mansod*)

Getting started with recording bird sounds

M. LEWIS

Bird sounds are very important to birders. In many circumstances, they help us locate, and with practice identify, the majority of the birds we find. Despite this, a paradox exists in modern birding. Generally, we trust our eyes more than we trust our ears, and yet very few of us carry any equipment dedicated to documenting what we hear. However, the events of 2020 may have gone some way towards changing that.

The COVID-19 pandemic brought a lockdown that covered the height of spring, and with it, plenty of frustrated birders who could not get out to favoured haunts. Just a week after lockdown was announced, birders engaging in recording nocturnal migration ('noc-mig') started to notice large night-time movements of Common Scoters across England. Both individually and in combination, these two events saw an upturn in the numbers of British birders getting involved with noc-mig recording. Many birders invested in portable recording devices, and I suspect that these will become permanent elements of some of these birders' field kit from now on.

Recording of bird songs and calls is not new, but interest has certainly been increasing among birders, particularly for the collection of night-time bird movements. Many birds migrate at night, so to ignore this source of information means we get an incomplete picture of what is actually happening. Getting involved in bird sound recording, and noc-mig in particular, may be for personal interest or as part of organised schemes instigated by bodies such as bird observatories, with valuable records generated to complement information of migration gathered through daytime sightings. However, some may be put off by the prospect of getting to grips with the wide range of possible kit to use, the generation and interpretation of spectrograms and the time taken to analyse them and identify the species recorded. What follows will hopefully make the whole process less daunting.

So how would you go about getting involved in recording bird sounds? Investing in some equipment might seem like the best place to start, and there are plenty of options to cover plenty of budgets for those wishing to start recording birds. These range from smartphones with recording apps, affordable 'acoustic loggers' such as Audiomoth, field recorders paired with directional microphones, through to top of the range parabolas.

All have their uses, advantages and disadvantages, but one thing is common to all of them. If you want to start recording birds, you need to be able to use software that will allow you to produce sonograms and edit your recordings. Luckily there are plenty of free options, and you don't need to be a computer programmer to get your head around them. Most birders choose Audacity or Raven Lite, both of which are free and are supported by plenty of online advice. Audacity seems to be a little more suited to birders needs - especially those interested in noc-mig, so I would recommend this as a starting point. Some advice on getting started with Audacity can be found here: www.dropbox.com/s/j9ycbi188tghs5b/Audacity_guide.pdf?dl=0

Once you have your software in place, the next step would be to practice using it. If you have a smartphone, try recording some birds with it (most smartphones have a voice recording app built in) and see how you get on with basic steps like importing recordings, clipping unwanted bits from the file, and producing a sonogram. If you find you struggle with this, it's probably best to find this out before you've spent hundreds of pounds on equipment!

Sonograms are an incredibly useful tool in bird identification and in the documentation and description of bird noises. Put technically, a sonogram is a graphic representation of a noise

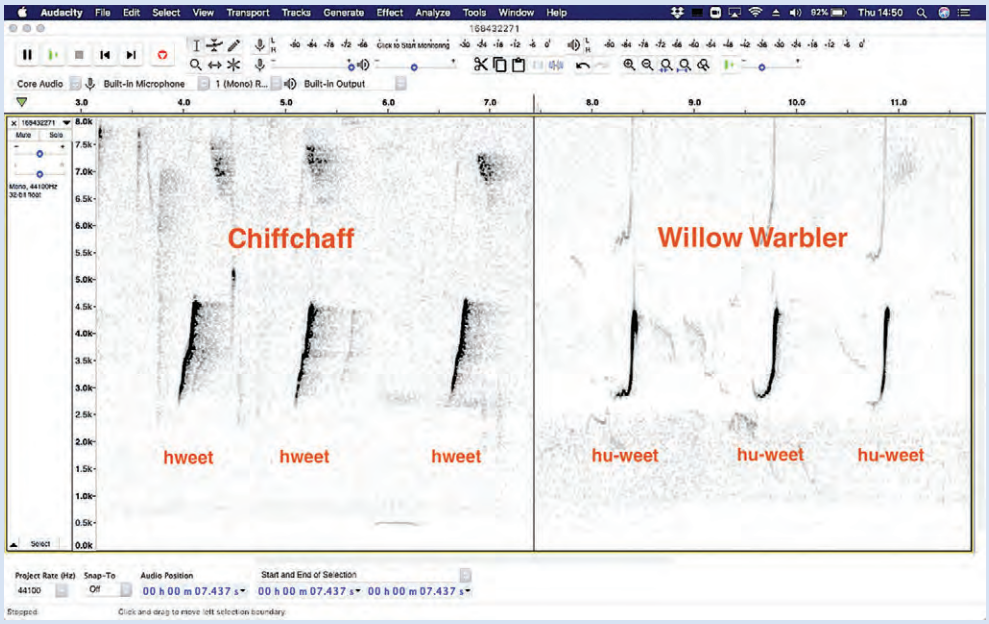


Figure 1. A sonogram comparing the calls of Chiffchaff and Willow Warbler.

expressed as frequencies over time. Put simply, it is an opportunity for us to visually study the structure of a sound, and to be able to describe it with some precision. A sonogram helps us to see the differences between calls (and as a result, listen for them in the field). It also helps us to go beyond phrases such as 'a slightly longer call' or 'slightly higher pitched'. With a sonogram we can compare different calls and describe *exactly* how much higher or lower etc they are. In Figure 1, the subtle differences between the calls of the Chiffchaff and the Willow Warbler are shown. The *'hu-weet'* elements that create the more disyllabic sound of a Willow Warbler call in comparison to the '*hweet*' of a Chiffchaff are easy to see. Here, they form the 'fish hook' end or contribute to the 'golf club' like appearance of the Willow Warbler calls. To be able to show this difference is particularly useful in an example like this, where the duration of the two species calls (x axis) and frequency ranges covered (y axis) are very similar.

Once you are proficient with the software, it's time to splash out on some hardware, and you'll need to be able to answer a very pertinent question; 'what sort of bird recording would you like to do?' Some excellent advice on different forms of sound recording are given by the Wildlife Sound Recording Society on their website - wildlife-sounds.org and this has a very useful newcomers section. For birders there are three main options: 'noc-mig', 'passive acoustic birding', and 'dedicated recording'. These are explained below.

Noc-mig

Noc-mig is an excellent way to get into recording bird sounds, and the recent increase in its popularity in the UK has opened our eyes and ears to a new world of bird activity on our doorsteps. Noc-migging involves recording overnight, most usually from your home or garden, and then reviewing your recording later to identify what has passed over within range of the microphone. Reviewing is done visually. Recordings are uploaded into Audacity or similar software, and then 'sifted' visually, with the observer searching for tell tales signs on the sonogram by eye (this becomes very easy with practice). The interesting looking sounds can then be played and therefore identified by ear. Noc-mig is changing our understanding of the movements of so many different birds. Coot, Moorhen and Water Rail appear with some regularity, often many miles from suitable habitat. Quail are vocal as they migrate by night, as are many terns, waders and wildfowl. Flocks of Common Scoters

have been tracked migrating overland, and our appreciation of how many Ortolan Buntings pass through the UK is in the process of being overturned. Noc-mig is still relatively new to the UK and there is still a lot to discover.

Passive acoustic birding

Passive acoustic birding takes its name from the practice of passive acoustic monitoring of cetaceans - i.e. listening out for whales and dolphins by dragging a microphone behind a boat. Passive acoustic birding is the same - birding as you normally would, but using some equipment to record all the while you do. I carry a directional microphone on my shoulder, pointing upwards, which is attached to a recorder that sits in my pocket. Put yourself on an east coast headland in October. There are migrants around, and birds are moving overhead. Suddenly something calls from the sky, and although it is distant, you recognise it as a large pipit. You wait for what seems like an age and then it calls again while it bounces over your head. For some reason, you can't see it until it's almost too late but it looks short tailed, and although you think it ought to be a Richard's Pipit, it doesn't sound quite right. And then it's gone.

There are two possible outcomes for this 'large pipit' scenario, and in most cases, the record will stay in the notebook. However, if you were carrying sound recording equipment, then there is a very good chance you would have recorded the bird and been able to make a firm identification later in the day, and have the evidence to have the record accepted by the relevant committee.

Most of my passive acoustic birding recordings are deleted immediately. When I record something I'd like to review or keep, I make a note of the time on the recorder when I've recorded something interesting, and then on reviewing later, I can skip through hours' worth of noise to the sounds that I'm interested in. An alternative method is to stop recording after each interesting sound (and then start again, of course). That way, your passive acoustic recording will be broken down into a series of files, all of which have something interesting at the end.

Possibly the best set up for passive acoustic birding is to use a portable field recorder with a directional microphone attached. This combines sound quality with portability, and also ensures you are equipped for dedicated recording or *ad hoc* recording of singing or calling birds that are stationary.

Dedicated recording

Once you've been bitten by the recording bug, you may want to target particular songs or calls, or simply want to make recordings for the sake of enjoying them. In addition, you might enjoy using some more sophisticated equipment. Field recorders with directional microphones are perfectly adequate for this, but the extra gain and directionality offered by a parabolic microphone takes things to the next level. This sort of equipment would also be the best option for recording visible migration of birds, where calls may be quiet or distant.

All of the recording options are suitable for noc-mig but some are more suitable than others. Field recorders with parabolic mics will always get you the best results, but they cost a lot of money and are perhaps not the most discreet piece of equipment to leave lying around overnight! As table 1 below shows, the most versatile equipment is a field recorder, with a directional microphone attached. There are plenty of options on the market and you can buy a perfectly good set up for less than £300. The relative pros and cons of each recording equipment option are set out in table 2.

Table 1. Suggested equipment options for each of the recording activities.

	Noc-mig	Passive acoustic birding	Dedicated recording	Cost
Acoustic logger - e.g. Audiomoth	✔			low
Computer with external mic	✔			low
Field recorder	✔	✔		low/mid
Field recorder with directional mic	✔	✔	✔	mid/high
Field recorder with parabolic mic	✔		✔	high

Table 2. Relative pros and cons of each recording equipment option.

Equipment option / Pros	Cons
Acoustic logger	
Cheap - e.g. Audiomoth for c.£60	Not great sound quality (but still good, and more than adequate)
Can deploy for days at a time	Mic not directional, so lots of background noise
Small and discreet	Requires batteries
Programmable to suit needs	From a birder's perspective, only really suitable for noc-mig or specific monitoring programs
Can be deployed anywhere	
Can store many nights worth of data	
Laptop with external mic	
Cheap - USB mics can be as little as £20	From a birder's perspective, only really suitable for noc-mig
Runs on mains	Limited deployment options
	Few directional mics available that plug in directly, so likely to be lots of background noise
	Very cheap mics can generate lots of self noise/interference
Portable field recorder	
Can run on mains, battery or powerbank	Harder to waterproof than acoustic logger
Generally small enough to be deployed anywhere for noc-mig	Mic not directional, so lots of background noise
Fits into most pockets so suitable for field use	
Good sound quality	
Relatively cheap	
Portable field recorder with directional mic	
Can run on mains, battery or powerbank	£200+ for decent equipment
Generally small enough to be deployed anywhere for noc-mig	More unwieldy
Good sound quality	More components to weatherproof
Reduced background noise	
Portable field recorder with parabolic mic	
Excellent sound quality	£700+ minimum
The only option that increases gain (i.e. amplifies 'volume' of the sound recorded)	Not a wide range of parabolic mics available
Low background noise	Very unwieldy
	Very good for noc-mig but I wouldn't be leaving mine out all night

Sonograms generated from different kit demonstrate the differences in quality of recording that can be obtained from different types of equipment.

Examples of equipment

I use an Audiomoth (Plate 220) for noc-mig as it's relatively cheap (so I don't worry about leaving it out overnight), it can be deployed almost anywhere, and it is easy to waterproof (I leave mine out in a small plastic bag, kept tight to the device with elastic bands to eliminate rustling sounds from the bag).

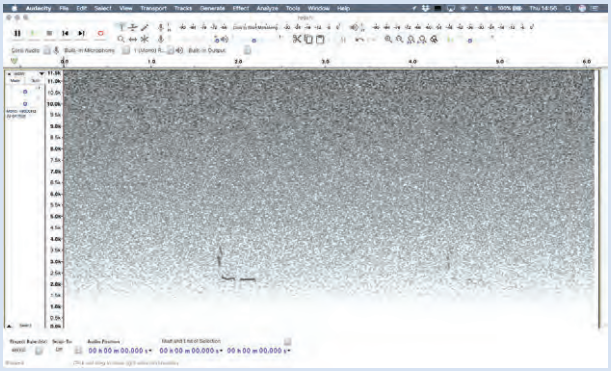
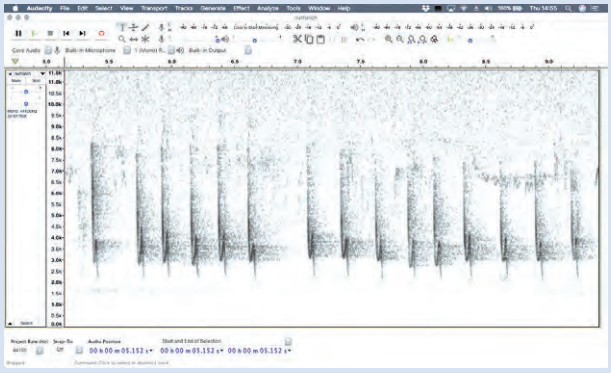


Figure 2. Sonogram 1 shows two Redshank calls recorded using an Audiomoth. Note the rather dark grey screen, a result of recording a lot of background noise, due to the lack of directionality of the microphone. This manifests itself as a persistent 'hiss' in the background when listened to. That said, the recording is more than adequate for identification purposes. The signal generated by the first call is nice and clean, which suggests it was reasonably close to the mic when it called. Recorded in Aberdeen, August 2020.

Figure 3. Sonogram 2 shows a sequence of 'quip' calls from a Nuthatch, made with a Zoom H4N pro recorder and a Rode NTG4 mic. Here, the background is a lot paler than in sonogram 1 - so therefore lower pickup of background noise, and less 'hiss'. The signal is nice and clean, allowing the detail of the call to be examined (although there is some blurring, which may be a result of the sound bouncing off foliage). This recording was made from about 15 m away from the bird. Recorded in Durham, August 2020.



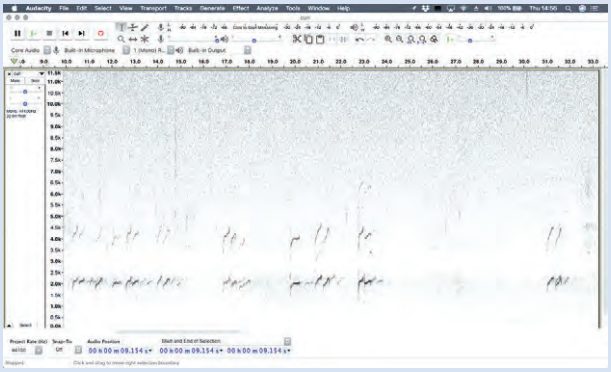
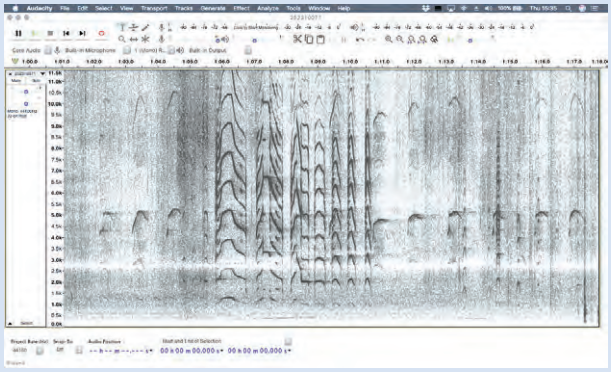


Figure 4. Sonogram 3 shows calls from a group of migrating Curlew, recorded using the same Zoom H4N pro recorder, but with a Telinga parabola and Line Audio OM1 mic. Here there is very little background noise (due to the strong directionality of the mic and parabola), and the signal is crisp and clean. If the strength of the signal seems poor compared to that in Sonogram 2, bear in mind that these birds were approximately 80 m away when I recorded them. Note that the use of a parabola does not automatically mean that background noise will be reduced. If you point the dish at any sound, it will pick it up. Recorded in Aberdeen, July 2020.

Figure 5. Sonogram 4 shows part of a recording of duetting Common Gulls in Aberdeen harbour, recorded using the same equipment as used for Sonogram 3. The lovely neat, crisp signal is still there, but so are all of the harbour sounds in the background. This is still a little easier on the ear than the hiss of generic background noise, but makes for a less pure looking sonogram. When using the parabola, I try to manoeuvre myself into a position where I have my back to any potential sources of background noise. Recorded in Aberdeen, July 2020.



My 'standard birding kit' is a Zoom H4N pro recorder (not visible in Plate 221 as it's in my pocket) with a Rode NTG4 shotgun mic. The mic sits in a harness which is essentially a sock on a strap that goes over my shoulder and is kept in place by wrapping it round my rucksack strap. Once in place the mic sits on my shoulder, with the recorder running, until I've finished birding (or need to take my rucksack off). With the mic pointing up you should record anything that flies over within earshot, and it's handy for quick removal to point at anything that's singing or calling closer to ground level.

I use a Line Audio OM1 mic with a Telinga parabola for recording vis-mig and for occasions when I go out to record a particular species or sound. The size of the dish (and the fact that I have to hold it) makes it unwieldy for general birding, but it's ideal for a stationary observer.

As well as the type of recording you are interested in, equipment choices will be driven by price, and physical features such as weight and whether it will fit in your pocket or not. However, there are a few technical elements it would be prudent to consider before purchasing kit.

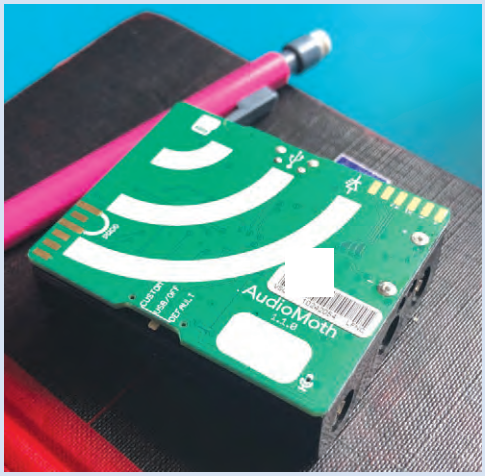


Plate 220. Audiomoth on top of an A6 notebook to give an idea of the dimensions. © *Mark Lewis*

For microphones, low 'self-noise' (i.e. the noise the microphone generates as it works) is important. The lower the self-noise, the clearer the recording you can get. If you are using a shotgun or directional microphone' the length of the mic will be important. The better directional

Plate 221. My 'standard birding' recording kit - Zoom recorder in pocket and directional mic strapped onto the shoulder, Girdle Ness, February 2019. © *Claire Bearn*

Plate 222. Zoom H4N pro recorder and parabolic mic, Girdle Ness, September 2020. © *Mark Lewis*

mics tend to be longer, but of course that leads to issues with portability. Finally, how will you power your microphone? Some will need a battery, but others will rely on 'phantom power' supplied by the recorder. As a general rule, if there is nowhere to put a battery, you will need a recorder that can supply 'phantom power'. In this case, you will almost certainly need a portable re-charging unit as well.

For recorders, preamps are important. These boost the signal coming from the mic, resulting in louder recordings - especially useful if you're recording distant birds. The 'start-up time' is also worth considering. This is the period between switching the recorder on and being able to use it. For someone who wants to be 'quick on the draw' in response to calls or songs heard in the field, a slow start-up time would be very frustrating. I use a Zoom H4N pro recorder which is excellent but has a very slow start-up time (especially when the memory card is getting full). I mitigate this by turning it on before I need it and leaving it running for the duration of my time in the field.

And finally, cables. Cables with XLR connections are more robust, faster and provide purer sound than those that use jack or minijack connections (e.g. 3.5 mm TRS). Obviously, these can only be used with mics and recorders that have the appropriate inputs. Another thing to be aware of with cables is that these are usually the first things to go wrong. Always disconnect all of your kit, especially if you're going to be stuffing it into a bag, to improve the longevity of the cables. If you find your mic no longer seems to be working, check the power supply and the cables first. Unless it's been soaked, these will likely be the source of the problem.

Once you have got yourself set up to record birds, what comes next? There are now plenty of resources for 'bird recordists', ranging from libraries of recordings that can be used as references, to Facebook and WhatsApp groups where technical support (and ID help!) can be sought.

General introductions to bird recording can be found at the SoundBirding blog (soundbirding.org) and advice specific to noc-mig can be found at the Nocmig blog (nocmig.com). Both of these sites give lots of great advice on more general topics such as how to produce sonograms, or choosing equipment, as well as specialist identification advice.

Online storage of recordings allows them to be shared for comment or identification assistance, or simply browsed and enjoyed, used for research, or for helping others make identifications of their own recordings. Xeno-Canto (www.xeno-canto.org) and the Macaulay Library (www.macaulaylibrary.org) offer the opportunity to contribute to their ever growing databases of bird vocalisations.

Specialist identification help can be found online at the website of The Sound Approach (soundapproach.co.uk), throughout the internet on various personal blogs and websites, and of course through comparisons with known recordings hosted by Xeno-Canto and the Macaulay Library. The Sound Approach have also published several books on bird vocalisations, all of which are well worth looking into. Another great resource for identifying bird calls is Birds in Flight (birds-in-flight.net).

I got into recording bird sounds when I realised that I wasn't all that good at identifying them. Recording has made me much better at listening for and detecting calls, and although I'm nowhere near being an expert, has made me much more competent at identifying them. It has helped me get records through rarities committees and has contributed to a paper I've written on the identification of Siberian Chiffchaffs (Lewis *et al*. 2018). My recorder and mics are now an essential part of my every day birding kit (they see a lot more use than my scope does, these days) and I hope that others will find as much enjoyment and learning from it as I have.

Reference

Lewis, M., Penn, A. & Collinson, J.M. 2018. Subspecies identification of Common Chiffchaffs wintering at Nigg Bay, North-east Scotland, in 2016/17. *British Birds* 111(7): 395–401.

Mark Lewis,
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Email: lewis_sparky@yahoo.co.uk

NEWS AND NOTICES

New members

Ayrshire: Mr J. McCormack, Ms J. Smith, **Central Scotland:** Miss M. Davies, Mr A. Muirhead, Mr & Mrs P. Wright, **Clyde:** Mr & Mrs L. Arnott, Miss R. Dickson, Mr R. Doherty, Mr L. Kitchen, Mr M. MacLellan, Dr J. McCallum, Ms L. Powell & Ms K. Anderson, Dr L. Powell, Mr G. Wilkinson, **England, Wales & NI:** Dr & Mrs N. Hutton, **Fife:** Dr & Mrs P. Blackburn, Mr K. Thomson, **Highland:** Mr F. Cormack, Ms R. Holden & Mr N. Jones, Mr D. Knowles, Prof F. Rennie, **Lothian:** Ms P. Ayers, Mr T. Bird, Mr G.M. Bruce, Mr B. Dickson & Ms P. Edie, Mr & Mrs G. Lawrie, Miss I. Logan, Mr & Mrs R. MacDonald and family, Ms E. MacDonald, Mrs P. MacLean, Mr & Mrs F. Pottie, Mr R. Todd, Mrs C. Williams, Mr J. Williams, **Moray:** Mr J. Keel, Mr M. Newton, Mr R. Stewart, **North-East Scotland:** Dr H. Carroll & family, **Tayside:** Mr R. Cain, Mr R. Green, Miss E. Morrison, Dr R. Wilbourn.

