NEWSLETTER 136

October 2017

Contents

Letter from the Chair

Stephen Votier, Chair/Exeter University (S.C.Votier@exeter.ac.uk)

A few things immediately jumped out at me from this bumper Seabird Group Newsletter. First, it would appear that the seabird research community is in rude health. This is highlighted by the announcement of two major international conferences (The Seabird Group Conference in Liverpool in 2018 and the World Seabird Conference in Hobart in 2020) and news of the next round of Seabird Group Grants (deadline 31st October). However, it was the annual round-up on the fate of the UK's breeding seabirds in 2017 that most caught my eye. The detail reveals a complex picture, but I was particularly struck by the continued grave situation in Shetland with forage fish specialists having another disastrous breeding season. Having seen the vibrant seabird cliffs in Shetland a few decades earlier, it was sobering to return last year to see many guano-stained cliffs now largely empty. In stark contrast however, the Isle of May has had an excellent record-breaking season. Elsewhere, the general message is that Alcids are doing very well (a record count of 25,227 individual Puffins from Skomer in spring 2017 is great news) but Black-legged Kittiwakes, Herring Gulls and Lesser Black-backed Gulls are faring poorly almost (but not quite) everywhere. It is clear from this snap-shot that we need to do more to understand the drivers of change in global seabird communities – food availability and quality, as well as the direct effects of storms and top-down pressure undoubtedly play a role, but quantifying and mitigating these divergent effects is the key challenge. Having an engaged and vibrant seabird research community is a good first step on this long road.

Seabird Group news

Seabird Group grants – deadline 31 October

The deadline for the second round of our biannual grant allocations is fast-approaching. Twice per year, the Seabird Group offers grants of up to **£500** to support projects relating to research or censusing of seabirds. Earlier this year, we awarded funds for a census of Leach's Storm-petrels in Canada, seabird surveys in Jakarta Bay and a study of the effects of artificial lighting on

Manx Shearwaters. Proposals should be submitted by 31st October to our Secretary, Holly Kirk (secretary@seabirdgroup.org.uk). Further details and the application form can be found on our website: http://seabirdgroup.org.uk/grants.

The Seabird Group's 52nd Annual General Meeting

The Seabird Group's 52nd Annual General Meeting will be held at the BTO Annual