Scottish Birdwatchers' Conference - cancelled

As per the email notice circulated to members in September, organisers of the rescheduled conference, due to take place on 20 March 2021 at Elgin Town Hall, decided to cancel the meeting. The SOC along with our conference partner, BTO Scotland, is looking into the possibility of hosting a virtual event instead and details will be emailed to members* in the new year.

Plate 223. SOC merchandise.

* If you are not sure if you are on the Club News & Events mailing list, please email Kathryn Cox admin@the-soc.org.uk or complete the short sign-up form on the SOC website: https://www.the-soc.org.uk/gdpr-consent

Trustees Annual Report 2020

This SOC's annual report and accounts are available to download from the SOC website: www.the-soc.org.uk/about-us/annual-report *If you do not have access to the internet and would like to receive a hard copy by post, please contact the office on 01875 871330.*

Waterston House update

Opening Hours
Thursday–Sunday 10.00am–4.00pm

Staff can still be reached Monday to Friday between 9am and 5pm. If calling outside of Waterston House opening hours, a recorded message on the office telephone (01875 871330) will direct your call. Or you can email your enquiry to mail@the-soc.org.uk

Please check the SOC website for any updates to these opening hours, as well as COVID-19 safety measures in place and the availability of facilities such as toilets, which remain closed to the public at the time of writing.

SOC merchandise

Keep your head dry and cosy this winter - we now have SOC-branded beanies and baseball caps available in the SOC shop.

Baseball Cap £10.99,
Colour: French Navy

Traditional cuffed beanie £10.99,
Colour: Oxford Navy

Thinsulate™ beanie £12.99,
Colour: French Navy

Art exhibitions

SWLA Touring Exhibition
CANCELLED
Every winter, The Society of Wildlife Artists (SWLA) organises an annual exhibition that

presents the best wildlife art in the UK at the Mall Galleries in London. Had it not been for COVID-19 restrictions, a selection of work from this exhibition was due to be coming to Waterston House once the show ended in London. This would have been the second time the SWLA had exhibited at the SOC's HQ. The SWLA, which has become part of our 'extended family', was created in the 1960s by a group of artists eager to showcase the quality of work created in their field. It all started with an exhibition of wildlife art organised by Robert Gillmor and Eric Ennion, with the support of Peter Scott and Keith Shackleton. The exhibition toured a number of galleries across the UK for a year and met with such success that it toured for a second year! It is the success of this original touring exhibition that lead to the creation of the SWLA as a society in 1964, with Donald Watson one of the founding members. The SWLA's focus remains its annual exhibition which not only presents the work of its members but also selected work from submissions by non-members, thereby nurturing new talent. Indeed, the SWLA actively supports new talent by awarding bursaries for personal development to young artists. One of these is a bursary to attend the Seabird Drawing Course which was created by John Busby. Last summer's exhibition at Waterston House, 'Coastal Birds', presented the work of three recent winners of this bursary. We are proud to support the work of the SWLA and we look forward to hosting the group's touring exhibitions in the future as we continue to celebrate wildlife art!

Under the skin

14 January to 28 February 2021

January is often a time to try something new and different in the gallery at Waterston House and this year is a case in point. Our January exhibition, 'Under the Skin', presents the work of two young artists and brothers, James and Ed Harrison. They create fine art prints to support the conservation of endangered species. Each print focuses on an endangered animal and is developed in association with a charity involved in its conservation. The aim is to raise funds, as well as awareness, and 20% of the proceed from the sale of the prints go to the charity partner. The prints are hand-made screen prints with layers of colour that result in bold and joyous designs. However, the seriousness of their message is delivered with a punch: when a UV light is shone on the print, the skeleton of the animal is revealed. The albatross print shown here (Plate 225) was created by Ed and

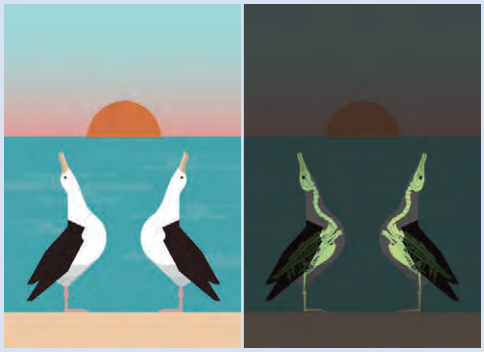


Plate 225. Albatross. © *James & Ed Harrison*

Plate 224. Snow Buntings. © *Richard Allen*

James for the Albatross Task Force, an initiative set up by BirdLife International and RSPB to mitigate the danger that bycatch represents for seabirds and albatrosses in particular. 'Under the Skin' is a small exhibition presenting around 20 of these interactive prints. We are confident it will provide much food for thought as well as wonder at the ingenious designs.

Staff bid farewell to Stuart Rivers

Stuart left the team at the end of October to pursue a full-time position with an aerial image surveying company. Stuart took up his position as HQ's Birding Officer in April 2018, providing a friendly welcome to weekend visitors to Waterston House and sharing his expertise with the wider public in response to the many and varied bird-related enquiries HQ receives. As part of his role, Stuart also played a pivotal role in administering the work of the SOC's Birding & Science Committee. Council is grateful to Stuart for his commitment and contribution while in post and, along with staff, wish him well with his new job.

As many members will know, Stuart wears several SOC hats and has been involved with the Club for many years as a volunteer, not least as part of the *Scottish Birds* editorial team. We are delighted that Stuart will continue to provide his services to the journal.

Plate 226. Stuart Rivers, 16 April 2018. *© Eileen Henderson*

Branch updates

New contacts

Dumfries, change of Secretary: Alex Banwell, 19 Keswick Road, Dumfries DG1 3FF, tel 07963 282818, email dumfriessecretary@the-soc.org.uk

Highland, change of Secretary: Mary Galloway, 14 Boniface Gardens, Fortrose IV10 8RP, tel 07598 320978, email highlandsecretary@the-soc.org.uk

Council thanks outgoing secretaries, Lesley Creamer and Kathy Bonniface, for their services to the Dumfries and Highland branches respectively.

Talks and Outings

Council thanks branch committees and staff at Waterston House for their swift action and hard work in organising a virtual programme of talks to replace the physical indoor meetings, which had to be cancelled owing to the coronavirus pandemic. To help with any potential technical challenges of using video conferencing software, a work group of Council produced a comprehensive set of guidance for hosts, participants and speakers who kindly agreed to present their talks online.

At the time of writing, the majority of branches have managed to host a virtual AGM and many have hosted or are preparing to host their first talk of the season.

In light of the prevailing uncertainty surrounding the virus and the availability of a vaccine over the coming months, a decision has been made to continue with the Zoom format for the remainder of the winter programme, which ends in April 2021. We look forward to being able to resume indoor meetings from September 2021.

During the summer, a work group of Council produced COVID-19-related guidance for branches wishing to organise field trips once lockdown restrictions had been lifted. A few of the local groups did schedule some outings for September/October. However, these were subsequently cancelled in light of tight of a return to tighter Government regulations on household numbers permitted for gatherings.

Important: Sign up for branch activity email notices

If you do not already receive our email communications and wish to receive notices of branch talks and/or outings, please complete the short sign-up form on the SOC website: https://www.the-soc.org.uk/gdpr-consent or you can email Kathryn Cox to check or update your mailing list preferences: admin@the-soc.org.uk

No email access? Contact your branch Secretary

For members who do not have access to the internet to be able to check the SOC website or receive the email notices, please call your local branch Secretary to check for details of any outings that may be running

Vacancies

Honorary Treasurer

The Club's Treasurer, Andrew Thorpe, has indicated that he will be standing down at the end of the financial year, 31 March 2021, when he will have served for almost five years. As such, we are inviting applications from members with financial expertise interested in joining the Club's friendly, dedicated board of trustees (Council) to take up this vital role in helping to run the Charity.

The Honorary Treasurer is one of five office bearers, elected by the membership at the AGM, who works closely with the President, Vice-Presidents and Secretary to ensure the effective operation of the Club as a Scottish Charitable Incorporated Organisation (SCIO) and in line with the provisions of the Charity's Constitution. The initial period of appointment is for two years from the date of election at the Club's 2021 AGM (November). However, we will be looking to co-opt the new post holder as a temporary trustee from April, with a handover period available from February.

The Treasurer becomes one of the trustees of the Club and is expected to be aware of the financial responsibilities that this entails and to exercise these to the benefit of the Charity. A key responsibility is the presentation of current accounts to the quarterly meetings of the Club's trustees (Council) and the presentation of the end-of-year accounts at the AGM, which involves ensuring the Annual Accounts have been independently examined and eventually forwarded to the Office of the Scottish Charity Regulator (OSCR). The Treasurer is also responsible for organising and chairing meetings of the Finance Committee and is also a member of the Management Committee. The President may, at the discretion of Council, require the post holder to serve on meetings of other Committees.

For full details of the Treasurer's role and responsibilities as well as details of how to submit a note of interest (a short application form), visit www.the-soc.org.uk/get-involved/vacancies.

Applications should be emailed to the Club Secretary, David Lindgren, via secretary@the-soc.org.uk by 31 January 2021. Or if you would like to discuss any aspect of the vacancy, please contact the Club Administrator, Wendy Hicks: mail@the-soc.org.uk or call 07519 263198.

Vacancies on the *Scottish Birds* team

The team that produces *Scottish Birds* is urgently looking for volunteers willing to take on specific roles in producing this key Club publication. Sadly, Jimmy Maxwell died in the summer and Ian Andrews is stepping down after ten years as co-ordinating editor.

To help spread the load, we are looking to expand the team with volunteers taking on focussed tasks. We are looking to fill the following roles to support Stan da Prato (peer-reviewed papers) and Stuart Rivers and Harry Scott (rare bird articles):

- Several regional correspondents to cover specific geographic areas to source news and articles about Club/branch activities and members' interests at a local level.
- Someone to cover conference write-ups.
- A 'house styler' to ensure consistency of style across the publication.
- An editor to work on the non-peer-reviewed articles.
- A proof-reader to carry out the final checks on the pre-publication pdfs.
- A 'content co-ordinator' to liaise between the members of the team, HQ and the designer. This person is key to ensuring the smooth flow of material through the publication process.
- Indexer to produce the volume index each October.

If you have an interest in helping in any of these roles and are relaxed about working with emails, Word and Excel documents and pdfs, please get in touch with Wendy at HQ (mail@the-soc.org.uk). The team uses Dropbox to share documents (help can be given, if required) and works to an agreed timetable.

New award for SOC *Where to Watch Birds* app

We are delighted that the SOC's free app *Where to Watch Birds in Scotland* has been so popular with birdwatchers in Scotland and further afield, and we are thrilled that it has been nominated for a number of awards since it was launched in April 2019. With over 11,000 downloads, and with new sites being added regularly, Scotland's birds are being brought to a new generation of birdwatchers and the app appeals to novice and seasoned birders alike.

Plate 227. Jeremy Wilson received the Marsh Award for Local Ornithology on behalf of the Club, 25 October 2020. © *Ellen Wilson*

The first of the accolades was being voted **Product of the Year** in the *Birdwatch* magazine and *BirdGuides* 2019 Birders' Choice Awards.

In September 2020, the app made it onto the short list for the 2020 *Nature of Scotland* Awards in the Innovation category. These awards are co-sponsored by RSPB Scotland and NatureScot, with a Virtual Awards Ceremony scheduled to take place on 25 November. At the time of writing, the winners had not yet been announced, but getting to the finals is a great achievement - like an Oscar nomination!

Also, in October, as a result of the app, the SOC was presented with the *Marsh Award for Local Ornithology* in recognition of the Club's work and leadership. The British Trust for Ornithology (BTO), supported by the Marsh Christian Trust, make this award each year to a group or project whose members have achieved something outstanding, and the SOC app was nominated for this. The awarding panel considered the work of the SOC impressive in 'gathering vital information about Scotland's wild birds and supporting and developing birdwatching', making it a worthy recipient. The award was made at a virtual event on the evening of 28 October, with the Club's Vice-President *Birding & Science*, Jeremy Wilson, accepting the Award for the SOC.

Scottish Birds back issues - now freely available online

A complete archive of the journal, from volumes 1 to 38 and including indexes, can be accessed via the our website: www.the-soc.org.uk/about-us/scottish-birds-soc-s-journal/past-issues

Plate 228. Past issues of *Scottish Birds* on the Club website.

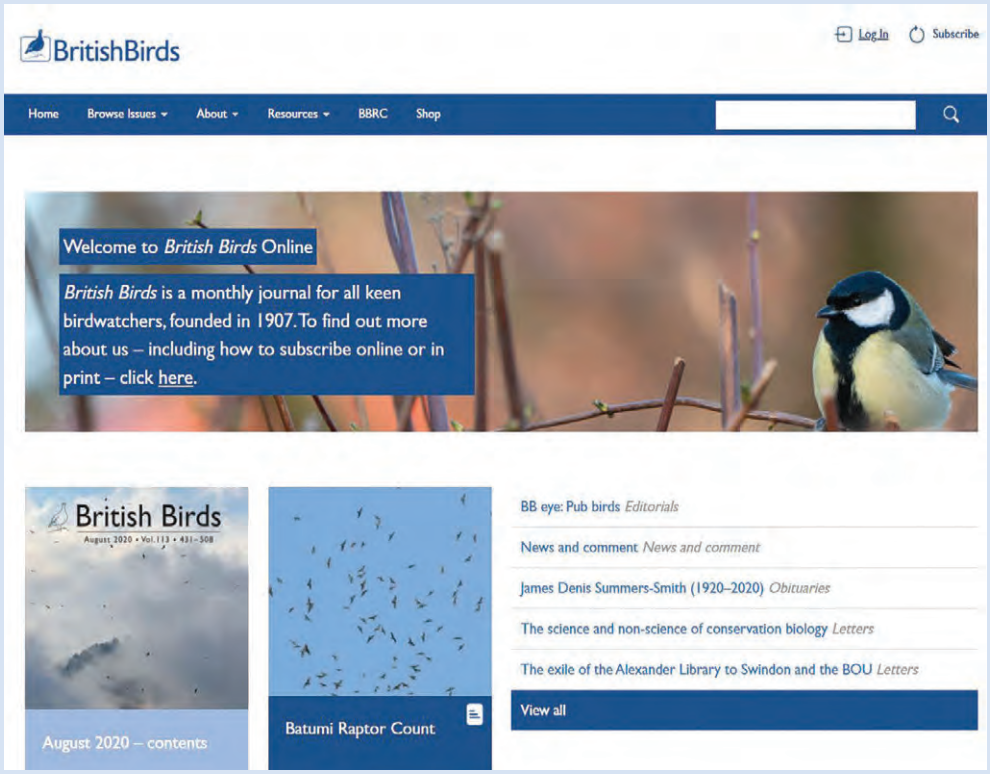


Plate 229. *British Birds* website homepage.

Over 100 years of *British Birds* - now available to online subscribers

September 2020 saw *British Birds* magazine take one of the most significant steps forward in its 113-year history. BB Online brings *British Birds* to a new, custom-built digital platform where subscribers can view not only the latest content from *British Birds* but also have access to a fully searchable back catalogue of more than a century of ornithological publications. Photos can be viewed in more detail and content can be accessed wherever you are - simply sign in using your username through the web on any computer. Furthermore, a companion app allows subscribers to store content offline on their devices for easy access in the field and away from home.

British Birds editor, Roger Riddington, commented: "Readers have been asking for access to a searchable digital archive and we have invested in a bespoke solution to offer the best search facility for our content. There is no other archive like this available online and it is a valuable resource for anyone interested in birds, from finding out how to identify a tricky species to understanding trends in populations and distribution."

In addition to the main articles, notes, letters, news, editorials and book reviews are also part of the archive, and new content will be added every month as each issue of *British Birds* is published, including the latest reports from the *British Birds* Rarities Committee, the Rare Birds Breeding Panel and the scarce migrants report.

Access is via the new *British Birds* website at www.britishbirds.co.uk and the app to allow subscribers access to issues offline will be available for Apple and Android devices via your usual store.

Correction to the last issue

Merlins in North-east Scotland, page 197. On Figure 1, the length of the scale bar is 30 km (rather than 50 km). The editors apologise to the author for this error.

OBITUARIES

Jimmy Maxwell (1935–2020)

Plate 230. Jimmy Maxwell with Robin, January 2009. © *Lang Stewart*

Jimmy's whole life centred around music and nature and both became lifelong passions. As a small boy he was always out in the countryside, walking other people's dogs and looking for birds' nests.

He attended Kilmarnock Academy enjoying music, art and biology then went on to the Royal Scottish Academy of Music where he graduated with a Diploma in Musical Education. Jimmy was a music teacher in several schools in the Kilmarnock area and then Principal Teacher of Music at Rosehall High in Coatbridge. He later became a lecturer in music at Hamilton College and finally in Jordanhill College. Jimmy joined the Scottish National Orchestra Chorus and took part in two tours of America from coast to coast, including a performance in the Hollywood Bowl. He found time to go birdwatching behind the famous Arena during breaks in the rehearsal! In 1981 he went with the chorus to Israel to take part in the Jerusalem Festival.

He was also a keen and accomplished sailor at Troon Sailing Club, hill climber and, of course, birder. Jimmy met Morag and they married in 1964, living in Kilmarnock where his daughter Alison was born; they subsequently moved to Hamilton where his son Douglas joined them.

In 1976 Jimmy initiated the local RSPB group in Motherwell and proposed creating a reserve at Baron's Haugh. This was a major project which required lots of tree planting and species

recording. The first warden at Baron's Haugh, Russell Nisbet, commented that there would not have been the RSPB Baron's Haugh Nature Reserve for him to warden for eleven years if it were not for Jimmy. Also, Russell would not have taken groups out to Goa and The Gambia if Jimmy and Morag had not encouraged and supported him. Jimmy ran a Willow Tit project for ten years designing and building a nest box to help sustain this vulnerable species.

The family enjoyed caravan holidays in France for some years and, later, Jimmy and Morag toured the British Isles extensively. They also enjoyed foreign trips to Africa, India, North America, Thailand, the Azores, and much of Europe. In later years he travelled with the '3 Amigos' (the other two being John Watson and Lang Stewart) to Trinidad and Tobago, Lesvos and Sri Lanka.

Jimmy was a natural educator both within the RSPB local group and beyond; many absorbed his knowledge often without really noticing it. With his background in music Jimmy had an innate ability to name every bird by its song.

Jimmy was a long-time member of the editorial team of *Scottish Birds*. He joined the *Scottish Bird News* team in 2003 and continued when SBN was combined into the new-look *Scottish Birds* in mid-2009. He co-ordinated the news and views section successfully incorporating this important record of Club life into our new style, all-in-one *Scottish Birds*. He regularly attended SOC conferences where he organised teams of members to write up summaries of the speakers' main points, if necessary, writing them himself and taking photos. He was a keen photographer and also turned his hand to drawing topical sketches. He often provided acute observations of how to go about watching birds based on his many years' field experience.

He was also an enthusiastic curler making many friends and coaching the wheelchair curlers. At 84, he won the Pairs and skipped his team to win the League Trophy.

Jimmy was a highly respected ornithologist, always at his happiest looking for nests, at spring migration or showing someone a new bird or call. Knowledgeable, supportive, and passionate about Baron's Haugh reserve, his passing is an enormous loss both to the local group and to the wider birding community. He never missed an opportunity to fit some birding in when he could but was always at his happiest with Morag and the family.

Lang Stewart with family and friends

Gill Hartley (1965–2020)

Gill grew up in Leicester in the 1970s, the youngest of three sisters and a brother. Many who knew her would be surprised that her given name was Fiona but from an early age the family always used her middle name Gillian shortened to Gill. As a youngster she discovered an affinity for animals through her pets and this led her to pursue a degree in Agricultural Animal Science at Nottingham University where an interest in mammalian physiology was cultivated. From there she went to the University of Bristol to research for a PhD on the physiology and endocrinology of fox reproductive failure. While at Bristol she assisted with work on urban foxes that was used to develop rabies contingency plans. After the PhD she undertook further post-doctoral work on fruit bats on the

Plate 231. Gill Hartley. © *Johan Kritzinger*

Comoros Islands and spent months on a sailing boat studying whale behaviour off both the Azores and New Zealand observing the impact of tourist boats for the International Fund for Animal Welfare. Her PhD brought her to Scotland to briefly work at the Hannah Research Institute in Ayr and in 1993 she returned, this time to join the Wildlife Management Section at SASA (then the Scottish Agricultural Science Agency) in Edinburgh.

At SASA Gill began with studies developing biological markers for rabbits, but by the end of the 1990s she was the Senior Wildlife Biologist in charge of Wildlife Management, tasked with providing advice on a wide range of topics to policy teams in what was later to become the Scottish Government. Gill provided scientific, technical and practical advice on the management of conflicts between vertebrate wildlife and human activities, focused primarily on agriculture but encompassing game management, fisheries and forestry. She covered geese and cormorants, eagles and buzzards, foxes and badgers, gulls, rats, rabbits and wild boar and pretty much everything in between. In addition to providing advice to policy teams the role also involved Scottish contingency plans for wildlife rabies, where her fox experience at Bristol was invaluable.

Her advisory role brought her into contact with people from a diverse range of organisations, from government ministers and policy teams to land managers, environmentalists, conservationists and fellow scientists. The field of wildlife management can be fraught with contentious issues and disagreements, but Gill always strived hard to maintain her neutrality, to find compromise and consensus, and to provide impartial and practical advice. Her aim was always to try and improve the practice of wildlife management throughout Scotland by helping to formulate better policies and to educate managers in how to make more effective use of the methods available, all with the aim of better animal welfare and reduced unwanted environmental impacts.

Gill's detailed work on goose grazing on Islay led to her being, for many years, a member and then chair of the Scottish Government's Goose Science Advisory Group, providing sound scientific advice over one of Scotland's longest-running contentious wildlife issues. She chaired the Urban Gull Task Force, and was a member of numerous other groups, covering rodenticides, invasive species and wildlife crime among others. Gill was widely respected by those with whom she worked, her depth of subject knowledge, her dedication, her forthright manner and good humour were all greatly appreciated. As one friend and colleague put it: "Gill had a wonderful way of asking exactly the right questions, in the most sincere and unchallenging way, even though the questions were sometimes uncomfortable for those of us on the receiving end".

Gill passed away after a long illness; one that she had approached with characteristic fortitude and the same analytical determination that she had applied to her work. Her influence on the field of Wildlife Management in Scotland was often out of the public gaze but cannot be underestimated, she will be missed dearly by friends and colleagues but most of all by husband Johan and daughters Hannah and Nina.

Steve Campbell and Ian Bainbridge

Kevin Francis Woodbridge (1948–2020)

Intent on practising medicine in a natural environment, Kevin Woodbridge went on to found the North Ronaldsay Bird Observatory, Orkney, insisting on the highest standards for recording and record-keeping, whilst bringing foresight, visitors and much-needed employment to the island, affectionately known as 'North Ron'. Kevin also chaired the Bird Observatories Council for many years, steering the observatories into the digital age. He died on 19 April 2020 after a short and unexpected illness.

Kevin was born in London in 1948, to a research physicist father who worked on radar during the

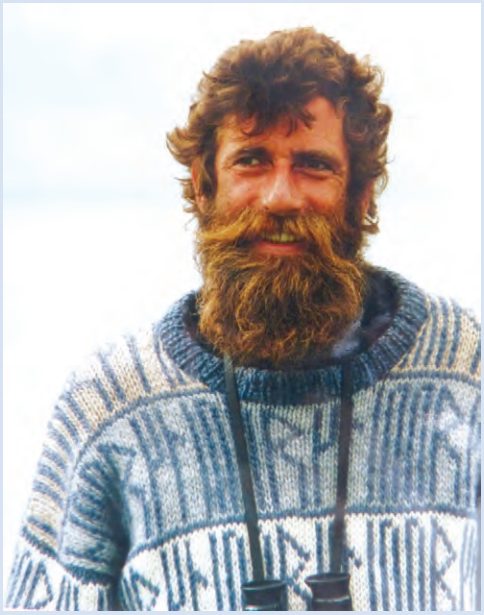


Plate 232. Kevin Woodbridge. © *Family photo*

war. He was schooled at the Royal Grammar in High Wycombe, an early interest in natural history leading him to pond-dipping and fishing, cycling out with the family dog on his back in a rucksack. But it was on Bardsey that his interest in birds developed. There he met the warden, George Evans, a formative influence, saw a Firecrest in the hand, was marooned by bad weather, missed Freshers' Week and came close to running out of food! After taking an MB ChB at Manchester University and working long hours (120 a week) in subsequent hospital training, he decided on a change of path. The first step, in 1976, involved a summer job as Little Tern Warden at Gibraltar Point for £5 a week, where he underwent ringing training with Dick Lambert, quickly gaining his C permit. His father's influence to the fore, he pioneered the use of an electric fence to keep foxes out of the colony. The Lincolnshire Trust Newsletter reported *on the bearded and deeply tanned Kevin at his temporary camp at the beach, watchful for any disturbance, always ready to talk and explain…his dedication extending well beyond the call of duty.* As it did, throughout his life. After the terns went south, he headed north for general practice training in the Outer Hebrides, from where a lucky tip-off saw him bound for interview on North Ronaldsay.

The job was offered, the die cast and he started six weeks later, in February 1977, remaining the island's GP until 2011, responsible for the care of 100 islanders. Orkney matters became a way of life. He served on the North Ronaldsay Community Council and latterly as a councillor for the North Isles Ward of Orkney Islands Council, with a keen interest in the transport issues so crucial to the archipelago's prosperity and in planning, where wildlife issues arose. Islanders are all-rounders, or become so, and he also served as Clerk of the Sheep Court, auxiliary coastguard, and with the local fire team.

Seeing an opportunity to improve employment in the island, Kevin suggested developing a small-volume, high-value, mist-net-making industry, as successor to Gundry, Knox Nets and the Japanese nets. Enthusiastically taken up by the BTO, Chris Mead and Adrian Cawthorne visited in 1981 to train the islanders in net-making. Thanks to Kevin's foresight there can't be many British ringers who haven't used at least one of the 27,000 made there since.

There were few visitors when Kevin arrived, but Eddie Balfour, Michael King, David Lea, Jim Williams and others were already regulars and Adrian became one. Rarities were found in his early years and duly appeared in the BBRC reports. So, the migration potential justified an observatory, as did the need for more visitors. This 'potential' renews itself each year and produced a 'first' for the Western Palearctic, the Red-winged Blackbird *Agelaius phoeniceus* in 2017 (*Scottish Birds* 37: 357–359). By 1984, Kevin and Adrian were to develop the idea together, Kevin locally and Adrian with the BTO. Sadly, Adrian died in early 1985, and his wife, Wendy, a while later, a memorial fund contributing significantly to future developments.

Despite these setbacks, the project was seen through to completion by Kevin's patience and determination. It was a long and tortuous journey from accreditation in January 1987 to Chris Mead's formal opening ceremony in June 1995, best described by Kevin in the North Ronaldsay chapter of *Bird Observatories of Britain and Ireland* (Archer *et al*. 2010). The present splendid, purpose-built, low-energy buildings at Twingness with sweeping views

over the Firth to Sanday have delighted its many visitors, as has the hospitality, the cuisine in general and the speciality mutton in particular, beach raised on local seaweed. Open all year round, nearly a thousand folk stay annually, in one of the seven rooms or the 10-bedded hostel accommodation, fulfilling more of Kevin's vision for the island and employment. One of the early visitors, bringing with her a first-class degree in Zoology, was Alison Duncan, who stayed on, becoming observatory warden a year later, in 1988. Kevin and Alison duly married, and she has continued as warden and custodian of Kevin's ideals throughout.

Fully appreciating the great advantage of digitisation in analysing data, Kevin's approach was to enable the daily records to be saved to the computer during call over, procedures being refined as technology improved. Records were also digitised back to the first days, so giving the lead to our other observatories. These formed the basis of the graphics that illustrated many accounts in *The Birds of Scotland* (2007), documenting seasonal migration patterns.

Kevin was elected chair at the Bird Observatories Council AGM in 1994 when Sean McMinn stood down. Subsequent minutes reflected his continuing concern with standardised written recording protocols, computerisation of both todays' and historic records and their submission to BTO BirdTrack. Bardsey and Holme were the first to upload their entire digitised records, and many others have followed, reflecting the BOC's strong association with the BTO, which Kevin was always keen to foster.

Softly spoken, well-known but not always known well, Kevin's concerns for the island, its islanders and its visitors were clear. But equally important was his encouragement of the youngsters who came to work or volunteer for a spell at somewhere as magical as an island observatory in the far north, two of whom have commented: George Gay: "I didn't even know where North Ronaldsay was! But Kevin changed my life in so many ways". Bryony Baker: "Countless young birders (and some older ones) now have environmental careers at observatories, in the birding community, and elsewhere because of the opportunities that he [and Alison] created. He was kind, generous and fair, and will be sorely missed."

Kevin is survived by his wife Alison and their children Heather and Gavin, and by his first wife Heinke Groth and their children Meike, Spike and Luke.

Mike Archer, Alison Woodbridge and Steven Stansfield

This obituary for Kevin Woodbridge also appears in *British Birds*.

Frank D. Hamilton (1932–2020)

Frank grew up in the Greenbank area of Edinburgh and as a boy was already interested in natural history, guddling for tadpoles in the Braid Burn or exploring Blackford Hill. Here, in March 1949, Keith Macgregor invited Frank to come to a meeting of the SOC and the birding 'switch was thrown'. With Keith, he then aged 17 started visiting Aberlady weekly, counting and taking detailed notes. These weekly visits, first by bus and bicycle and then by car, continued until 1958 and culminated in their publishing *The Birds of Aberlady Bay Nature Reserve*. He and Keith had been instrumental in getting Aberlady Bay declared a Local Nature Reserve in 1952, the first in Scotland.

Frank made his first visit to the Isle of May in 1949 when aged 16 and told the story that when he caught a bird in the Heligoland traps, he just ringed it. Protocols in those days were not rigorously enforced! Shortly after he applied to the BTO for a licence, but this was deferred by Elsie Leach who ran the Ringing Scheme at the BTO - at least initially! He visited the island in many subsequent years and annually in the autumn with friends from 1996 to 2017. Evenings in the Low Light were hugely entertaining, endless stories and reviews of the day's good birds enhanced invariably with a glass or two of wine! It pained him greatly when failing mobility reluctantly stopped him coming in 2017.

Frank had left school aged 16 and, in contrast to many conservationists today who have university degrees in a relevant subject, entered the world of commercial work. His mind was elsewhere and when one employer gave him an ultimatum - birds or the job? Frank replied birds and was soon dismissed. He did however meet Kathleen while at work in Edinburgh and they were married in 1957. On honeymoon in New Galloway, Frank amassed a total of 94 species! He joined the staff of RSPB in 1958 having written repeatedly asking to be considered for a job! At that time, the head office was in Eccleston Square London, and he became a development officer, with responsibility for running the film unit and the Junior Bird Recorders' Club - the predecessor of the YOC. There were fewer than 10 full-time staff UK wide at that time. After three years, RSPB moved to the Lodge near Sandy in Bedfordshire.

Amongst the most memorable projects with which Frank was involved was the return of Ospreys to Loch Garten in 1959. He and Kathleen stayed there with others for two months ensuring the Ospreys' breeding success. Frank's role in raising the public profile of the RSPB developed, assisted by improving systems and audio-visual equipment. Frank was then tasked with opening a new office for Northern Ireland serving on both sides of the Irish border. This was not an easy task, Kathleen with two toddlers may not have regarded this as the perfect promotion - not least as the Troubles intensified. In 1971, the family returned to Scotland to live in Longniddry and Frank became an assistant to George Waterston, the then Scottish Director, and the following year, on his retirement Frank became Regional Director for Scotland. Frank served on the Board of the RSPB under Peter Condor, Ian Prestt and latterly Barbara Young. He encouraged regional sections of the charity, establishing offices across England and Scotland. His drive, innovation and outgoing style overlapped with the strongest growth of membership in the organisation's history. Locally he represented the RSPB on the management committee for Aberlady Bay for many years. During his time as Director of RSPB in Scotland, the society acquired significant nature reserves on Islay and at Abernethy in the Cairngorms, at the time the largest reserve owned by an NGO in the UK. He visited regularly after his retirement and delighted at the expansion of the native pinewoods.

Frank's abilities and his contribution to conservation were rightly recognised when he was awarded an OBE in 1987.

Frank was single minded with all his energy devoted to birds and conservation. Wider interests did not feature. Art appreciation was not a strength - unless it included birds. On foreign travels, viewing historic towns was a waste of time; Machu Pichu was a pile of stones and not worth visiting even though a group tour he organised was only 20 miles from the famous ruined city - after all there was no new bird to be found there. Magnificent Buddhist temples could be safely ignored unless an unusual jacana could be found on the sacred pond to the rear of the temple!

Plate 233. Frank Hamilton, Canada, June 1997. *© Family photo*

At the end of his RSPB career, Frank was asked to see how conservation was being carried out in the USA. His abiding memory of the visit was not the great wildlife reserves and birds that he saw, it was that of missing people to talk to in the evenings and sharing that excitement. He was a very social animal!

Overseas travel for birding, post retirement, was greatly enjoyed becoming an annual event, and providing a fertile source for many entertaining stories. These included trips to Guyana, Brazil, Ecuador, Argentina and Peru as well as many countries in Africa and Asia. They were invariably exciting adventures and always entertaining and always ended with him saying 'this will be my last overseas trip'!

Frank was a great note taker, and he was acutely aware of how many species had declined in his lifetime. He kept detailed diaries of counts he made and delighted in portraying a picture of past days, for example, 50–75 Corn Buntings roosting at Duddingston Loch in January 1955, Corncrakes heard at Dalhousie, Fairmilehead, Gilmerton and South Queensferry in 1954. Amongst Frank's most celebrated success was, with Keith Macgregor finding a Wilson's Phalarope at Rosyth Marsh in September 1954 - a first for Europe! He recounts how difficult it was to find illustrations of this or other American waders. Today we take excellent field guides and online tools for granted.

He was a lifelong supporter of the SOC, joining in 1949 and serving as President from 1990 to 1993. Attending the very social annual conferences was a highlight of each year. Anyone who was at the SOC Annual Conference in 2011, the 75th anniversary of the Club, will remember Frank and Keith's reminiscent blether 'The Way we Were' - which started from when they first met in 1949. Glasses in hand these raconteurs had a relaxed chat - the half-hour slot wasn't long enough. Frank spent many happy hours at Waterston House chatting with colleagues while stuffing *Scottish Birds* into envelopes and doubtless regaling them with stories of past travels or offering his views on current affairs. In 2011, he and Keith were made Honorary Presidents of the Club. He was until two years ago a Trustee

Plate 234. Frank Hamilton (right) with Keith Macgregor, 75th Anniversary conference, Carnoustie, 29 October 2011. © *Jimmy Maxwell*

of the Gillman Trusts - trusts set up to support birds and conservation and it gave him great pleasure in being able to direct funds to projects or reserves across Scotland.

Over the last two years Frank's mobility and strength gradually declined but, with Kathleen's help they were able to get out in the car and visit the East Lothian coast, especially Aberlady Bay which he loved. It was poignant that at Frank's funeral service only 20 people could attend, due to COVID restrictions. In normal times the hall would have been filled with the many people with whom Frank had worked or socialised, showing their appreciation for a man who had done so much to inspire others and to promote the cause of conservation throughout the UK, but especially in Scotland. At his request a favourite jazz number *When the Saints Go Marching In* was played accompanied by foot stamping from the mourners; he wanted his send-off to be positive! Frank is survived by his wife Kathleen and their son Ruaraidh, himself a keen birder, and their daughter Kirsty, an environmental campaigner. All his many friends will be saddened by his passing but recall with great pleasure their time spent in his entertaining and never dull company.

Ian Darling & Stuart Housden

Mountain Hares

In June 2020, the Scottish Parliament voted by 60 to 19 to give Mountain Hares special protection under the Wildlife and Countryside Act, which will make it an offence to intentionally or recklessly kill or injure a hare without a licence. Conservationists and animal welfare groups welcomed the decision. MSPs also voted to ban salmon farmers from shooting seals and introduced tougher penalties for wildlife crime. Under the new Animals and Wildlife Bill the worst animal cruelty offences will be punishable by up to five years in prison, an unlimited fine or both. Other aspects of the bill include an increase in the penalties for the stealing or being in possession of wild birds' eggs also to five years' imprisonment, an unlimited fine or both. The measure was introduced by Alison Johnstone, the Scottish Green Party MSP, as a late amendment to the animal protection bill and accepted by Mairi Gougeon, the Scottish rural affairs minister. More than 22,000 people had signed a petition in support of the change - but the Green Party came under fire for not having proposed the measure earlier in the parliamentary process. Mairi Gougeon said she was "not happy with the manner in which this amendment has been advanced". She added that it "would mean there will no longer be an open season for mountain hares, control of their numbers will need to be done under licence all year round, for permitted purposes, such as preventing serious agricultural damage".

The UK's Joint Nature Conservation Committee told the EU last year that Mountain Hares were in an 'unfavourable conservation status', partly due to a lack of data about their numbers. Up to 25,000 are thought to be shot each year by grouse moor managers and gamekeepers on the grounds that they carry ticks and diseases which harm young Red Grouse, and also feed on heather, shrubs and saplings. A paper written jointly by the late Adam Watson and Professor Jeremy Wilson of RSPB - and SOC Vice-president - was influential in the case for greater protection showing declines in hare populations in the eastern Highlands to around 1% of the numbers in the 1950s. The Werrity Report for the Scottish Government, which recommended licensing of grouse moors last year, also said hares required greater protection. However, moor managers dispute the figures. Sarah-Jane Laing, the chief executive of Scottish Land & Estates, claimed "Mountain Hares are thriving on Scotland's moors. There is clear evidence that the control of hares helps combat ticks and Lyme disease and protect plants and young trees. Balanced wildlife management is key to meeting Scottish Government targets on biodiversity and tree planting."

Stan da Prato

Plate 235. Mountain Hare, North-east Scotland, November 2017. © *Harry Scott*

BOOK REVIEWS

Reviews published here reflect the views of the named reviewers and not those of the SOC.

Cottongrass Summer. Roy Dennis, 2020. Saraband, Salford, ISBN 978-191-223-5889, ebook ISBN 978-191-223-5896, paperback, 165 pages, £9.99.

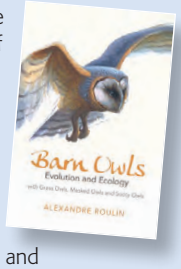
This book gives us some thoughts of a well-known naturalist drawing on his long and active life in conservation. Before my review copy arrived, I popped into Waterstones for a quick browse and was soon hooked. They were unsure whether to shelve it under Literature or Nature Writing, but it is much better than you might suppose from those words. At 165 pages it may look and feel slender, but it should not be under-estimated on that score. The flyleaf has glowing tributes from Sir John Lister-Kaye, Iolo Williams, and Chris Packham; each is well deserved.

It consists of a short introduction and 52 thoughtful two- to four-page essays, grouped in almost equal numbers under the four seasons. The topics covered are very varied, from fauna and flora to farming and the health of our soil. The author started in conservation by helping wardens on Lundy in 1958, Fair Isle in 1959 and Loch Garten in 1960. He later worked for some years for the RSPB, worked a croft in Speyside for 25 years and now lives near Forres, so he has varied and plentiful experience on which to draw, supplemented by travel well beyond Europe. His writing style is a pleasure to read and all the better for not aiming at literary or poetic effects. There is no padding; every sentence clearly makes its valid point, concise yet never terse. He frequently points out interconnections e.g. would bringing back the Lynx harm our few Wildcats or benefit them by reducing species which compete with them for food? Most topics of current concern in the Highlands get a mention, several in some cases. He certainly leaves us in no doubt concerning his thoughts on grouse moors but does not go on at unnecessary length.

If you are pondering a purchase and wondering where to dip in, try Rabbits (p. 88) or Eagle Owls (p. 152), Moles and the soil (p. 157) or the value of mentors for beginners (p. 159). The text often quotes numbers, but there are no tables, graphs or illustrations which will have helped to keep the price accessible. This book should become a classic, so buy your first edition now and keep it by you for re-reading.

John Law

Barn Owls: evolution and ecology, Alexandre Roulin. Cambridge University Press, 2020, ISBN-978-1-107-16575-5, hardback, 314 pages. £44.99 (also available as a Kindle version £23.40)

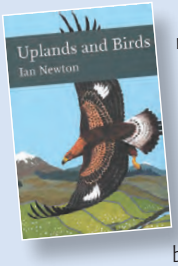


Barn Owls, the most ethereal of owls, can be found in most regions of the world. This new book about them and their relatives (Grass, Masked and Sooty Owls) brings together information from thousands of research papers. Even so, it is not a heavy textbook but reads like a novel. The text is interspersed with beautiful drawings, paintings and photographs. The author, a full professor in the Department of Evolution and Ecology at the University of Lausanne, Switzerland, has published over 240 research papers, the majority on Barn Owls. In this book, he covers all aspects of their biology and ecology, with substantial references for further reading and gives suggestions for future research at the end of each chapter. I particularly liked the conservation chapter being placed first rather than after all the ecology chapters so that it sits in your mind as you go through the book. It is also particularly interesting that the book doesn't just have a small focus on Barn Owls in one country but covers the species' entire, extensive range, due mainly to the author's passion and experiences. This beautifully presented book is for anyone with an interest in Barn Owls, not just for those involved in research. It is a worthy addition to the bookcase.

Hayley Anne Douglas

Uplands and Birds. Ian Newton, 2020. Collins, London, ISBN 978-0-00-829850-0, 598 pages, hardback, £52.99, softback, £27.99.

This is the 142nd *New Naturalist* and Ian Newton's fifth title in this landmark natural history series. Uplands and Birds is a natural follow-up to his *Farming and Birds*, *New Naturalist* 135 (2017 - reviewed in *Scottish Birds* 38(3)) which included a chapter on hill farming. This new title covers all the major upland land uses including grouse moor manage-



ment, Red Deer and deer forests, native woodlands, conifer plantations and rewilding, describing how our uplands' birds have been affected by these different forms of land use. The book effectively sets the scene by describing man's historical relationship with our uplands, as well as the physical and natural processes which have shaped them.

The book sets out some of the land use changes which have occurred during the latter half of the 20th century, including large-scale commercial afforestation, the intensification of in-bye grasslands and changes from cattle farming to intensive sheep grazing. All have had some of the most damaging impacts on our upland birds and their habitats. This has included the conversion of semi-natural upland grasslands to intensively managed grassland with new cultivars, leading to the rapid decline of many of our breeding wader populations such as Lapwing, Redshank, Curlew and Snipe. A whole chapter is dedicated to waders, describing their ecology as well as the factors driving their population declines such as drainage, afforestation and predation.

The book comprehensively addresses the highly contentious issue of raptors and grouse; a subject the author is particularly well qualified to elaborate on, given his extensive work on the population ecology and conservation of raptors. Of particular interest is the chapter on rewilding which effectively summarizes existing attempts at rewilding in Europe and suggests that this alternative form of land use offers a sense of hope for the regeneration of our upland soils and native vegetation.

Although other *New Naturalists* have covered upland habitats (*Mountains and Moorlands New Naturalist* 11 - first edition 1950), this recent edition without doubt provides the most comprehensive and up-to-date synthesis on the subject. As we have come to expect from Ian Newton, the subject matter has been presented with great rigor, clarity and objectivity by one of our most eminent ornithologists and popular scientific writers. There is no doubt that this book will improve your understanding, appreciation and concern for our unique upland environments and the wonderful birds that inhabit them.

Mike Thornton

Also received

New books also received in the George Waterston Library

SOC members can borrow new books by emailing the Librarian (Library@the-soc.org.uk). Whilst the Library itself currently remains closed, books can either be collected from Waterston House during opening hours or can be posted out (UK only, conditions and p&p charges apply).

The Common Buzzard. Sean Walls & Robert Kenward, 2020. Bloomsbury, London, ISBN 978-1-40812-525-0, hardback, 304 pages, £60.00.

Red Sixty Seven. British Trust for Ornithology, 2020. BTO Services Ltd, ISBN 978-1-912-64513-7, hardback, 160 pages, £19.99.

Field Guide to Birds of the West Indies (2nd edition). Allan Keith, Herbert Raffaele, Janis Raffaele, James Wiley & Orlando Garrido, 2020. Bloomsbury, London, ISBN 978-1-472-97950-6, paperback, 288 pages, £25.00.

Britain's Birds: an identification guide to the birds of Great Britain and Ireland (2nd edition). Rob Hume, Robert Still, Andy Swash, Hugh Harrop & David Tipling, 2020. Princeton University Press, ISBN 978-0-691-19979-5, paperback, 576 pages, £20.00.

Birds of the UK Overseas Territories. Roger Riddington (ed.), 2020. Bloomsbury, London, ISBN 978-1-472-97726-7, paperback, 336 pages, £35.00.

Bird Senses. Graham Martin, 2020. Pelagic Publishing, Exeter, ISBN 978-1-78427-216-6, paperback, 270 pages, £30.00.

OBSERVATORIES' ROUNDUP

Observatories' Roundup is a regular bi-annual feature about our bird observatories in Scotland. The intention is to publicise the work of the observatories, visiting opportunities, as well as incidental snippets of news from the islands.

Isle of May Bird Observatory

Despite the huge changes that 2020 brought into our lives, there was some solace that nature carried on, no more so than on the Isle of May. COVID-19 guidelines set out by the Scottish Government resulted in the Isle of May Bird Observatory closing its doors from late March until mid-summer at the same time as SNH (now NatureScot) staff also had to leave the island. As a result, the island had no coverage for ten weeks which spanned almost the entire spring period, the first occasion bird recording had not taken place since disruptions caused by World War Two. Eventually a small number of island staff and researchers returned in early June to commence essential work activities and the bird observatory opened its doors (with much restricted capacity) from 25 July.

During the intervening period between NatureScot staff returning in June and the Bird Observatory reopening in late July, a spell of easterly winds and haar in mid-June brought with them some good birds. Between 14–18 June noteworthy records included two Marsh Warblers (one on 14–16th, and a different bird ringed on 15th), 'Grey-headed Wagtail' on 14th, Icterine Warbler on 15–16th, a singing immature Common Rosefinch on 15–16th, and a Red-breasted Flycatcher on 18 June (the fifth consecutive spring record). The star of the show in terms of colour was an impressive adult male Rose-coloured Starling (part of a national influx) on 15–16 June. This latter bird was the fourth for the Isle of May but came hot on the heels of an adult in 2018. Other birds recorded in this mini-fall included Wood Warbler, Crossbill and a male Black Redstart, whilst Mute Swan records on two dates were island scarcities, perhaps relating to moult movements. One final surprise of a good June involved the trapping and ringing of an adult Greenish Warbler on 25th, only the fifth spring record for the island.

Plate 236. Brambling, Isle of May, 2 October 2020. © *David Steel*

As usual the start of July heralded the beginning of wader passage with the first returning Turnstone from 3rd, Purple Sandpiper from 4th, and Dunlin from 7 July with numbers increasing thereafter. More unusual visitors included 10 Black-tailed Godwits on 17 July and two on 22 August, Bar-tailed Godwits on two dates and Green Sandpiper on nine dates with a peak of three on 13 August. Ruff and Greenshank were recorded on a handful of dates. It is a sad state of modern times that Lapwing records on two dates were regarded as noteworthy, with the species now increasingly rare on the island (less than three records annually). Following a national influx of Wood Sandpipers, a single was recorded over the island on 8 August with another, which took up temporary residence on a small pool on Rona, from 21 August to 7 September (an impressive 18-day stay).

Plate 237. Pink-footed Goose, Isle of May, 1 October 2020. © *David Steel*

The Isle of May is starting to become better known for its seawatching potential, with coverage increasing, and is starting to become part of the mainstream east coast seawatching club. Three figure counts of Manx Shearwater occurred on several dates, with a peak of 306 north on 30 July. The star of that day proved to be a Cory's Shearwater moving east out from Lothian and Fife from the previous day, only the fourth record for the island and first since 2002. A series of north and north-west winds in late August produced noteworthy east coast passage with highlights including a single, pale, juvenile Long-tailed Skua north on 26th, followed by a flock of six including a stunning adult north on 27th, and another juvenile south on 29th August. This busy period also produced peaks of 25 Great Skuas on 26th, 12 Arctic Skuas on 26th and 28th, and four Pomarine Skuas on 29 August to cap a noticeable spell.

Further seawatching brought a record count of Red-throated Divers, with 82 west on 17 September followed by wildfowl passage in early October bringing a record movement of Wigeon on 2 October and a Shoveler - the first in three years. Noticeable movement occurred in late September as a series of northerlies pushing large numbers of Sooty Shearwaters into the southern North Sea. As a result seawatching produced daily totals of 503 north on 25th (third highest-ever island count), 419 north on 26th, and 126 north on 27 September whilst a juvenile Sabine's Gull was recorded as part of this passage on the latter date. Good numbers of Pink-footed Geese were recorded from 6 September (getting earlier each year) with a peak of 2,054 west on 23rd, whilst 'Pale-bellied Brent Geese' were recorded on eight dates with a peak of 27 west on 28 August.

Away from the sea, migration through the island commenced from early August and the month can be fruitful for an early fall if conditions are right - as was the case. Easterly winds from 10 August produced a noticeable arrival including 250 Willow Warblers on 15th, and 350 on 19th, with a good scattering of common migrants including Pied Flycatchers, Sedge, Reed and Garden Warblers. As expected on an east coast island the same weather-front also brought some noteworthy species included the island's third-ever Booted Warbler on 11 August, which showed well all day and could often be seen perched on the picnic table near the South Horn. Other rarities included the second Greenish Warbler of the year from 13–22 August, Barred Warbler from 10–21 August, whilst individual Great Spotted Woodpeckers on 23–29 August were more unusual from an island context.

The month of September had land-bird highlights of individual Great Spotted Woodpeckers on 10th and 15th, a stunning male Red-breasted Flycatcher at the Low Light

Plate 238. Red-breasted Flycatcher, Isle of May, 14 September 2020. © *David Steel*

bushes on 14th, and Little Bunting by the North Horn on 28 September. As usual the month brought the first Yellow-browed Warblers from 16th, with a total of six individuals recorded before the month's end. Unfortunately, the national outlook with COVID-19 saw the return of restrictions and as a result the Bird Observatory was forced to close again with the final group locking the doors and leaving the island on 27 September. They proved to be the last of the bird observatory visitors for 2020, though thankfully some bird recording continued on the island as island reserve staff were present until mid-November.

The first week of October brought a series of direct easterly winds with the prospect of some rare birds. Despite nearby mainland Fife performing well, the Isle of May, unusually, failed to attract a headline grabbing bird, though to its credit did produce a deluge of common migrants including a multitude of Chiffchaffs (peak of 88 on 4th), Blackcaps (peak of 79 on 5th), Robins (peak of 172 on 4th), Skylarks (peak of 61 on 6th), Redwings (peak of 300 on 3rd) and Song Thrushes (peak of 447 on 4th). Other influxes included Jack Snipe, with a peak of 19 on 4th (second highest island count), Short-eared Owl (four on 4th) and Ring Ouzel (peak of nine on 4th). Amongst this major arrival more unusual birds included a Spotted Crake on 4th (only fourth-ever record and first since 2000), Moorhen on 6th (caught in a stored lobster pot on dry land and only the second in eighteen years), Nightjar on 4th, Hawfinch on 5th (4th consecutive year for records but only fourteenth for the island), Little Grebe from 8–22nd (less than annual) and Barn Owl on 9–10th October (only 14+ previous records). More expected arrivals included a Barred Warbler on 3–4th October with daily Yellow-browed Warblers peaking with 16 on 3rd, and 15 the next day, and finally, records of Lapland Bunting over six dates. The final excitement of this period came in the form of a Dusky Warbler, part of an east coast influx on 15 October. This bird proved elusive in its stay near the dam on the island - and was only the fourth island record.

David Steel, Reserve Manager.
Email: david.steel@nature.scot

Fair Isle Bird Observatory

Two things dominated the thoughts of all connected with FIBO during the period - the Obs rebuild and the coronavirus pandemic. As for all of you, spring was massively affected by the COVID-19 situation, with none of the seasonal staff making it onto the Isle until 8 June. Early season birding was therefore limited to what the Warden, Administrator and the other Islanders were able to do under the regulations. The birding highlight from this time was a Song Sparrow, although later in the spring a good run of passage included several Blyth's Reed Warblers, Subalpine Warbler, Red-rumped Swallow, Stone-curlew, Short-toed Lark and Golden Oriole.

Once the seasonal staff arrived, it was full steam ahead with seabird monitoring. An entirely new team consisting of Alex Penn and Daniel Gornall as Assistant Wardens and Georgia Platt as Ranger were hastily trained and sent straight into action. They proved to be a very capable and enthusiastic team and thanks to their efforts and some long days in the field, a large amount of data was gathered from the seabird colonies.

Plate 239. FIBO seasonal staff 2020: (left to right) Daniel Gornall, Georgia Platt and Alex Penn, Fair Isle, June 2020. *© Georgia Platt*

Plate 240. Calandra Lark, Fair Isle, 22 June 2020. © *Daniel Gornall*

It's too early to report exact figures from the colonies as we need to consider how the later start may have affected the monitoring, but the general results were that most species showed relatively stable population levels, whilst it was a good breeding season overall. Shags, Kittiwakes, Arctic Terns and Arctic Skuas all had very productive years, in some cases probably the best since the early 1990s, so it was a generally happy introduction to the seabird work for the new team! Naturally, with the team working flat-out on catching up with the seabird monitoring, a few of the other usual early-season jobs fell by the wayside, so trap repairs and habitat work was fitted in where possible later in the season.

It also turned out to be an interesting summer for breeding birds, with what was probably the highest ever total of species recorded breeding on the Isle. As well as the regular species, there were breeding records of Dunlin, Swallow, Blackbird and Linnet (all four only occasionally nest on the Isle), and Red-necked Phalarope (which has nested annually since 2017). A series of summer occurrences of 'Icelandic Redwings' resulted in three chicks being fledged (only the second breeding record after one in 1935) and a pair of 'Mealy Redpolls' fledged at least four young in the Obs garden, in the first breeding record for the Isle of this species.

Although the seasonal staff missed the bulk of the spring migration, a very impressive run of birding in June from when they arrived meant they at least added some quality birds to their nascent Fair Isle lists. As well as multiple Red-backed Shrikes, Common Rosefinches, Marsh and Icterine Warblers, they were treated to: a singing Citrine Wagtail (present most of the month), Blyth's Reed Warbler (8th June), Rose-coloured Starling (8th, 24th and 30th), River Warbler (9th), Red-breasted Flycatcher (11th), Thrush Nightingale (13th), Greenish Warbler (15th), Green Warbler (16th), Crane (18th, 22–23rd and 29th), Calandra Lark (22nd), Barred Warbler (24th) and a singing Booted Warbler (30th)!

Migration and seabird work merged almost seamlessly into the start of autumn and the team finally got to get to grips with daily census. The autumn started with some nice rarities and scarcities, the pick of the bunch including Western Bonelli's Warbler, Two-barred Crossbill (which landed on stick being carried by the Warden), two each of Arctic Warbler and Thrush Nightingale and the Isle's fourth Mediterranean Gull. There was however, a noticeable lack of common migrants; in August the only warbler to make it to double figures was Willow Warbler on four dates and only one Redstart was recorded. September was hard work at times, with some long spells of unproductive winds. Of course, Fair Isle in September will always have at least some good birds, and so it proved, with White's Thrush, two each of 'Hornemann's Arctic Redpoll', Rustic Bunting, Citrine Wagtail

Plate 241. White's Thrush, Fair Isle, 26 September 2020. © *Alex Penn*

Plate 242. Western Bonelli's Warbler, Fair Isle, 23 August 2020. © *Alex Penn*

and Arctic Warbler and several Little Buntings amongst the highlights. Interestingly, at the end of the month, the year list stood at 195, which compares pretty favourably, considering the lack of spring census, the severely reduced number of visiting birders and the poor September for migration, to the average at the same stage during the previous five years of 197.

It was generally a poor year for butterflies compared to 2019, although Large Whites recorded their best showing in several years. Cetaceans started slowly, but in August there were six species recorded (Minke Whale, Killer Whale, Harbour Porpoise, Risso's, White-sided and White-beaked Dolphins). The most memorable cetacean sighting was a group of 14 Killer Whales feeding along the south coast on 16 June; a spectacular sight and a nice way to end a day that had been full of seabird monitoring and a Green Warbler!

Plate 243. Killer Whale, Fair Isle, 16 June 2020. © *Daniel Gornall*

The Obs rebuild saw a massive amount of work for the staff and directors, with the very good news that the planning application (viewable on the Shetland Islands Council website) was approved. The contract went out to tender in the autumn and it is hoped that enabling works will begin over the winter, with the main rebuild taking place during 2021 and the reopening of the Obs currently scheduled for 2022. We again would like to thank everyone who has supported FIBO during this time, especially the Fair Isle community. Please do visit our website or follow us on Twitter or Facebook to keep up to date on the rebuild and find out how you can help.

David Parnaby, Warden,
Fair Isle Bird Observatory.
Email: warden@fairislebirdobs.co.uk

Building the new Fair Isle Bird Observatory

We have made considerable progress in the rebuilding of the Fair Isle Bird Observatory following upon last year's devastating fire.

Fortunately, we do not have to go back to square one with the building because what we

Plate 244. How the new Fair Isle Bird Observatory will look when completed. © *Visualisation by the architects ICA*

had previously served us very well. We have taken this as an unexpected opportunity to build on that solid foundation. Our aim is to improve where we can but most importantly to ensure that both the resilience of the Obs and that of the Island, for we are an important part of that, is enhanced for the next 40+ years.

Extensive consultations were undertaken with the islanders who are all fully behind the rebuild project. In addition, we also consulted far and wide with all the different persons and groups who use the Obs to canvass their views.

From all of this and in conjunction with our professional team appointed to effect the rebuild we have come up with a new exciting design which we believe will allow us to see our vision come to fruition. Although it will be built essentially on the same footprint, there will be a number of significant improvements.

These will allow amongst other things us to provide dedicated on site research facilities, better facilities for staff and guests, improved opportunities for volunteers and young persons, a more integrated Fair Isle visitor centre, more disabled rooms and a birders' lookout towards our plantation allowing for increased viewing and photography opportunities.

There will be many substantial enhancements to the building itself. These include, for instance, that it will use renewable energy almost entirely, there will be enhanced fire protection measures, insulation properties will be increased, the use of the actual space within the building will be more refined, the spectacular views that surround the Obs will be utilised far more and of course better bar facilities! Overall, we intend that it will be flexible and able to cope with whatever happens in the next 40+ years.

Planning permission has been granted for our plans for the new Observatory but there remains a lot of work to be undertaken to get the Obs rebuilt. Fair Isle offers some of the greatest challenges for any building project in the UK let alone having the additional difficulties that COVID-19 is presenting. We are, however, confident we can achieve a full reopening in 2022.

The ornithological work that Fair Isle Bird Observatory has undertaken over the last 70 years has been world leading particularly in the

fields of the study of migration and seabird breeding. Our datasets for our seabird work are one of the longest in the world and are currently being used for leading climate change studies. The Obs has been a launchpad for many careers in conservation. Let's never forget that Fair Isle is simply a wonderful place to go birdwatching whatever your level of interest may be.

Our aim is to ensure not only does this continue for many decades to come but is improved upon allowing everyone the opportunity to enjoy and benefit from it.

All of this of course comes at a financial cost. Our insurance would cover a disappointingly basic rebuild, but we have high ambitions for the future of the Obs and the island. We are seeking funding from wherever possible including both the public and private sector, charitable foundations, from our own funds and of course our public fund-raising campaign. Can I thank all of you who have donated to it and can I ask you all to spread word of our campaign as far as you can to help us reach our target and make sure our exciting vision is achieved.

Please visit www.fairislebirdobs.co.uk for details of how to donate.

Douglas Barr, Chairman of the Fair Isle Bird Observatory Trust.

North Ronaldsay Bird Observatory

2020 has been an unusual season for all of us, and it was certainly challenging with pandemic restrictions and a notable absence of visitors to the island for the first half. Despite this, a strong warden and volunteer team at NRBO made an excellent season bird wise. A familiar team was arranged with George Gay as principle assistant warden and Rael Butcher and Sara Macías-Rodríguez for the full season; volunteers Phoebe Owen and Gavin Woodbridge during the spring and summer with Dante Shepherd and James Wilson for the autumn, while Daryl Macleod took on the Housekeeper role. The spring was eventful with some good passages, great rarities and the autumn even more so with a dazzling array of common migrants, scarcities and some mega rarities right through - an unforgettable year.

Plate 245. Long-tailed Skua, North Ronaldsay, Orkney, 19 July. © *George Gay*

We would like to thank all the hard effort of the wardens and volunteers as well as the guests who have visited the island this autumn. Now, onto some fantastic bird highlights!

April started slowly, with the first summer migrants appearing by the 6th. One of the rarest birds of the year (in a local context at least) was found on 17 April - our fourth-ever record of Magpie. An exciting couple of days birding on 30 April and 1 May saw the sheltered spots of the island teeming with birds. Another surprise flyover was the island's second record of Spoonbill on 22 May. One of the highlights of the year came in the evening of 1 June with what proved to be Orkney's first Green Warbler trapped (it lingered on until the 8th). A second-summer Mediterranean Gull was an excellent discovery on the 16th. There was much anticipation on 5 July after a phone call from an islander saying they'd seen 'a big white bird' at Hooking which proved to be a breeding-plumaged Great White Egret! A stunning female Red-necked Phalarope delighted a newly arrived volunteer on the 10th, while a displaying Pectoral Sandpiper was found the next day. Unusually, a 2cy Long-tailed Skua was photographed on the 14th, and some 14 individual Long-tailed Skuas were recorded hunting over the fields and grouping on Tor Ness until the 28th - an incredible spectacle including a maximum day count of seven including two stunning adults.

A probable Baltic Gull spent nearly three days on the island between 8–10 August. The 23rd saw our first mega of the autumn in the shape of an extremely smart 'Turkestan Shrike' found near Veracott and spending most of the day and the following one perching on the nearby fences spearing bees before eventually ending up in a mist net in the willows at Ancum, allowing us to collect dropped feathers and a pellet for analysis. The big news on the 30th came from opposite ends of the island almost simultaneously: a *Pterodroma* Petrel was seen heading north from the seawatching hide, meanwhile, an 'Eastern Subalpine Warbler' was trapped in the south. The 31st saw the island set a new national record with Britain's earliest autumn Yellow-browed Warbler in the willows at Ancum; only seen by a couple of observers, they remain the only two people to have seen a Yellow-browed Warbler in August in the UK!

September kicked off rather slowly before roaring into life. The 7th saw the second mega of the autumn in the shape of Britain's fifth and Scotland's second (if accepted) Semipalmated Plover. Initially, we weren't sure, but photos and correspondence with those better informed than ourselves on these tricky transatlantic waders put our minds at ease. The plover was present for four days, eventually leaving overnight on the 11th. An extremely confiding Lanceolated Warbler was around the punds near Trolla on 15th. The

Plate 246. Lanceolated Warbler, North Ronaldsay, Orkney, 15 September. © *George Gay*

Plate 247. Eyebrowed Thrush, North Ronaldsay, Orkney, 5 October. © *George Gay*

island's first Red-throated Pipit in over 20 years at Bridesness was a highly welcome surprise! The good birds continued into the latter parts of the month. 163 Sooty Shearwaters and eight Manx Shearwater were blown out the water by a Barolo Shearwater seen tracking north with a Manx, this was shortly followed by a Fin Whale.

October started in a style that surely we couldn't keep up - could we? A fall of migrants on the island included another Red-throated Pipit and the island's second-ever and very long-awaited record of White's Thrush! Trapped in Holland in the morning, it was definitely a phone call I enjoyed taking! If the 1st was good, the 2nd had a lot to live up too. Not only did it match it, it smashed it for six! With the White's Thrush still present, the day totals of many species were impressive. If that wasn't enough, the discovery of the island's third Eyebrowed Thrush at Greenspot put a simply outrageous headline on a superb day of birds. The subsequent days were hectic and filled with the joys of autumn.

It feels wrong to be brushing over some of the 'commoner' birds seen, but I'd be writing for hours if I didn't because this autumn was just impossibly good. The ridiculous Red-throated Pipit autumn continued with new birds found in East Loch Park, Westness, and Kirbest. Another crazy arrival was of Rustic Buntings with at least three birds present and probably four. The Eyebrowed Thrush remained a focal point throughout this period and presented an opportunity for a few twitchers to connect with this sought-after Sibe. An early Pallas's Warbler was a welcome surprise, as was the Spotted Crake found in the irises around Garso in driving rain on the 6th. The 7th was just as good and the discovery of another sought after Northern Isles speciality and one that has been overdue here for a while now in the form of a Pallas's Grasshopper Warbler. A simply outrageous find and one that quite a few folk present at the time had on their most-wanted lists! The 9th saw the Eyebrowed Thrush leave the island after nearly a week of entertaining us and general mass exodus of some migrants, however another Red-throated Pipit at Rue posted our sixth individual of the autumn, a beyond ridiculous total. More overnight departures meant there was a gap to be filled and this task was taken up by a rather elusive Buff-bellied Pipit, seen well by the finder and two other visitors, it waited until the rest of the obs staff were within sight before performing a highly unwelcome bunk. Thankfully, this was short lived with the bird being relocated in practically the same spot the next afternoon, a welcome relief to everyone!

For enquiries about staying at the observatory, please email Alison Duncan: alison@nrbo.co.uk

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George Gay,
North Ronaldsay Bird Observatory.
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Plate 248. Hudsonian Whimbrel (between Oystercatchers), Dunnet Bay, Caithness, 3 May 2020. © *Sam Langlois-Lopez*

Hudsonian Whimbrel, Dunnet Bay, April–May 2020 – first record for Caithness and mainland Scotland

R. HUGHES & N. O'HANLON

We are fortunate to have Dunnet Bay on our doorstep for our lockdown exercise. On 18 April 2020, we decided to go birding to the end of the battery track, between Castlehill and Murkle on the southern side of the bay. At the end of the track, we stopped for a scan. I was scanning the sea with the scope, whilst Nina was scanning the coastline with bins. Nina was calling out what was flying towards us, two Sand Martins followed by two Whimbrel (which we had heard calling before they came into view). As the Whimbrel were just coming in front of us, about 30 m away, I also got on to them. As they went past, we simultaneously said something along the lines of "that second bird doesn't have a white rump".

It was a concolorous, looking brown including the underwings, looking different to the 'normal' Whimbrel next to it. They continued flying around the corner joined by another Whimbrel and out of view. Having seen Hudsonian Whimbrels in Costa Rica about a month ago we knew it looked and felt like a Hudsonian, but we knew we were lacking a full set of features with views so brief, and no photo. We shared the news between a small group of locals that might have a chance of relocating the 'probable' Hudsonian Whimbrel if it dropped into the bay, but having walked back along the coast we didn't hold out too much hope.

Over the next few mornings, Whimbrel numbers continued to build, with high counts of 75+ in Dunnet Bay, 45 at Rattar and 30+ in Thurso Bay but no sign of any 'non-white-rumped birds.' Though on the 29th, possibly from a similar part of the world, Julian Smith had a summer-plumaged Pectoral Sandpiper at St John's Pool just down the road, which was encouraging.

Skip forward to the morning of 2 May, we were heading out along Dunnet beach to get better views of the large number of waders feeding on the washed-up seaweed. We hadn't long got onto the beach when Whimbrel started calling

behind us. Two, no three no five birds were heading towards us as we picked up more. Nina said, "that fourth bird", completing the sentence I said, "doesn't have a white rump". The birds had now grouped together, knowing it was game on for Hudsonian Whimbrel, loaded up on revision we were able to confirm all the features as it cruised around us and headed inland. In noting the features, we were missing the last piece of the puzzle, a photo. Luckily, Sam Langlois Lopez timed his exercise walk from Castletown to the bay perfectly, managing to see the Hudsonian Whimbrel and photograph it as it took off in late afternoon. Sam's photos show the bird looking paler than it was in real life, leading to suggestions by some birders online that it may be an eastern *variegatus* Whimbrel. However, the bird was actually a warmer brown overall, more typical of Hudsonian Whimbrel. With the bird flying inland, it may have been heading to one of the regular passage Whimbrel feeding areas and using the bay to roost. However, with being in lockdown we couldn't check these sites.

It's not often you get a second chance to confirm a record like this - we thought it was written off, especially with limited opportunity to re-find it. We feel very lucky to have this bird so close to the house and we are grateful to Sam for getting some images.

Rob Hughes & Nina O'Hanlon,
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Hudsonian Whimbrel status in Scotland

This Nearctic species breeds in tundra habitat from coastal NW to NE Alaska to coastal North-west Territories and along river basins of central Alaska and western Yukon Territory, with a separate population along the southern edge and west side of Hudson Bay. It is entirely migratory and winters along coastal edges of California and from North Carolina south through Central America and the west side of South America to Punta Arenas and the east side to SE Brazil.

There have been 11 accepted records of Hudsonian Whimbrel in Britain to the end of 2018, with six of those in Scotland:

1955 Fair Isle, one, Malcolm's Head, 27–31 May
1974 Shetland, one, Out Skerries, 24 July to 8 August
2007 Fair Isle, adult, Buness, 29–31 August
2009 Outer Hebrides, 1cy, Bornish, South Uist, 12 September
2013 Shetland, 1cy, Mid Yell & Whalefirth, Yell, 30 September to 2 October.
2019 Outer Hebrides, Hirta, St Kilda, 1cy, 7–15 September

There are also four records in Ireland - Co. Kerry, 1957, Co. Wexford 1980, Co. Cork 2011 and Co. Sligo in 2017.

The Scottish records group into two discrete periods, with one in spring and five in a more protracted 'autumn' peak of find dates from 24 July to 30 September. This pattern is broadly mirrored by the other British records, with one in 'spring' at Goldcliff Pools, Gwent on 6–7 May 2000, and presumed same there on 3–4 May 2002; two in 'summer': a second-calendar-year bird at Walney Island, Cumbria on 14 June to 19 August 2007, and an adult at Church Norton & Pagham Harbour, Sussex from 9 June to 27 July 2015; and two in autumn: a juvenile on St Mary's, Isles of Scilly on 5–28 September 2008, and a juvenile on Tresco, Isles of Scilly on 15–19 October 2015. The latter bird is also presumed to be the individual seen overwintering at Marazion and Perranuthnoe, Cornwall from 30 October 2015 to 30 April 2016 and at Marazion/ Perranuthnoe again (as an adult) from 30 June 2016 to 8 April 2017. The four Irish records were all found in a narrow autumn window from 3 September to 20 October.

The longest-staying bird in Scotland is the 1974 Out Skerries individual which was seen for 15 days, whereas birds in England since 2002 have all been long-stayers, remaining at the site of discovery for a minimum of 24 days, while the two instances of over-wintering have seen birds present for 184 days and 283 days respectively. Taken overall, this suggests that most birds probably arrive in autumn, typically in Ireland and the north of Britain, and then quickly move south along with other migrating shorebirds to wintering areas in southern Britain, Europe or beyond. Sightings in spring may (mostly) be attributable to birds migrating north that had been displaced to Britain/Europe the previous autumn.

Terek Sandpiper, Musselburgh, 25 May 2020 – first record for Lothian

D. ALLAN

At 08:00 hrs on 25 May 2020, I visited the mouth of the River Esk to look for and count any Ringed Plovers. I quickly located some out in the estuary. It was during the count that I spotted a side profile of what could only be a Terek Sandpiper, but could get no detail other than a silhouette. I quickly moved some 300 m along the sea wall but couldn't find the bird at first and wasn't even sure exactly where I'd seen it. I searched for 10 minutes or so and was beginning to think I had been mistaken or it had flown, when I spotted the bird on the estuary some 150 m away. It was indeed a Terek Sandpiper. I could see that Ian Andrews was several hundred metres further along the sea wall. He quickly picked up on my excitement as I waved him along and it wasn't long before he joined me.

Plate 249a–b. Terek Sandpiper, Musselburgh, Lothian, 25 May 2020. © *Ian Andrews*

Having nothing to compare the size against directly, I would estimate that the bird was larger than a Common Sandpiper and smaller than a Redshank. The unmistakable bill was long and upturned and appeared all black and blunt at the tip, although when observed carefully there was a hint of dull yellow near the base. The upperparts were generally grey/brown with obvious black lines along the scapulars. In flight, the white trailing edge to the wings and pale grey upper tail were visible (Plate 249a). The underparts were predominantly white with a fine pale grey streaking on the neck and upper breast. The head was quite round in appearance with a whitish supercilium and darkish lores and line behind the eye. The legs were bright golden yellow/orange.

When first found, the bird was quite wary and not terribly active - it had probably just arrived, as the tide had not long receded. It became more mobile as the day went on and at times moved to the side of the river nearest to us. The bird became increasingly active and fed in a rather Common Sandpiper-like fashion, stretching its head out in front of it collecting food, sometimes running in short bursts and occasionally bobbing its tail. A trisyllabic call was heard a few times and it also sang on several occasions. The song — a repeated *crroo-a-rree* — was strangely reminiscent of a Stone-curlew.

The bird was ringed on its right leg, but unfortunately no details could be made out. The bird left the river mouth as the tide rose in the afternoon and moved to the wader scrapes at 16:20 hrs (as I hoped it might) and stayed there until at least 20:30 hrs. There was no sign of it early the following morning.

Dave Allan, Edinburgh.

Plate 250a–b. White-chinned Petrel, Scapa Bay, Orkney, 25 May 2020. © *Robert Foubister*

White-chinned Petrel, Scapa Bay, Orkney, 25 May 2020 – first record for Scotland and the Western Palearctic

R. FOUBISTER

On the morning of 25 May 2020, during lockdown, I went for a local walk at Scapa Beach to look for some Grey Wagtails and as usual keep an eye on the sea for any cetaceans. As I was heading back from my walk, I had a quick scan of the bay with my binoculars when I spotted something unusual in the sky. I noticed a large black bird over Scapa Flow with its white beak glinting in the sun and thought that looks different from the regulars in the area. The beak was almost eagle-like in the way it stood out, but I knew it wasn't a bird of prey and was more likely a skua or other seabird of some description. It was about 07:30 hrs when the bird first appeared. It headed north along the east coast of Scapa Flow just below Gaitnip Farm and then made its way across Scapa Bay to the west coast of the bay and then up over Lingro Farm where it gained some height circling above the fields. It was at this point I started thinking there was definitely something very different about this bird due to the strange flying style, its noticeably long black wings and the unusual white beak.

The bird then started to head east again back over Scapa Bay, a little bit closer this time, allowing me to get some photos, and then up over the hill towards the airport where it disappeared from sight. There was a south wind on the day, and this was the direction the bird had first appeared from, so I guess it came into Scapa Flow on the wind and used it to glide west then east across the bay while gradually heading north at the same time while keeping one eye on the sea. It was only viewable for a couple of minutes as it criss-crossed the bay.

After reviewing a picture on my camera, I noticed the tail was very skua-like so decided it was just a skua so not that unexpected or important!

I then carried on walking and was lucky to find a Golden Oriole about an hour later and thought that's the great find for the day. After I got home and had a cuppa, I uploaded the oriole pictures onto my local birding group on Facebook and thought I will just add my "other" bird so I could get an ID for it. Within a few minutes of posting the pictures, a couple of local birders - Alan Leitch and Paul Higson noticed it as something rare and started asking questions about it. They got the word out and there were a few email and online discussions on what the bird was before a positive identification was made.

I had never even heard of a White-chinned Petrel, so I am just glad I took some pictures so that a positive identification could be made. Social media definitely played a huge part in that process. I feel very lucky to have discovered something this rare and it probably hasn't sunk in just yet, but I am pleased and proud to get this first record of the species for the Western Palearctic, UK and especially Orkney. I would like to thank all those who helped with the identification of the bird, and to record the sighting, and everyone who sent messages of congratulations as well.

Robert Foubister, Kirkwall, Orkney.

Plate 251. White-chinned Petrel, Scapa Bay, Orkney, 25 May 2020. © *Robert Foubister*

White-chinned Petrel status in Scotland

This species has a circumpolar breeding distribution in the Southern Hemisphere, with breeding colonies south of 45°S on the Falkland Islands, South Georgia and associated islands off South America, the Prince Edward Islands south of South Africa, the Crozet and Kerguelen Islands in the Southern Indian Ocean and the Auckland, Campbell, Antipodes and Macquarrie Islands south of New Zealand. Non-breeding birds disperse widely in sub-Antarctic waters between 30°S and 55°S and off the west side South America in the Humboldt Current north to about 6°S, with a preference for continental shelf waters rather than deep pelagic habitats (Harrison 1983).

This amazing sighting will be the first record for the Western Palearctic, with the only other accepted records in North Atlantic waters, being of a weak bird found close inshore in the Gulf of Mexico off Galveston County, Texas, USA on 27 April 1986 (Howell et al. *2014) and one photographed during a whale-watching trip offshore from Bar Harbour, Hancock County, Maine, USA on 24 August 2010 (Howell* et al. *2014, Persons* et al. *2015).*

This is a large, all-dark petrel which is notably bigger than the larger shearwaters generally encountered in North Atlantic and North Sea waters (length 51–58 cm, wingspan 1.3–1.5 m c.f. Sooty Shearwater at length 41–46 inches, wingspan 0.9–1.0 m), with the pale ivory-coloured bill lacking darker markings and the paler bases to the undersides of the primaries being the major features in distinguishing it from its other/close relatives (especially those in the genus Procellaria*).*

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Plate 252a–c. Black-and-white Warbler, Aithsetter, Mainland, Shetland, 28 May 2020. © *Kay Adamson*

Black-and-white Warbler, Aithsetter, 28 May 2020 – second record for Shetland and Scotland

K. ADAMSON

We live at Aithsetter, between Cunningsburgh and Fladdabister on Mainland Shetland. I had been in the kitchen preparing lunch for my husband that day (28 May 2020) and went over to the window and looked out - we have fuchsia bushes in front of our kitchen window, and I noticed a bird come flying right into the bush in front of me at the same time my husband was coming up the footpath. Its colouring and marking got my attention, so I motioned him to come quietly (which he did). Luckily, the bird didn't fly away but moved onto another bush near to our door. My husband, Stan, arrived quietly at the door, and I asked him to take some photos as I had never seen a bird like this, and thought I could show them to Jim Nicolson or my brother-in-law to see if they could identify it. I wish I had rung Jim straight away when I found out it was rare. Even though the photos aren't as clear as we would have liked, Jim says you can still tell what the bird is. Sadly, the bird did not linger and was not seen again.

Kay Adamson, Cunningsburgh, Shetland.
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The photographs indicate that the bird was an adult male in breeding plumage. An adult in breeding plumage due to the intensely black colouration in the wings and tail - a first-summer bird would show fading in these feathers giving them a contrasting brownish tone. The black lores, throat and ear-coverts are indicative of it being a male, whereas a female would show white in the lores, and throat, and pale ear-coverts with only darker flecks or a grey wash. (*eds*)

Black-and-white Warbler status in Scotland

This Nearctic species breeds from the northernmost Rocky Mountains eastwards south of Hudson Bay to Quebec and Newfoundland, south into the Great Plains of Wyoming and South Dakota, east through the Great Lakes to the Atlantic coast, and south through the eastern half of the USA. It is entirely migratory and winters from coastal to Florida, SW Louisiana, and SW Texas across Mexico to southern Baja California and south through Central America and the Caribbean to northernmost South America and south to northern Peru and westernmost Brazil.

There have been 14 accepted records of Black-and-white Warbler in Britain to the end of 2018, with one of these (the first) in Scotland – one found dead at Vatster, Tingwall, Mainland Shetland in mid-October 1936. The corpse is in the National Museum of Scotland Collection Centre, West Granton, Edinburgh (specimen NMSZ 1936.84).

The other records are predominantly from SW England, with five from the Isles of Scilly (1975, 1977, 1996 [2], 2011); two from Cornwall (1982, 1983); two in Devon (1978, 1987); plus one on Skomer, Pembrokeshire in 1980; one in Sussex in 1996, and two in Norfolk in 1985 and 1996. Apart from one at Tavistock, Devon on 3 March 1978, and one at How Hill, Norfolk on 3–15 December 1985, all the records have been found in autumn between 1 September and 9 November. The latter being an individual found in Norwich, Norfolk which stayed to 15 November 1996. It was unusual in that like the earlier Norfolk record in 1985 it was far inland, not close to the coast. Remarkably four of the 14 records were found in autumn 1996 (2 October to 9 November), while there has only been one since, on St Mary's, Isles of Scilly on 17–21 September 2011. There have been two records in Ireland to the end of 2017: one at Cape Clear Island, Co. Cork on 18 October 1978, and one at Loughermore Forest, Co. Derry from 30 September to 2 October.

Lesser Grey Shrike, Auldhame, June 2020 – third record for Lothian

N. MACIVER

On 17 June 2020, I was driving south along the A198 out of North Berwick towards Auldhame and had just passed the entrance to Tantallon Castle when I noticed a light-coloured bird on the telegraph wires out of the corner of my eye. As I drove further along the road, my immediate thoughts were that it was something different, and worthy of a second look. Thankfully, after turning round, the bird was still sitting on the wires about 20–30 m to the west of the road. I always carry my camera and binoculars with me when I'm working, so even on first look I could see it was a grey shrike and managed to take a photo before it flew further away. I put the news out (with a back-of-camera shot) onto the local birding grapevine as a Great Grey Shrike. I can only imagine the thoughts of the experienced local birders when they saw the photo, but within seconds Martin Scott was the first to reply that the bird was a Lesser Grey Shrike. I kept sight of the bird until a few local birders turned up to view it.

The bird favoured a 500 m stretch of telegraph wires north of Halfland Barns for most of its four-day stay and only once was it reported perching on a Hawthorn bush. It successfully caught prey by flying down to the ground and catching insects (presumably beetles) and a small mammal on one occasion.

The haar made it difficult to see the bird at times, but it was probably the cold north-easterly and poor visibility that prolonged its stay in East Lothian. As soon as the weather changed, the bird was not seen again.

Plate 253. Lesser Grey Shrike, Halfland Barns, Auldhame, East Lothian, 17 June 2020.

The shrike was identified as an adult Lesser Grey Shrike based on the following features:

- Solid black face mask extending from behind the eye onto the forehead and fore-crown. There was some pale mottling above the bill.
- The mantle, nape and rear crown where plain pale grey.
- The belly and breast were pale with a distinct pink flush. The throat and chin where white.
- The wings were black, except for extensive areas of white at the base of the primaries which were obvious at rest and, particularly so, in flight.

Somewhat surprisingly, this was only the third Lesser Grey Shrike record for Lothian. The previous sightings had been on wires near Whitekirk on 10 June 1967 (Allsopp & Allsopp 1968) and at Aberlady Bay from 29 August to 11 September 1971 (Mackenzie *et al.* 1972). Whitekirk is only 3 km from Tantallon.

Woodchat and Lesser Grey Shrikes hadn't been seen in Lothian since 1967 and 1971 respectively, so recent sightings of both (in 2018 and now 2020) were appreciated by local birders.

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Neil MacIver, Haddington, East Lothian.
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Plate 254. Green Warbler, North Ronaldsay, Orkney, 3 June 2020. © *George Gay*

Green Warblers in Scotland during June 2020

G. GAY & D. PARNABY

In a remarkable spring for rare/scarce birds from Eastern Europe occurring in higher than usual numbers in NW Europe and eastern Britain, Scotland was graced by a notable influx of Blyth's Reed Warblers, Marsh Warblers and Rose-coloured Starlings. However, most unexpected of all was the discovery of two Green Warblers - a species only recently added to the Scottish List, but already suggesting it could become regular.

Green Warbler, North Ronaldsay, 1–3 June 2020 - first record for Orkney

A couple of quiet days at the end of May 2020, accompanied by good birds on neighbouring islands had left us feeling a bit dejected, but the following afternoon, 31 May, would brighten our moods a bit with a singing Marsh Warbler found. Another Marsh Warbler was trapped and ringed at Holland House the next evening, and a female Red-backed Shrike was found further up the island, at North Manse, all of which had served to considerably heighten our spirits.

Having opened the nets in Holland House garden things were running along at a steady pace, I'd caught the new Marsh Warbler as previously mentioned, a Siskin and a couple of fledgling birds. At about 20:30 I noticed a *Phylloscopus* warbler flicking around in the Sycamores adjacent to the house. Having heard a Willow Warbler calling deeper in the Fuchsia jungle, and seeing it had a fairly yellowy wash in the brief view it gave, I didn't really think any more of it and hoped it would end up in a mist net.

Fast forward an hour, and after completing a net round I noticed a small *Phyllosc* in the bottom of the net nearest the house. On approach I could see that the underparts and face had a bright yellowy wash to them, in all honesty I expected it to be a Wood Warbler. While extracting the bird, it became apparent the bird had a wing-bar! At this point you always get a sudden panic of "this is something decent, don't drop it!" With the bird securely manoeuvred into a bag, I wandered back to the

ringing hut, phoned down to the obs, across to Lurand, tried Peter Donnelly's mobile but it never rang (he did eventually see it!) and then began to process the bird.

The yellowish wash was probably the most striking thing about the bird, otherwise it mostly seemed to fit the bracket for being a bright Greenish Warbler, however, something did stick out as being not quite right with that, but not being able to put a finger on it, identification as a Greenish Warbler seemed sensible and most likely with the recent influx occurring nationwide.

So, this was great, our first spring record of Greenish Warbler for North Ronaldsay and as previously stated, with birds occurring further south, it made sense. Once other staff arrived it became clear that everyone felt the bird was bright. Rael Butcher was very quick to suggest the possibility of the bird being something a bit special, and Gavin Woodbridge used some unrepeatable and rather colourful language at the sight of the bird.

This prompted a quick do-over of the bird's biometrics:

Wing length of 65 mm.

P2=7/8 and emarginated strongly on the 6th primary.

Plate 255. Green Warbler, North Ronaldsay, Orkney, 3 June 2020. © *George Gay*

Plate 256. Green Warbler, North Ronaldsay, Orkney, 3 June 2020. © *Gavin Woodbridge*

A lot of these data points to the bird being a strong candidate for a Green Warbler, but still in the realms of an odd Greenish; so, we continued to err on the side of caution. By this point, the bird had been held for long enough, we had plenty of photos and even some dropped feathers for DNA analysis once the guys at Aberdeen University were back up and running, so it was released - flying off and perching in some *Rosa rugosa* before vanishing into the dense garden.

Once the pictures hit social media it was time for people to voice opinions on the bird, as they so often do. The consensus was almost as we'd expected, falling on the Green side of things, but as we all know it's much easier to make throwaway comments over Twitter and Facebook than it is to actually claim a potential sixth for Britain!

The bird was re-trapped the following day (3rd) after giving terrible views in the field for those lucky enough to catch snatches of the green flash as it darted between perches.

After the recapture another set of biometrics were taken this time by Alison and Gavin and this time in a little more in depth, which added the following:

Tail = 52 mm, bill to skull = 14.2, bill depth = 3.0, bill width = 4.0.

P1 = +3.5, P2 = -10, P3 = -8, P4 = 0, P5 = -0.5, P6 = -6, P7 = -9, P8 = -11.

These biometrics gave us a better grasp on what we were dealing with, and certainly pointed more strongly towards the bird being a Green Warbler.

At this point all we could try and do was to see the bird in the field to get notes on feeding actions, jizz and general in-the-field characteristics. This proved to be more difficult than we might have hoped or imagined, with the bird often being elusive and unwilling to co-operate. From limited views, all we could really observe was a very deliberate, almost lethargic, feeding action, with items often taken from a base perch. The overall bright yellowy-green wash to the bird was far more apparent once the bird was in the thick Sycamore cover, almost looking like a Wood Warbler. So, with all that said, we'll be playing a waiting game now to see what the DNA analysis has in store for us, and for now the beers are still in the fridge.

George Gay, North Ronaldsay, Orkney.
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Green Warbler, Fair Isle, 16 June 2020 - second island record

Early June was a frantic time of seabird monitoring on Fair Isle, with the early indications being it will be a good season for many species, with plenty of small fish being brought in (we will have more updates on this in the next Observatories' Roundup in *Scottish Birds* 41:2). It was also turning out to be a splendid extended spring migration season, with a series of glorious sunny days and south-easterly airflows bringing a variety of migrants. Highlights from 1–15 June included River Warbler, Thrush Nightingale, a singing Citrine Wagtail, Greenish and Blyth's Reed Warblers, Nightingale, two Rose-coloured Starlings, Red-breasted Flycatcher and a scatter of Marsh and Icterine Warblers, Red-backed Shrikes and Common Rosefinches.

Recent years have seen 16 June develop a really good reputation for a 'last hurrah' of the spring, with Eastern Olivaceous and River Warblers in 2019, Serin in 2018, Woodchat Shrike in 2017 and Paddyfield Warbler in 2013, so we were hoping to keep that record going, especially given the light easterly wind. Some early morning birding and ringing had produced a few new common migrants, including Spotted Flycatchers, Lesser Whitethroats and Garden Warbler before the attention switched to seabirds after breakfast. A Guillemot population count was the first task, followed by a visit to the Fulmar

Plate 257. Green Warbler, Fair Isle, 16 June 2020. © *Alex Penn*

population and productivity plots. The plan was then to meet up in the North Haven to enable the whole team to go and monitor the Arctic Tern colony on Buness.

With the temperature steadily climbing (it would go on to reach 15 degrees; the peak for the year) and with the team having been putting in some long shifts in recent days, I felt 'elevenses' on the beach at North Haven was a necessary part of the work programme for the day. Having mapped the Fulmars at South Ramnigeo, had a quick check on the Shag and Kittiwake plots at Johnny's Peats and made a rough count of nesting gulls on Goorn, I took ice cream orders from the team and headed to Stackhoull Stores whilst they continued checking other seabird plots.

Any visit to the shop on Fair Isle should involve checking Vaila's Trees, a small planted area that regularly holds migrants, and so I had a quick look. There were a few bits moving around and I picked up Blackcap, Whitethroat and Chiffchaff before an unstreaked *acro* disappeared into a patch of *rosa*. Whilst trying to refind this a couple of *phylloscs* pinged through the garden, with one being a worn adult Chiffchaff that had been on the Isle a while, but the other being a bit more of a puzzle. It was being incredibly difficult, with initial very brief views suggesting a bright bird. Willow Warbler was the first thought on what were largely flight views, a glimpse of a yellow face and bright green mantle briefly suggested maybe Wood Warbler, but eventually a couple more split-second sightings showed a wing-bar.

I was fortunate enough to trap a Green Warbler on Fair Isle in spring 2017, which proved to be a really educational bird as it was a rather dull individual, so I realized that the combination of these bright colours, well-marked face and wing-bar could only really add up to that species. My main worry was that the previous day, I had trapped and ringed a Greenish Warbler a few hundred yards away at Schoolhouse. The Greenish had been seen briefly by Assistant Warden, Dan Gornall, near the School, I'd opened the net in the garden for about ten minutes, during which time it was caught, but it was not seen again in the field.

Plate 258. Green Warbler, Fair Isle, 16 June 2020. © *Alex Penn*

Having known that it was an exceptional spring for Green Warbler in north-west Europe, and being aware that the dullest Green Warblers can easily approach a bright Greenish Warbler, I had carefully checked for that species and was happy that I'd caught the commoner of the two. It seemed a pretty big coincidence though and I started to wonder whether the bird I was watching now (or trying to watch) was actually that bright, or had I been fooled by the briefness of the views and reflections of colours from the foliage - surely this would turn out to be yesterday's Greenish?... I messaged the team to say I was delayed chasing a wing-barred *phyllosc* so they'd have to wait for the ice cream (rather than sit on the beach in the sunshine waiting for me, they'd started digging rose bushes - they're a keen bunch!).

Finally, around an hour after the first sighting, the warbler hopped onto a fence panel long enough for me to grab a quick image. I was delighted to see it wasn't ringed, so it wasn't yesterday's Greenish! The photo also showed the other relevant features; a very yellow face and supercilium, a strong wing-bar, bright green upperparts, a fairly long primary projection and a 'beaky' look, that I'd noticed in my brief views so far. So, all the things I'd thought I'd seen were actually there and they all added up to a safe identification of Green Warbler. Nice!

Plate 259. Green Warbler, Fair Isle, 16 June 2020. *© Daniel Gornall*

The team were soon on the scene after I relayed the news to them, and a few other people came to twitch it as well (although it was a nervous wait for Deryk Shaw who had missed the previous Fair Isle record and was crewing on the *Good Shepherd IV* when this one was found; luckily it waited for him!). Shortly after people arrived, it began to be a bit more active, flycatching a couple of times and perching briefly in the open. It was noticeably harder to make out the colours when the bird was in the direct sunlight and it could be difficult to make out much yellow below. However, once it dropped back down onto the fence in the shade the true colours (and structural differences) could be appreciated. The unstreaked *acro* glimpsed earlier also started to sing, revealing itself as a Marsh Warbler, and another magical Fair Isle day seemed to be complete. Except, there was still time for monitoring the Arctic Tern colony, where the first chicks of the year were found, some Bonxie monitoring, the first spring Scaup for the Isle since 2011 and then a fantastic display from 14 Killer Whales hunting seals in the South Harbour. That, finally, was the end of a fantastic day, although it turned out not to be the end of the spring migration, with highlights later in the month including Calandra Lark, singing Booted Warbler and a fine adult Barred Warbler.

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Green Warbler status in Scotland

*This taxon (*Phylloscopus nitidus*) was previously considered to be a subspecies of Greenish Warbler, but was formally elevated to species status by the BOU in 2009 (Collinson* et al. *2003, Knox* et al. *2008, BOU 2009), as later was Two-barred Greenish Warbler (*P. plumbeitarsus*), with Greenish Warbler now considered as comprising (*P. trochiloides *with subspecies* trochiloides, ludlowi, obscuratus *and* viridanus*).*

Green Warbler breeds from northern Turkey through the Caucasus to Uzbekistan. The entire population is migratory and winters in the southern part of the Indian peninsula.

There are six previous accepted records of Green Warbler in Britain:

1983 Isles of Scilly, first-winter, St. Mary's, 26 September to 4 October.
2014 Shetland, adult, Ristie, Foula, 31 May to 4 June
2016 Shetland, adult, Baltasound, Unst, 12–15 May (DNA analysed)
2017 Fair Isle, adult female, 4–7 July (DNA analysed)
2018 Devon, first winter, Lundy, 7 October 2018
2019 Cornwall, adult. Lizard Village, 10th June (DNA analysed)

The find dates of the North Ronaldsay and Fair Isle birds both fit within the existing spring window (12 May to 7 July) in which this species has been seen in Britain. As stated in the write-up in the September 2016 issue of Scottish Birds *for the Green Warbler at Baltasound, Shetland, 12–15 May 2016 - "we should be examining every spring Greenish Warbler closely from now on!"*

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Plate 260. Serin, Collieston, North-east Scotland, 16 June 2020. © *Laura Goodwin*

Serin, Collieston, 15–17 June 2020 – first record for North-east Scotland

L. GOODWIN & D. SHORT

Our (LG's) garden sits in a relatively elevated position, approximately 2 km west of the village of Collieston in coastal Aberdeenshire. It is bounded on three sides by farmland and to the west lies the north-eastern boundary of Forvie National Nature Reserve. The garden is informal and wildlife friendly, comprising thickets of shrubs such as Buckthorn, Hawthorn and honeysuckle and a number of mature trees including Elder, Sycamore, Whitebeam and willows. A small wildlife pond and bird baths, as well as a steady supply of sunflower hearts and peanut kernels supplemented by fat balls and fruit as the seasons dictate, result in the garden being a handy 'service station' for migrant birds or waifs and strays that find themselves in need of a bit of rest and recuperation time during their long journeys. Notable sightings in the garden over the years have included Grey Wagtail, Hawfinch, Lesser Whitethroat, Red-backed Shrike, Ring Ouzel and even a Red-billed Quelea!

After a prolonged period of fair weather, the morning of 15 June 2020 found the area enveloped in the dreaded haar that ruins many a plan for a fine summer's day in the north-east. Around 10:00 hrs, my eyes were drawn to a group of juvenile Goldfinches and Tree Sparrows feeding on sunflower hearts just outside the kitchen window. Feeding alongside them was a small finch that on first glance I thought was either a juvenile Yellowhammer or Siskin. It was a cocky wee bird, flicking its tail up and holding its own in the quest for food amongst the feisty Goldfinches. With its yellow- and buff-striped breast feathers it fitted in rather well alongside its young feeding companions. Most notable though was its bright yellow rump, its flash of golden yellow providing a ray of sunshine on such a dull day. My camera was close by, so I grabbed a couple of photos before I had to head out.

Upon my return an hour later, the hungry visitor was still there, but the birds had moved to possibly the worst location in the garden for photography. Salt air, haar and dirty windows didn't help either. Now you might have guessed by now, but I'm a novice birder, but an image search on the internet led me to the European Serin. Given the description of where the species was usually found, and after some lively in-house debate, I thought this identification was going to be an extreme long shot and best I contacted Daryl Short, Nature Reserve Officer at the Forvie NNR, for a second opinion. Daryl replied immediately upon seeing the photographs with "Blimey - Serin it is! Is it still there?" Now I was starting to get excited.

It was confirmed to me then that this was the first Serin sighting for the region, and one of only a small number of sightings in Scotland as a whole. Of course, we were still at the height of the COVID-19 lockdown and, with social distancing and travel restrictions in place, only a small number of enthusiasts who lived very locally, within five miles of my home, were able to come and view the Serin. Those who did were able to observe and photograph the bird at the feeder and in the shrubbery until a Sparrowhawk flew through the garden, alarm calls were sounded, and not a bird was to be seen for hours thereafter.

The following morning and the haar was ever present. I became downhearted when there was no sign of the visitor by 07:30 hrs, when the rest of the garden birds arrived to be fed. Then, just before 10:00 hrs, it appeared beneath the feeder where it continued to feed alongside the finches and sparrows for a few hours. The light was extremely poor for photography, but I managed to capture some short pieces of video footage that showed the Serin at relatively close range.

On 17 June, the haar seemed to be lifting. This was to be the final sighting of the Serin which, perhaps sensing the impending break in the weather, arrived earlier than normal at 09:50 hrs for a quick feed before taking flight. No further sightings were made after 12:35 hrs. The haar had lifted by then and the skies remained clear for a few hours, hopefully allowing the Serin a window of opportunity to arrive at its next stopover location.

Plate 261. Serin, Collieston, North-east Scotland, 16 June 2020. © *Phil Crockett*

Description by Daryl Short

First impressions, as the bird perched front-on to us in the willows, were of a small finch with a tiny bill and an obvious yellow component to the plumage. It was loosely associating with some Goldfinches and was clearly smaller and dumpier, thus ruling out an escaped Canary, for example. It soon dropped down from its perch to feed on seeds at the edge of the driveway, when its bright yellow rump could be seen to advantage. On the ground, it appeared short-legged and compact, hopping around in typical finch fashion and picking at the grasses and weeds. The flight action was light and bouncing, rather like a redpoll.

The following day, when it reappeared at the feeding station, the plumage could be better appreciated. Upperparts were boldly streaked dark on a pale yellowish background; underparts were paler, the breast suffused with bright yellow, with dark streaks along the breast-sides and flanks. The 'face' was attractively patterned, with a hint of a yellow supercilium, darker ear-coverts and 'cheeks', and a pale 'tear-drop' below the beady black eye. This, combined with the tiny bill, gave a distinctive character. Its most striking feature, however, was that gorgeous golden-yellow rump. The plumage appeared to be the best fit for a female bird, lacking the extensive yellow on the head and underparts expected for a male.

The bird wasn't heard to call for certain, though a fine redpoll-like '*tuuih*' heard from the garden while the bird was out of view may well have been attributable to the Serin. It remained slightly skittish during its short stay, probably due to its association with the other finches and sparrows in the garden, which were constantly up and down between the feeding station and the trees.

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Plate 262. Serin, Collieston, North-east Scotland, 16 June 2020. © *Phil Crockett*

Plate 263. Serin, Collieston, North-east Scotland, 16 June 2020. © *Phil Crockett*

Plate 264. Wilson's Petrel, 72 km north-west of Fethaland, Shetland, 10 August 2020. © *Will Miles*

Two Wilson's Petrels off Shetland in August 2020

W. MILES, P. HARRIS, G. TYLER, M. MELLOR, P. HARVEY & J. STURGEON

Wilson's Petrel is extremely rare in Scotland. Currently, there are just six accepted records (Forrester *et al.* 2012, C.J. McInerny pers. comm. 2020). It is the only bird on the Scottish list with an Antarctic breeding distribution, and if all this were not inspiration enough to look for one, also, hardly ever has the species been photographed in Scottish waters.

There is a photograph of one in *The Birds of Scotland* and *The Birds of Shetland* that is quietly awesome. It is Paul Sclater's at-sea photo, taken from a horribly rolling boat, before the age of digital photography. It depicts the third record for Scotland and first for Shetland, delicately hang-gliding low over the water, yellow-webbed feet dangling - seen in August 1993, 46 km north-west of the Ramna Stacks. For those who search for strange seabirds in Scottish waters, this photo has long been inspirational.

Offshore seabird pelagics from Shetland require a substantial amount of luck to ever happen, since many unlikely factors have to perfectly align, not least calm seas and gentle weather conditions across sea area Fair Isle. For several years, Phil, Glen and Will had discussed the possibility of doing an offshore pelagic to the north-west of Shetland in Phil's boat, *Ayda Ruby II*. One of the golden rules of seabird pelagics is to go in a fast boat with very comfy, forward-facing seats, and *Ayda Ruby II* is perfect for the job. With a fast, comfy boat you get to your chosen destination relatively quickly, the journey is less arduous, the likelihood of vomit is (potentially) reduced, and the chances of you feeling fresh and alive and fully able to concentrate when you get out there are much improved. So, we had the right boat. But what about everything else?

During the second week of August 2020, high-pressure created calm conditions across much of sea area Fair Isle, after strong westerlies earlier in the month. The forecasts showed that the sea state and weather could be ideal for a pelagic on 10 August, so a plan was rapidly hatched. Phil identified a promising-looking offshore location to the north-west of Shetland to aim for, where the seabed shelved relatively very steeply from 400 m to 500 m depth, potentially creating an upwelling hotspot. He also sourced the ingredients and equipment for chumming, namely two massive boxes of Herring, a large bottle of salmon oil, a loose-weave hessian sack, and a laundry basket to hang it all in over the side. On the evening of the 9th, he checked and fuelled-up the boat, then left the Herring to defrost and 'ripen' overnight at Will's house rather than his own! Meanwhile, Glen spent the evening cooking up

popcorn. (It floats on the sea's surface and when soaked in fish oil gives pelagic petrels something juicy to pick at.) It seemed we were all set, but would the weather hold good?

Very luckily, it did. There was just a light easterly wind and gentle roll on the sea as we headed off north-west on the 10th, out into the Atlantic Ocean from Fethaland, the most northerly tip of mainland Shetland. On the way out, Glen prepared the chum, mashing the Herring into fish soup using the 'Chum Hammer' (an immense plastic mallet he'd brought especially) and adding salmon oil and popcorn to finish. About one kilometre out, a Sooty Shearwater suddenly flew by at close range (we took it as a good omen); then further offshore we passed many Puffins and Fulmars, but only a few Storm Petrels. We reached the spot that Phil had selected, 66 km out, switched off the engines, put the chum basket over the side and began to slowly drift westwards with the wind, out over deeper and deeper water.

The chum did its job. It produced a slick of fish oil behind us to the east and a strong fishy aroma in the air, that was blown westwards ahead of us. Seabirds began to appear over the horizon to the west, flying straight at us. Mostly Fulmars at first, many gathering alongside the boat, but also more and more Storm Petrels. These tended to fly past the boat at close range but then slow down over the slick behind us, flitting back and forth, dipping down and occasionally foot-pattering as they foraged along the slick, gradually moving away eastwards into the wind. It was amazing to watch them appear ahead of the boat and home-in on the chum behind it - at times there were Storm Petrels all around us!

At 13:25 hrs, several of us picked up a small storm-petrel coming in from the west that seemed to have an unusually large white rump and plain blackish underwings. It switched direction and flew ahead of the boat, keeping well away from us, never closer than 80 m. As it became more visible, forward on the port side, there was an explosion of expletives from Will, then: "WILSON'S!!!". It had short, pale-grey greater-covert bars, a square-cut black tail, a small, delicate head and bill structure, and its band-shaped white rump curved far under the body. Unexpectedly, it quickly turned and flew off south-west, completely avoiding the boat and the chum. As it did so, Will got a few long-range photos. Its flight action was very distinctive, with more hanging and gliding than the Storm Petrels - though it was still very quick - and its wing shape was broader and less angled, often with the trailing edge of both wings held completely straight. Unusually for Wilson's, at no point did it show a toe projection beyond the tail, including in any of the photos. Our position was 61° 7.693'N, 2° 5.522' W, 69 km north-west of Fethaland. The whole sequence lasted no more than 30 seconds, with the bird often out of sight, hidden between waves.

Plate 265a–d. Wilson's Petrel, 69 km north-west of Fethaland, Shetland, 10 August 2020. The first bird was seen only at relatively long range. Initially, the very large white rump patch and dark underwings were the most obvious features. © *Will Miles*

Some of us began to celebrate, but it soon became clear that Mick had not got on the bird. He took it well, but we all knew it was a very special seabird and that missing it had to hurt, also that the chances of seeing another were exceedingly slim. We motored back to the top of the slick, renewed the chum, and repeated the drift. But apart from a couple of Sooty Shearwaters, things seemed to have really quietened down. For long periods now there were no Storm Petrels. At 14:45 hrs, the decision was made to give it another half-hour but then head home.

At 14:53 hrs, a small flurry of Storm Petrels came in from the west, shortly followed by a bird that set Phil and Will bellowing! "WILSON'S! - MICK! - WILSON'S!" But Mick was already on it. The bird flew rapidly towards the boat, came close in around the stern, then began foraging over the slick less than 10 m away. All the features of Wilson's Petrel could be clearly seen, including a very distinctive toe projection visible at all times. It was the perfect Wilson's! It glided, flicked, foot-pattered and pirouetted across the water,

Plate 267. Wilson's Petrel, 72 km north-west of Fethaland, Shetland, 10 August 2020. Wilson's Petrels have an astonishing ability to hang in the air, even when there seems to be no wind. Their 'hang-time' flight shapes are distinctive and unlike other storm-petrels. Often, the wings are held drooped or just level, the head and tail are raised slightly, their long legs dangle freely, and everything - even walking on water - appears totally effortless and easy. © *Glen Tyler*

Plate 266a–d. Wilson's Petrel, 72 km north-west of Fethaland, Shetland, 10 August 2020. The second bird came close to the boat and even its delicate tube nose and yellow foot-webbing could at times be seen. The distinctive toe projection, extending beyond the tip of the tail, was obvious throughout. © *Will Miles*

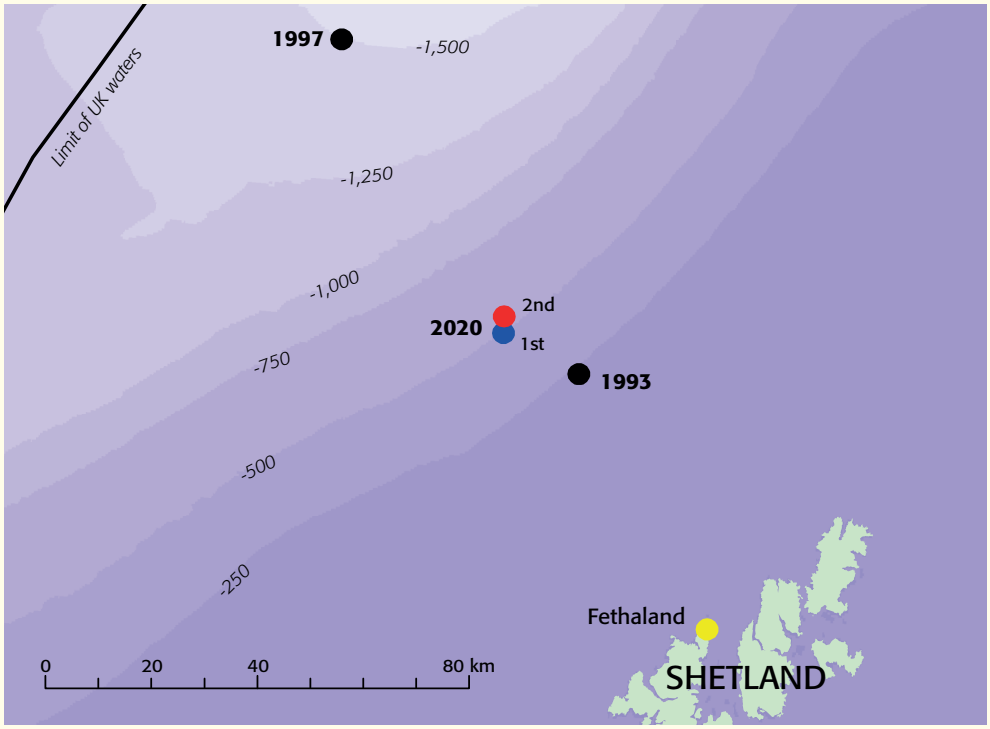

Figure 1. Map showing the location of the two Wilson's Petrel sightings on 10 August 2020 together with those in 1993 and 1997. Might Wilson's Petrel actually be a regular visitor to the far-reaches of Scotland's offshore waters? Water depths are in metres. GEBCO Compilation Group (2020) GEBCO 2020 Grid (doi:10.5285/a29c5465-b138-234d-e053-6c86abc040b9)

swept back around the stern, then back to the chum again, always at close range. It stayed near the boat for several minutes, allowing many photographs to be taken, then headed off eastwards slowly up the slick. Our position was 61° 9.431' N, 2° 5.593' W. The unlikeliness of the sighting seemed incredible and everyone was smiling. Sightings of Wilson's Petrel like that surely only ever happened off Scilly, but we were off Shetland! Happily, we decided to call it a day. As we headed off east though, we saw the bird one last time still foraging over the slick - tiny, quick and Antarctic.

Plate 268. Shetland Seabird Tours' *Ayda Ruby II*; an excellent boat for petrel pelagics - fast, very comfy, and with her blue canvas canopy off, ideal for all-round viewing. © *Phil Harris*

Back in Lerwick that evening, Phil, Jenny and Will were tidying up the boat when a sports car drew up at the harbour. The owner stepped out, walked over, got the story and warmly congratulated us. It was Paul Sclater. It was a nice touch to end a good day.

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Plate 269. Scopoli's Shearwater, Carlingnose Point, North Queensferry, Fife, 10 August 2020. © *John Nadin*

Scopoli's Shearwater, Fife & Lothian, 9–11 August 2020 - first record for Scotland

J.S. NADIN

On 9 August 2020, I started seawatching from Kinghorn Harbour, Fife, at 06:20 hrs; the winds were ENE with good visibility, and I was hoping to see my first skuas of the year. It started very slowly with the early highlight of a trickle of Manx Shearwaters and lots of Fulmars going back and forth. I'd been watching with Angus Jennings, but he left at c.08:30 hrs as it had been so quiet. I carried on, counting Gannets and Kittiwakes but was thinking of calling it a day.

At 08:49 hrs, I picked up a large shearwater heading west. As I was already on the alert for a Great Shearwater being tracked up the Northumberland coast, I checked for an obvious dark cap, and the diagnostic underwing pattern - neither feature was seen. So, I was happy that it was a Cory's Shearwater - or so I thought at the time. The only eye-catching feature about the bird was an obvious white patch on the right wing (which I didn't really understand at the time). I saw the underwing well - white with black edges. The long wings and upper body looked uniformly dark (dark brown) with just a hint of the 'M' pattern across the open wings. It flew lazily, low to the water, with a few flaps followed by a glide. It was frustratingly lost to view in a little over a minute, but I was happy to have found a Cory's, my first off Kinghorn for 21 years.

The news was put out on various local WhatsApp groups and Mervyn Griffin had seen the message whilst walking towards Hound Point (Lothian). When he arrived, he alerted the four Ayrshire birders present, and within c.30–40 minutes Jason McManus picked up the same distinctive bird (later nicknamed 'Flash') and they watched it flying east off Hound Point.

The bird was reported three or four times from Hound Point during the morning and early

afternoon, but it appeared no-one was looking from the Fife side. So later, I decided to watch from directly opposite at St David's Harbour (Dalgety Bay, Fife) to try to get a more prolonged view. At 14:57 hrs, I relocated the bird heading west towards the Forth Rail Bridge. A few observers started to arrive on both sides of the Forth and the bird was watched between the Forth Rail Bridge and the Hound Point terminal on and off till at least 15:45 hrs.

Events then took an exciting twist when a 'second' Cory's Shearwater (it had no white flash on the right wing - and was called 'Normal Norman') was identified by Mark Holling, Chris McGuigan *et al.* off Hound Point at c.15:46 hrs, while they were still watching 'Flash'. I too quickly located this second bird from St David's and the two shearwaters then flew back and forth together which was most instructive and very exciting. Most of the time they were mid-channel or closer to the Lothian side but on one occasion they came very close and past us at St David's enabling me to video both birds moving east. At 16:35 hrs, both birds flew close east past the observers at Hound Point (Plates 273–276), the Cory's carrying on out into the Forth and 'Flash' landing on the water amidst a feeding frenzy of gulls and terns. Both birds were still seen in the general area till at least 18:50 hrs.

On the 10th, 'Flash' was reported again from Hound Point late morning (still as a Cory's) and at 13:40 hrs I located it from Carlingnose Point, North Queensferry, Fife, sitting on the sea off the Hound Point terminal. Dennis Morrison and Chris McInerny were at Long Craig Pier (Lothian) and once it started flying, I was able to direct them onto it. Over the next 2½ hours, the bird frequented the same area as it had done the day before - between the Hound Point terminal and the Forth Rail Bridge. Eventually, it clearly passed incredibly close to them off Long Craig Pier, thus enabling Dennis to take his all-important images of the underwing (Plates 270–272).

Sufficient detail was visible on the underwing in Dennis's photos that once a back-of-the-camera image (Plate 270e) appeared on his twitter account, the identification of 'Flash' became an instant topic of conversation. The realisation that 'Flash' was in fact an excellent candidate for a Scopoli's Shearwater slowly started to kick off on various forms of social media. By the evening of the 10th, things rapidly speeded up, with various experts being consulted. Much-welcomed support came from Bob Flood and Killian Mullarney when they both gave the bird the thumbs up.

Scopoli's Shearwater is the Mediterranean cousin of the Atlantic Cory's Shearwater and was only recognised by BOURC as a full species on the British List in 2012 (Sangster *et al.* 2012).

On the 11th, many birders from far and wide managed to see the bird in generally poorer weather conditions over around four hours until last seen at 14:40. It was not seen again until it passed Mundesley, Norfolk, on the morning of 15 August.

Description

The main features that support the identification of 'Flash' as a Scopoli's Shearwater rather than a Cory's (see Fisher & Flood 2010, Flood *et al.* 2020) can be seen in the accompanying photographs (Plates 270a–e):

- Extensive white tongues extending out along the under primary feathers P6–P10 (the 'hand'), notably P10 (more extensive than any Cory's would exhibit)
- Black mark on the greater primary covert only on P10 (not P9) (strong Scopoli's feature)
- Limited extent of dark feathering on the underwing lesser secondary coverts (score of about 2 to 3 Flood *et al.* 2020) (good Scopoli's feature)
- Finer bill, with less obvious gonydeal angle
- Less intense streaking on head and neck
- Slimmer/slighter head
- Thinner/slimmer body

The most important feature separating the two species is the amount of white extending as tongues along the underside of the primaries and most notably P10 (measured as a percentage of the visible under primary) (A on Plate 271). Cory's Shearwaters very rarely show any white

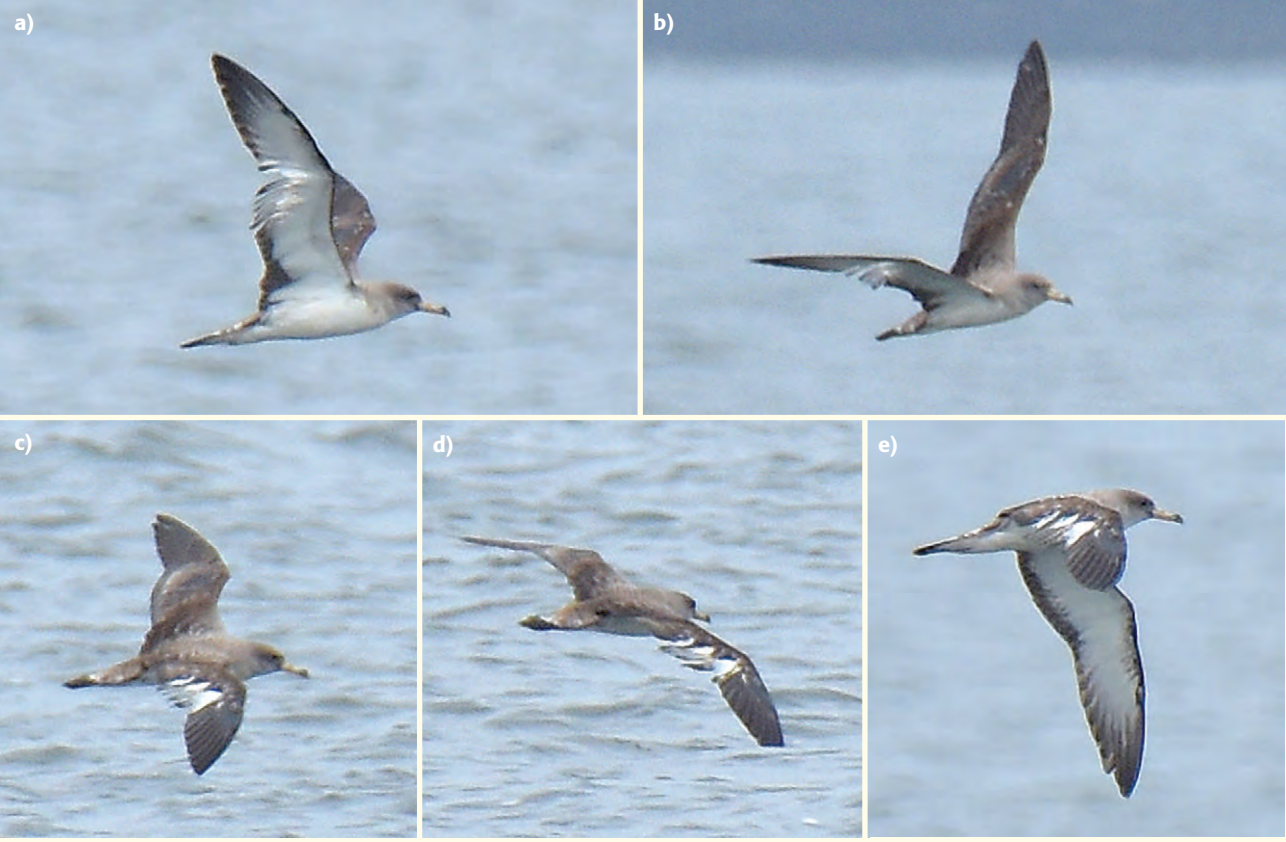

Plate 270a–e. Scopoli's Shearwater, Long Craig Pier, South Queensferry, Lothian, 10 August 2020. © *Dennis Morrison*

in P10 with only a few extreme examples having a small amount (less than 20%) (Flood *et al.* 2020) - 'Flash' is judged to have 25–30% (Plate 271). Another strong pro-Scopoli's feature is the single black spot on the outermost greater primary covert (B on Plate 271).

The overall size and structure of the bird are good back-up features and Plate 272 shows the small, neat head and long, slim bill. The slimmer, less bulky body and narrower wings can also be seen in Plates 272 and 275.

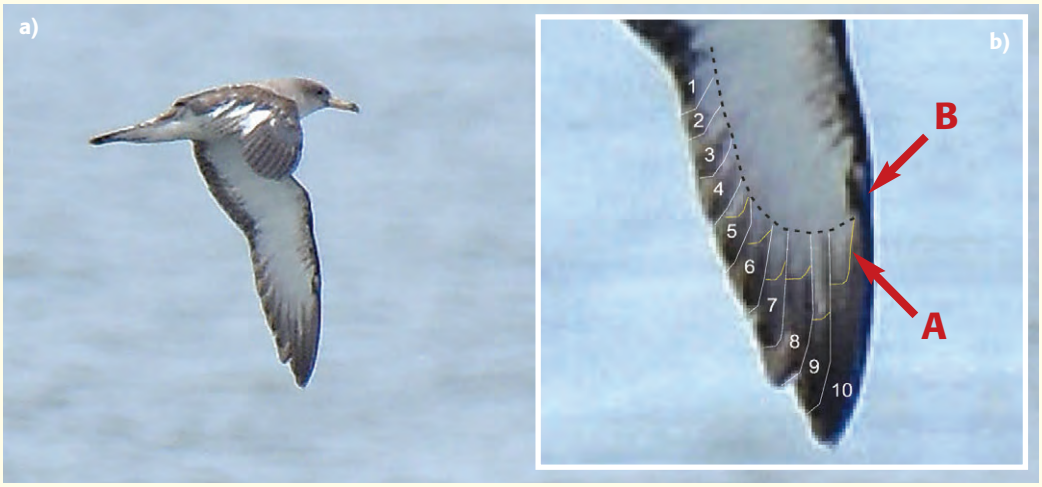

Plate 271a–b. Scopoli's Shearwater, Long Craig Pier, South Queensferry, Lothian, 10 August 2020. This key photograph shows the extent of white on the underside of the outer primaries, notably P10 (A) and the black spot on the outermost under greater primary covert (B). © *Dennis Morrison*

Evidence from photographs shows that the white 'flash' on the bird's right wing was in fact extensive damage to the outer secondaries making that part of the wing look white and partly transparent (Plate 270). It is impossible to know what caused this, but perhaps it was a bite from a seal or damage caused by discarded fishing nets.

After the sighting, word spread about 'Flash' and its distinctive white wing flash and it transpired that the same bird had been tracked up the coast of north-east England on 9 July 2020 - a month before these sightings in the Firth of Forth - it passed Filey and Long Nab (North Yorkshire), Cowbar (Cleveland/ North Yorkshire) and was last recorded off Seaham, Co. Durham (per Alan Tilmouth on Twitter).

There are only two accepted records of Scopoli's Shearwater for the British Isles, both seen from pelagic trips off the Isles of Scilly - the first on 2 August 2004 (Fisher & Flood 2010) and the other on 11 July 2019 (Holt *et al.* 2020).

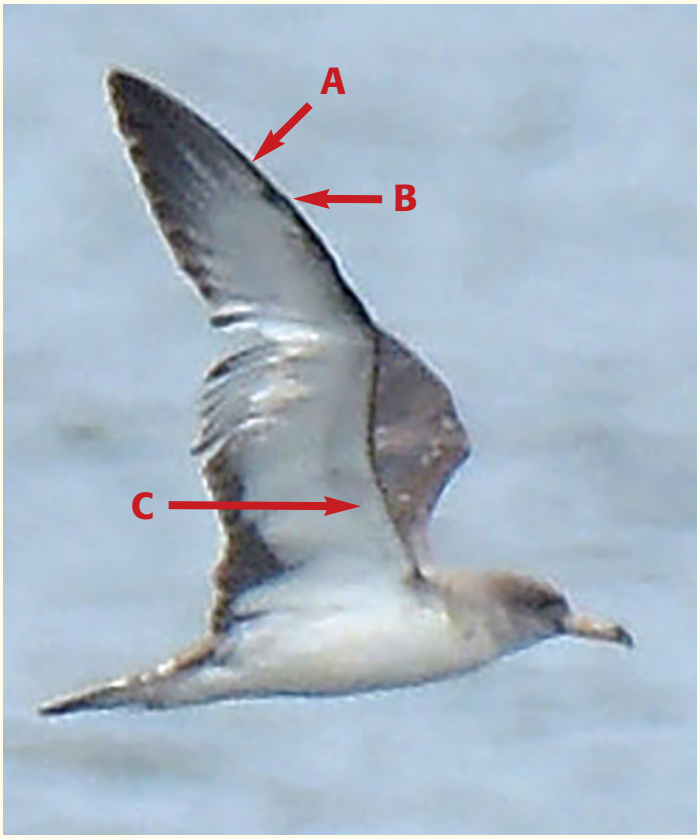

Plate 272. Scopoli's Shearwater, Long Craig Pier, South Queensferry, Lothian, 10 August 2020. This photograph shows the limited extent of dark feathering on the underwing lesser secondary coverts (C). See Plate 271 for notes A and B. © *Dennis Morrison*

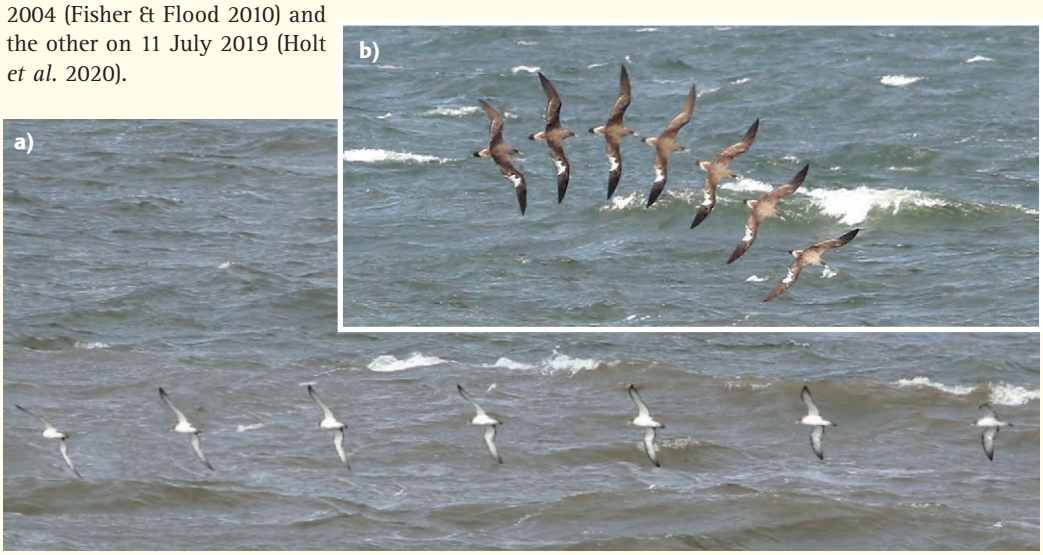

Plate 273a–b. Scopoli's Shearwater (composite images), Hound Point, Lothian, 9 August 2020. © *Ian Andrews*

Plate 274 (left). Cory's Shearwater (left) and Scopoli's Shearwater, Hound Point, Lothian, 9 August 2020. © *Ian Andrews.* **Plate 275a–d (right).** Cory's Shearwater (left) and Scopoli's Shearwater, Hound Point, Lothian, 9 August 2020. These images give an impression of the difference in size and shape of the two individuals - the Scopoli's being narrower winged and slimmer overall. The Scopoli's also shows greater contrast in the upperwing pattern with distinctly darker primaries. The underwing of the Cory's also shows a sharp contrast between the black primary tips and white of the rest of the underwing while the Scopoli's has more white in the 'hand'. © *Ian Andrews*

Plate 276. Cory's Shearwater (top) and Scopoli's Shearwater (composite image) , Hound Point, Lothian, 9 August 2020. © *Ian Andrews*

The obvious question arises from this series of sightings is: how many more Scopoli's have occurred over the years and recorded as Cory's when seen distantly or not photographed? This occurrence has shown how difficult it is to identify Scopoli's in the field. Without Dennis Morrison's series of superb images showing the crucial underwing detail, this bird's identity would never have been possible to prove conclusively.

SBRC's current stance on the identification and acceptance of *Calonectris* shearwaters (i.e. Cory's/Scopoli's) is based on the fact that to date there are no accepted records of Scopoli's in Scottish waters and accordingly records submitted to SBRC as Cory's Shearwater will not have to eliminate Scopoli's Shearwater for acceptance. As the default, birds will be assumed to be Cory's Shearwater, and if the description supports this to the satisfaction of

Plate 277. Scopoli's Shearwater, Forth Rail Bridge (from Long Craig Gate, Lothian), 9 August 2020. © *Ian Andrews*

the committee, it will be accepted as such (C.J. McInerny pers. comm.).

Due to their highly pelagic nature, there are very few photographs of *Calonectris* shearwaters in Scottish waters. The only published Scottish Cory's Shearwater photograph seems to be a 2017 Outer Hebrides bird in McInerny & McGowan (2019), although a tideline corpse was photographed at Aberlady, Lothian, in April 2004.

The folks who were lucky enough to see the two species flying side by side on the afternoon of the 9 August off the Lothian and Fife coasts (Plates 274–276) were indeed privileged to enjoy a possibly once-in-a-lifetime event in Scottish waters.

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This record is subject to acceptance by BBRC.

SCOTTISH BIRD SIGHTINGS

1 July to 30 September 2020

S.L. RIVERS

Records in Scottish Bird Sightings are published for interest only. All records are subject to acceptance by the relevant records committee.

The following abbreviations for recording areas are used: Angus & Dundee - A&D; Argyll - Arg; Ayrshire - Ayrs; Borders - Bord; Caithness - Caith; Dumfries & Galloway D&G; Highland - High; Lothian - Loth; Moray & Nairn - M&N; North-East Scotland - NES; Outer Hebrides - OH; Perth & Kinross - P&K; Shetland - Shet; Upper Forth - UF.

Up to eight Long-tailed Skuas lingered on North Ronaldsay (Ork) in July, and a flurry of Cory's Shearwater sightings in August also brought the first Scottish record of Scopoli's Shearwater. Very good number of Sabine's Gulls were seen in September, while an unprecedented influx of Blue-winged Teals on the Outer Hebrides provided a new record British site count. The month also brought a Yellow-bellied Flycatcher – a Western Palearctic first, a Tennessee Warbler – the fifth for Scotland/Britain, plus large influxes of Yellow-browed Warblers and Lapland Buntings, and many gems from the east including a Siberian Thrush in Fife - a first for mainland Scotland.

'Grey-bellied Brant': a bird showing characteristics of this form was at Findhorn Bay (M&N) on 22 September. **'Todd's Canada Goose' (form *interior*):** one was at Findhorn Bay (M&N) on 30 September. **Snow Goose:** two were at Roos Loch, Sanday (Ork) on 7 September; two at Callanish, Lewis (OH) on 26th, and two at Herston, South Ronaldsay (Ork) from 27 September into October. **Tundra Bean Goose:** five flew over Craig David Croft, near Inverbervie (NES) on 6 September. **Ruddy Shelduck:** a female was still at Martnaham Loch (Ayrs) to 22 August; one at South Alloa (UF) on 2–17 July; one at Longcarse (UF) on 12–24 July; one again at Montrose Basin SWT Reserve (A&D) on 2–22 August and 10–11 September; one at Fail Loch, Tarbolton (Ayrs) on 3–9th September and again on 12–13th; over Coylton (Ayrs) on 10 September, and again at Martnaham Loch on 21 September. **Blue-winged Teal:** five immatures were found at Eoligarry flood, Barra (OH) on 8 September - a British record site count, with two there again on 10th, 13th and 22nd: one at Loch Ardvule, South Uist (OH) on 18–19th; one at Baleshare, North Uist on 20th; four at Kneep, Lewis (both OH) on 20–21st, and up to four at Loch Mor, Baleshare, North Uist from 23rd into October. **Black Duck:** the regular adult drake at Strontian (High) was present throughout the period. **Ring-necked Duck:** single drakes were at Loch of Skene (NES) on 13–14 July; at Echna Loch, Burray (Ork) on 12th and 14 September, at Loch of Ayre, St Mary's, Mainland (Ork) on 13–15 September; at Seafield Pond,

Plate 278. Five Blue-winged Teal, Barra, Outer Hebrides, 8 September 2020. © *Bruce Taylor*

Belhaven (Loth) on 20th, and a first-winter female at Loch a' Phuill, Tiree (Arg) from 29 September into October. **King Eider:** the drake at Burghead Bay, Findhorn (M&N) was still present to 9 July, then nearby off Roseisle, Findhorn on 17 July; a female was off Dornoch Point (High) on 13th and 21 August; an eclipse drake off Nairn golf course/harbour (M&N) on 4–5 September; and the presumed returning drake again at Burghead Bay from 29 September into October. **Surf Scoter:** single adult drakes were in Lax Firth, near Gott, Mainland (Shet) on 7 July; at Blackdog (NES) on 9–23 August; two in Gosford Bay (Loth) on 19–20 September; a drake off Maywick, Mainland (Shet) on 23 September; a juvenile in Kiloran Bay, Colonsay (Arg) on 27–29th, and a drake off Musselburgh (Loth) from 29 September into October.

White-billed Diver: one was at South Nesting Bay, Mainland (Shet) on 9–15 August; one flew past Frenchman's Rocks, Islay (Arg) on 30 August; further singles were in Dunnet Bay (Caith) on 1 September, and past Black Gable, St Abb's Head (Bord) on 27 September. **Wilson's Petrel:** one was seen from a survey boat off Hirta, St Kilda (OH) on 6 July, and two 'at sea' 36 miles NW of Ramna Stacks (Shet) on 10 August. **Fea's/Desertas Petrel:** one flew past Dennis Head, North Ronaldsay (Ork) on 30 August, and one south past Corsewall Point (D&G) on 9 September. **Scopoli's Shearwater:** one was seen from Dalgety Bay (Fife) and Hound Point/South Queensferry (Loth) on 9–11 August - the first record for Scotland. **Cory's Shearwater:** one flew past Cleatt, Barra (OH) on 18 July; one was seen from Hound Point (Loth) and Dalgety Bay (Fife) on 29 July; one flew north past the Isle of May on 30 July; one flew west past Kinghorn (Fife) on 9 August; one was seen from Hound Point/South Queensferry (Loth) and Dalgety Bay/North Queensferry (Fife) on 9–13th and 19 August; singles flew south past Saltcoats (Ayrs) on 10 August; south past Tarbat Ness (High) on 14 August, and north there on 19th; north past Skateraw (Loth) on 16th; north past Brora (High) on 25 August, and east past Aberlady Bay/Gullane (Loth) on 13th and 25 September. **Great Shearwater:** one was on the sea 1.25 miles north of Skaw/off Haroldswick, Unst (Shet) on 16 August; one flew past Tarbat Ness (High) on 25 August; one passed Tiumpan Head, Lewis (OH) on 26 August; one flew south past Ardvule Point, South Uist (OH) on 3 September, and five passed Butt of Lewis, Lewis and two past Strathy Point (High) on 5 September. **Balearic Shearwater:** singles flew south past Ardvule Point, South Uist (OH) on 16th and 18 July; past Corsewall Point (D&G) on 22 July; past Hynish, Tiree (Arg) on 20 August; past Fife Ness (Fife) on 28 August; past Dennis Head, North Ronaldsay (Ork) on 10 September, and north past Scoughall (Loth) on 17 September.

Pied-billed Grebe: the returning adult male was again at Loch Feorlin, near Lochgilphead (Arg) throughout the period. **Glossy Ibis:** singles were at Loch Gruinart RSPB Reserve, Islay (Arg) on 11–14 September, and at Westfield, near Thurso (Caith) on 21 September. **Spoonbill:** one was still at Loch Bee, South Uist (OH) to 18 August, and also at Loch Sandary on 14 August; two were on the Ythan Estuary (NES) on 19–26 July; two at the Eden Estuary, Fife on 8 September, with presumed same over Victoria Park, Arbroath (A&D) on 8th, and at Montrose Basin SWT Reserve from 9 September to 1 October. **Cattle Egret:** one was at Loch of Strathbeg RSPB Reserve (NES) on 3–12 September. **Great White Egret:** one was still on the Ythan Estuary (NES) to 24 August, and again on 3–8 September; and further singles were at Kingston, Spey Bay (M&N) on 2 July; on North Ronaldsay (Ork) on 4–15 July; two at Inverary, at the head of Loch Fyne (Arg), on 14 August, with one still to 9 September; singles were at Loch of Strathbeg RSPB Reserve (NES) on 20 August and 26 August into October; at Montrose Basin SWT Reserve (A&D) on 10–29 September; at Fail Flood, Tarbolton (Ayrs) on 19 September; at Caerlaverock WWT Reserve (D&G) on 23–28 September, and at Kirkconnell Merse, near Glencaple (D&G) on 29th.

Honey-buzzard: singles flew over Anstruther (Fife) and over St Andrews (Fife) on 23 July; over Brae, Mainland (Shet) and over Spiggie, Mainland (Shet) on 28 July; over Udale Bay RSPB Reserve (High) on 30 August, and one over the Isle of Bute (Clyde Islands) on 30 August. **Rough-legged Buzzard:** one drifted over Rattray Head (NES) on 10 July. **Spotted Crake:** one was at Castle Walk, near Doonfoot (Ayrs) from 18 August to 12 September. **Crane:** several twos in Shetland, Highland, Moray & Nairn, NE Scotland and Fife, then one at North Ronaldsay (Ork) on 19 September; nine flew over Aberdeen (NES) on 23 September; nine were at Caerlaverock WWT Reserve (D&G) on 24th, and two at Montrose Basin (A&D) on 29 September.

Avocet: one was at Loch Bee, South Uist (OH) on 4 July, with two at Howmore, South Uist on 11 July, and one still at Loch Bee on 13 July. **American Golden Plover:** adults were at Traigh Mhor, Barra (OH) on 13–14 August; at Cullivoe, Yell (Shet) from 29 August to 15 September; a juvenile at Houlland, South Nesting, Mainland (Shet) on 14 September; and singles at Baltasound, Unst (Shet) on 15 September; at Sandaig, Tiree (Arg) on 21–22nd; at Toab, Mainland (Shet) on 23rd; at Baleshare, North Uist (OH) from 23 September into October; at Clevigarth, Exnaboe, Mainland (Shet) on 24th, and at Balgarva, South Uist (OH) on 28 September. **Semipalmated Plover:** one on North Ronaldsay (Ork) on 7–9 September was the second record for Scotland. **Greater Sand Plover:** one was still at Tyninghame Bay (Loth) to 6 July. **Stilt Sandpiper:** an adult was on Sanday (Ork) on 22–23 July.

Plate 279. Baird's Sandpiper, Dornoch, Highland, 18 September 2020. *© Ron Macdonald*

Curlew Sandpiper: good numbers were seen in East Scotland throughout the period. **Temminck's Stint:** one was at Pool of Virkie, Mainland (Shet) on 16 September. **Baird's Sandpiper:** a juvenile was on North Ronaldsay (Ork) on 3–23 September; one at Baleshare, North Uist (OH) on 13–15 September; at Dornoch (High) on 14–20 September, and and at Balgarva, South Uist (OH) on 21 September. **White-rumped Sandpiper:** a juvenile was at Loch Ordais, Lewis (OH) on 29 September. **Buff-breasted Sandpiper:** singles were at Ardvule Point, South Uist on 7–8th and 11 September; at Eochar, South Uist, and at Balgarva, South Uist and two at Ardivachar Point, South Uist on 8 September; one at Butt of Lewis and one at Labost, both Lewis (OH) on 9th; two on Baleshare, North Uist on 12–15th, with one on 16th, and two again on 23rd; one at Mull Head, Papa Westray (Ork) on 13th; one near St Margaret's Hope, South Ronaldsay (Ork) on 13th; two at Butt of Lewis on 17th; one at Skaw, Unst (Shet) on 24th, with two there on 24–28th, and one on North Ronaldsay (Ork) on 25 September. **Pectoral Sandpiper:** singles were on North Ronaldsay (Ork) on 12–15th July; at Kildonan, South Uist (OH) on 13 August; and at Scatness, Mainland (Shet) on 24 August, with about 15 in September, all singles in the west from Shetland to Ayrshire, except for one at Loch of Strathbeg RSPB Reserve (NES) on 13th and 18th, and two there on 19th. **Semipalmated Sandpiper:** an adult was at Dornoch Point (High) on 5–7 July; a juvenile at Loch Ordais, Lewis (OH) on 8–18 September, and one at Keillmore (High) on 8–17 September. **Spotted Sandpiper:** one was at Haroldswick, Unst (Shet) on 16 September, then at Norwick, Unst on 17th, and a juvenile at Balemartine, Tiree (Arg) on 22–23 September. **Lesser Yellowlegs:** a juvenile was at Loch Paible, North Uist (OH) on 24–29 September.

Sabine's Gull: singles were seen from a survey boat off St Kilda (OH) on 7 July; off St Abb's Head (Bord) on 14 July; at sea 34 miles east of the Isle of May on 8 August; at Whiteness Bay (High) on 16 August; at Ullapool (High) on 21–29 August; off Brighouse Bay (D&G) on 22nd; off Esha Ness, Mainland (Shet) on 23rd; off Hilton of Cadboll, near Portmahomack (High) on 25th; off North Ronaldsay (Ork) on 27th; off Frenchman's Rocks, Islay (Arg) on 30th; off Fife Ness (Fife) on 30th; and one seen from the Lochmaddy–Uig ferry (OH/High) on 31 August. In September, over 20 were noted, from Highland to Argyll and Borders, with peaks of four off Griminish Point, North Uist (OH) on 4th, three south past Stoer (High) on 28th, and the Ullapool bird lingered from August into October. **Bonaparte's Gull:** the first-summer remained at Crinan Ferry, Add Estuary (Arg) to 25 August; one was at Kilchattan Bay, Bute (Clyde Islands) from 18 July to 18 August; an adult at Rushgarry, Berneray (OH) on 31 July; one at Lochgilphead (Arg) on 13 August; and an adult at Loch Gruinart RSPB Reserve, Islay (Arg) from 28 August to 10 September. **Laughing Gull:** one was at Littleferry, Loch Fleet (High) on 22 September. **Mediterranean Gull:** remains much under-reported away from the Firth of Forth, where a peak of 42 noted at roost at East Wemyss, Fife on 2 August and 54 in September; plus a first-winter was at Eoligarry, Barra (OH) on 13 September, and the first-summer/second-winter bird was still present in South Mainland (Shet) into October. **Glaucous Gull:** notably low numbers, with about 10 in July, about six in August, and just five in September. **Iceland Gull:** notably low numbers, with none reported in July, just three in August and four in September. **Sooty Tern:** one flew south through Maidenhead Bay, near Maidens (Ayrs) on 23 July. **White-winged Black Tern:** one was at Echna Loch, Burray (Ork) from 31 August to 5 September.

Pomarine Skua: after a poor spring passage, autumn fared somewhat better. Just four in July, but over 90 reported in August, and 40 in September, mostly in the Firth of Forth.

Long-tailed Skua: a decent passage, plus some unusual over-summering behaviour. Over 20 noted in July, about 10 in August, and at least 15 in September, mostly on the Northern Isles and in the Firth of Forth. Lingering birds involved an adult at Dalsetter Hill, Boddam, Mainland (Shet) first seen on 29 May staying to 19 August, and a first-summer at Tor Ness, North Ronaldsay (Ork) from 16 July, with five there on 18th, six on 19th, and four still on 20–21st, two on 22nd, seven on 23rd, four still on 27th and three on 30 July.

Turtle Dove: singles were at Boddam, Mainland (Shet) and Portgordon (M&N) on 1 July; at Thrumster (Caith) on 4 July; on Foula (Shet) on 14 September; at Howmore, South Uist (OH) and Caliach, Mull (Arg) on 16 September; at Arinagour, Coll (Arg) on 19th, and one on Unst (Shet) on 23–28 September. **Snowy Owl:** an adult female was on Hirta, St Kilda (OH) from 31 August into October, and an adult male at Ronas Hill, Mainland (Shet) from 3 September into October. **Nightjar:** one was at Carse of Lecropt (UF) on 16 July. **Bee-eater:** one was at Rattray Head (NES) on 3 August; one flew south over North Ronaldsay (Ork) on 7 August, and one flew over Craig David Croft, near Inverbervie (NES) on 12 August. **Hoopoe:** Singles were on Sanday (Ork) on 31 July; at Belhaven, Dunbar (Loth) on 26–27 August; at Woodlands of Durris, near Drumoak (NES) on 20 August, and at Bridgend, Islay (Arg) on 25–27 September. **Wryneck:** singles were on North Ronaldsay (Ork) on 12 August; at Columba Bay, Iona (Arg) on 18 August; at West Voe, Mainland and Pool of Virkie, Mainland (both Shet) on 21 August; at Craig David Croft, near Inverbervie (NES) on 26th; at Pool of Virkie again on 27th, and at Corby Loch near Potterton (NES) on 31 August. In September, there were six on Shetland, and one at Cuithir, Barra (OH) on 15 September.

Yellow-bellied Flycatcher: one at Balephuil, Tiree (Arg) on 15–23 September was the first record of this Nearctic species for the Western Palearctic. **Red-backed Shrike:** the female at Sumburgh, Mainland (Shet) remained to 6 July; and one was at Upperton, Mainland (Shet) on 1 July. About 30 were seen in August, mostly on Shetland & Fair Isle, except for singles near Finstown, Mainland (Ork) on 7th; on North Ronaldsay (Ork) on 12–22th, at Skateraw (Loth) on 13th; and one on Sanday (Ork) on 24 August. In September, at least nine on Shetland, with singles elsewhere at Vaul, Tiree (Arg) on 7th; at Rapness, Westray (Ork) on 27–29th, and on North Ronaldsay from 29 September into October. **'Turkestan Shrike':** an adult female (trapped and ringed) was on North Ronaldsay (Ork) on 23–24 August. **Lesser Grey Shrike:** one was still at Maywick Road/Ellister, near Bigton, Mainland (Shet) to 18 July. **Woodchat Shrike:** a first-year was at Windhouse, Mid Yell, Yell (Shet) on 8–23 September; and singles at Levenwick, Mainland (Shet) on 16–21st; at Ham, Foula (Shet) on 23–29th, at Virkie, Mainland (Shet) on 26th, and at Toab, Mainland (Shet) on 27 September. **Woodlark:** one was on Fair Isle on 19 September. **Short-toed Lark:** one was at South Ness, Foula (Shet) on 23–27 September.

Western Bonelli's Warbler: one was on Fair Isle on 23–24 August, and one on Out Skerries (Shet) on 18–19 September. **Dusky Warbler:** one was at Maywick, Mainland (Shet) on 26–27 September. **'Siberian Chiffchaff':** the first of the autumn were two at Norwick, Unst (Shet) on 28 September, and one on Yell (Shet) on 29 September. **Yellow-browed Warbler:** the first of the autumn was one on North Ronaldsay (Ork) from 31 August to 1 September - the earliest ever record for Britain. No further records until 15 September, but around 840 noted by the end of the month in an exceptional influx, with higher counts of 17 on Foula (Shet) and 24 on Fair Isle on 27th, and 20 on Yell (Shet) and 16 at Ollaberry, Mainland (Shet) on 29th. **Greenish Warbler:** singles were on the Isle of May on 13–22 August; at Isbister, Mainland (Shet) on 20–23 August; at Boddam, Mainland (Shet) on 20–21 August; at Haroldswick, Unst (Shet) on 21–23rd; at Barns Ness (Loth) on 23–24th; at Norwick, Unst and at Skaw, Whalsay (Shet) on 23rd; at Otterswick, Yell (Shet) on 24–25th; at Burrafirth, Unst on 25th; at Tarbat Ness (High) and at St Abb's Head (Bord) on 26 August. In September, one was at Norwick, Unst again on 1–9th, and at Sandwick/Easting Beach, Unst on 4–5th. **Arctic Warbler:** singles were at Manse, Foula (Shet) on 23 August; at Loch of Spiggie, Mainland (Shet) on 30 August; on Fair Isle from 31 August to 7 September, with two on 1st, and 3–4th; at Skaw, Unst (Shet) on 1–2 September; at Windhouse Plantation, Yell (Shet) on 1–3 September; at Camb, Yell (Shet) on 3rd; at Ellister/Bigton, Mainland (Shet) on 3–5th; at Skaw, Unst again on 17–18th, and a Cullivoe, Yell on 29–30 September. **Great Reed Warbler:** one was at Scousburgh, Mainland (Shet) on 11 July. **Blyth's Reed Warbler:** singles were at Skaw, Unst (Shet) on 18–20 August; at Rerwick, Mainland (Shet) on 30 August, and at Halligarth, Unst on 28 September. **Marsh Warbler:** one was still at Maywick, near Bigton, Mainland (Shet) from June to 2 July; one was at Bakkasetter, Mainland (Shet) on 1 July; one at St Abb's Head (Bord) on 4 July; five on Foula (Shet) on 24 August; then singles at Halligarth, Unst (Shet) on 28 August and 1 September; at Quendale, Mainland (Shet) on 30–31 August; on North Ronaldsay (Ork) on 18 September; at Balephuil, Tiree (Arg) on 19th, and at Sandwick, Mainland (Shet) on 30 September. **Booted Warbler:** one was on the Isle of May on 11 August; one at Wolvershoul, nr Halligarth, Unst (Shet) on 23 September, and one at Callernish House, North Uist (OH) from 30 September to 1 October.

Melodious Warbler: singles were on North Ronaldsay (Ork) on 10–13 August and 19 August, and at Gord, Fetlar (Shet) on 22 August. **Icterine Warbler:** singles were at Northdale, Unst (Shet) on 11 August; on the Isle of May on 11 August; at Lerwick, Mainland (Shet) on 12th; on Mousa (Shet) on 12th; at Dowlaw (Bord) on 12th; on Fair Isle on 12–15th and 17–24 August, with two there on 20th; on Out Skerries (Shet) on 15th; at Sands of Forvie NNR (NES) on 18–20th; on Papa Westray (Ork) on 23rd; at Stanetaft, Fetlar (Shet) on 25th; at Hestingott, Mainland (Shet) on 26–31st; at Sandwick, Whalsay (Shet) on 30 August; at Housay, Out Skerries on 3 September, and on Fair Isle on 17 September. **Pallas's Grasshopper Warbler:** one was on Fair Isle on 27 September. **Lanceolated Warbler:** one was on North Ronaldsay (Ork) on 15 September. **Barred Warbler:** at least 36 were noted in August, and about 45 in September, mostly on the Northern Isles. **'Eastern Subalpine Warbler':** one was on North Ronaldsay (Ork) from 30 August to 3 September. **Firecrest:** one was reported at Roseisle Forest (High) on 10 September.

Rose-coloured Starling: over 50 reported in July, mostly singles from the Northern and Western Isles to Ayrshire and Caithness, with a peak of five at Port Nis, Lewis (OH) on 3–5th. In August nine were reported, all singles on the Northern Isles except for one at Brechin (A&D) on 10th, and one at Shulishader, near Garrabost, Lewis (OH) on 12th. Just five in September, singles on Fair Isle from August to 16th; at Portmahomack (High) on 6th; at Bowmore, Islay (Arg) on 8–9th; at Deerness, Mainland (Ork) on 25th, and at Lochmaddy, North Uist (OH) on 27 September.

Siberian Thrush: a female was at Kilminning, Fife Ness (Fife) from 30 September into October - the first record for the Scottish mainland. **White's Thrush:** one was on Fair Isle on 26 September. **Swainson's Thrush:** one was at Viewforth, Birsay (Ork) on 17–18 September and again on 30 September. **Bluethroat:** singles were at on North Ronaldsay (Ork) on 17 September; at Baltasound, Unst (Shet) on 18 September; at Isbister, Whalsay on 23rd; at Haroldswick, Unst on 25th, and on Fair Isle on 27–28 September. **Thrush Nightingale:** singles were on Fair Isle on 14th and 28 August. **Red-flanked Bluetail:** one was at Norwick, Unst (Shet) on 27 September. **Red-breasted Flycatcher:** a male was at Askernish, South Uist (OH) on 24 August; a male was on the Isle of May on 14 September; one at Norwick, Unst (Shet) and on Fair Isle on 17th; a male at Castlebay, Barra (OH) on 20–21st; one at Voehead, Bressay (Shet) on 21st; a male at St Abb's Head (Bord) on 22–24th; a male on North Ronaldsay (Ork) on 27th; at Hoswick, Mainland (Shet) on 28–29th; at Skateraw (Loth) on 28th, and at Ham, Foula (Shet) on 29 September. **'Eastern Stonechat' sp.:** one was at Mull Head, Deerness, Mainland (Ork) on 27 September. **Citrine Wagtail:** about 10 noted in August, all singles on the Northern Isles except for a first-winter at Loch of Strathbeg RSPB Reserve (NES) on 20 August. About 10 again in September, all singles on the Northern Isles except for a first-winter at Cleatt, Barra (OH) on 23 September. **Olive-backed Pipit:** Singles were at Halligarth, Unst (Shet) on 26 September; at Asta, Mainland (Shet) on 27–30th, and on Fair Isle on 28 September. **Red-throated Pipit:** one was 'at sea'on the Brent Charlie oil platform, c115 miles NE of Lerwick (Shet) on 5 September; an adult was on North Ronaldsay (Ork) on 18th, and one at Quendale, Mainland (Shet) on 28 September.

Hawfinch: singles were at Aviemore (High) on 4 July; at Murrister, Whalsay (Shet) on 1 August; a male on Fair Isle on 8–9 August; at Fladdabister, Mainland (Shet) on 11th; at Ocraquoy, Mainland (Shet) on 12–15 August, and 13 noted in September, all singles on the Northern Isles. **Common Rosefinch:** one was on Fair Isle on 11 July; about 16 in August, mostly singles on the Northern Isles but with a peak of three on North Ronaldsay (Ork) on 27–30 August. In September, over 40 noted, mostly ones or twos on the Northern Isles except for singles at Eoligarry, Barra (OH) on 3rd; near Carnan, South Uist (OH) on 10th; at Tarbat Ness (High) on 27th, and one at Kilminning, Fife Ness (Fife) from 29 September into October. **'Hornemann's Arctic Redpoll':** one was on Fair Isle on 25 September, with two there on 26–29 September; one on Foula (Shet) on 26 September, with two there on 27th and one still on 29th; two at Skaw, Unst (Shet) on 27th, one on Whalsay (Shet) on 28th, and one at Burrafirth, Unst on 29–30 September.**Two-barred Crossbill:** five were at Kergord, Mainland (Shet) on 4–5 July; and singles at Dervaig, Mull (Arg) on 24–28 August; on Fair Isle on 26 August, and one at Loch of Spiggie, Mainland (Shet) on 4 September. **Tennessee Warbler:** one at Burravoe, Yell (Shet) from 29 September into October was only the fifth Scottish and British record. **Little Bunting:** about 18 noted in September from 16th, virtually all singles in the Northern Isles, but one was on the Isle of May on 28th. **Rustic Bunting:** one was on Fair Isle from 22 September into October. **Lapland Bunting:** over 600 seen in September, mostly on the Northern and Western Isles, but noted south to Argyll and Borders. Generally ones and twos, but with higher counts of 38 at Butt of Lewis, Lewis (OH) and 53 on Unst (Shet) on 13th, 52 on Fair Isle on 15th, and 42 on North Ronaldsay (Ork) on 17 September. **Snow Bunting:** around 60 seen in September from 6th, virtually all ones or twos on the Northern Isles, but with higher counts of 11 on Fair Isle on 17th, with 12 there on 23rd; six at Esha Ness, Mainland (Shet) on 28th, and one near Kingston (M&N) on 22–26 September.

Scottish Birds

The journal of the **The Scottish Ornithologists' Club**

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Advice to contributors

There is a basic division in *Scottish Birds* between papers and short notes that are peer-reviewed and articles, news and Club items that are not. This split in content is differentiated by fonts used and paper colour.

The first part accepts manuscripts on the status, distribution and populations of birds in Scotland and, particularly, changes in these over time. Write-ups of census work find a natural home in this section, as do the culmination of research topics and updates to information in *The Birds of Scotland* (Forrester *et al.* 2007). Original work and observations are encouraged, but summary papers will be considered and key-note papers of a more general nature may occasionally be commissioned. Papers should be fully referenced as in any scientific work, and our house style should be followed. Articles of less than 700 words are generally considered as Short Notes, but are otherwise in the same format.

Authors should bear in mind that only a small proportion of the *Scottish Birds* readership are scientists and should aim to present their material concisely, interestingly and clearly. Unfamiliar technical terms and symbols should be avoided wherever possible and, if deemed essential, should be explained. Supporting statistics should be kept to a minimum. All papers and short notes are accepted on the understanding that they have not been offered for publication elsewhere and that they will be subject to editing. Papers will be acknowledged on receipt and are normally reviewed by at least two members of the editorial panel and, in most cases also by an independent referee. They will normally be published in order of acceptance of fully revised manuscripts.

Scottish Birds publishes obituaries of Club members and others who have contributed to Scottish ornithology. These are organised through Waterston House, where the Club Administrator will liaise with contributors. Book reviews are organised through the Club Librarian.

The second part of *Scottish Birds* welcomes informal as well as more serious contributions about any aspect of birds and their habitats in Scotland. It is not peer-reviewed, has minimal editing and contributions can be descriptive, anecdotal, controversial, humorous or quirky. They can report on surveys, express opinions, describe birds and places, look back into history, speculate as to the future and can represent organisations or be the work of private individuals. The documentation of rare and scarce birds in Scotland, plus a wide range of identification, site and species related information is lavishly illustrated by high quality colour photographs. We welcome photographs, maps, cartoons, and will accept basic graphs and tables when relevant. Meeting reports or field trip accounts are all welcome, but our main aim is to focus on Scottish birds in Scotland or abroad. We will occasionally include articles from other parts of the world and sometimes about other wildlife. In terms of length, we accept anything from short notes up to articles of c. 2,000 words. There are no strict guidelines as to format, but we would encourage contributors to follow our house style shown in the excerpts from a recent issue available on the *Scottish Birds* page of the SOC website (under About Us/Publications).

Please submit articles! We very much wish to encourage unsolicited contributions to this part of *Scottish Birds*. The editors spend much time requesting articles - a task that would be far less onerous if they are submitted freely from members and other readers. We wish to make it as easy as possible for contributors to send us material that reflects the enormous range of news, work and opinion relevant to Scotland's birds.

Text, image and graphics formats

Contributions should preferably be submitted in electronic format either on disk or by email to mail@the-soc.org.uk, stating the type of word processing package used if not Microsoft Word or a generic 'rich text format'. Only short articles and letters can be accepted in printed or hand written form. No fees are paid.

Tables, maps and diagrams should be designed to fit either a single column or the full page width. Table and photograph captions should be self explanatory and should be able to stand alone from the text. Please include all captions after the text. For photographs please supply the locality and month/year taken, together with the name of the photographer.

Maps should preferably be provided in pdf format or as a high-resolution jpg/tiff file. Maps may be redrawn to maintain house style in which case the data used in their compilation may be requested. Charts should be provided with their accompanying data within a stand-alone spreadsheet so that house style can be applied. Photographs should be supplied as high-resolution jpg/tiff files with minimal or no cropping or enhancement. Please note that the submission of photographs assumes that permission is given for the Club to publish them in the journal in printed and electronic formats.

Reference should be made to past issues and *The Birds of Scotland* (Forrester *et al.* 2007) for guidance on style of presentation, use of capitals, form of references, etc. Please follow the BOU's latest *British List* for species names (their 'British vernacular name') and species order.

Please send all correspondence to the SOC Club Administrator at Waterston House, Aberlady, East Lothian EH32 0PY or e-mail mail@the-soc.org.uk. Telephone 01875 871330 or e-mail for further advice and assistance.

PhotoSPOT

Plate 280. Yellowhammers - so brightly coloured, so vocal. Whenever, I hear a Yellowhammer I remember the *aide-memoire* for Yellowhammer identification, their song that sounds so much like '*a little bit of bread and no cheeeese*'. I don't know about you but if there are two males around, the repetitive back and forth duel over '*...no cheeeese*' is definitely a sound of summer.

Bright afternoon, sunny with clouds, no wind, late summer. Walking up a farm track located between Chapelton and Strathaven (Clyde). Hawthorn hedgerow on my left and a ripe barley field to my right. I was on a photographic hunt for a troop of Tree Sparrows that I knew were in the area. Instead, a male Yellowhammer popped up bright yellow, with rusty red mottled breast and brown back. Being so brightly coloured, I wondered "how do they survive when Sparrowhawks are about?"

My rules of bird photography are to get a record shot first, normally this means a distant shot. I then slowly move closer to the subject hopefully filling more of the picture frame with the bird. The real goal is to capture some unusual behavior, or have the bird in a setting that tells more of a story about its habitat - this bird would not disappoint.

As I pushed closer, he flew off in an arc over the field and stopped nearby to feed on the ears of ripe barley. What a sight to enjoy a bird that I rarely see, now in a perfect setting, there are times while photographing birds when everything comes together, the bird, background and light, you can't plan it but you know it when you see it. He stayed there for quite a while seemingly content, allowing me to take a variety of shots. Watching him I was struck by the thought that what was standout plumage on the hedgerow turned out to be perfect camouflage in the barley field - Sparrowhawks take note.

All in all, it was a fine day in the countryside reminiscent of other hot lazy summer days. On the down side, after writing this I just can't get the '*a little bit of bread and no cheeeese*' out my head.

Equipment used: Nikon D850, 500 mm f4 lens, Manual, ISO 800, 1/1250 sec, f8.

John Agnew, East Kilbride.
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Featuring the best images posted on the SOC website each quarter, PhotoSpot will present stunning portraits as well as record shots of something interesting, accompanied by the story behind the photograph and the equipment used. Upload your photos now - it's open to all.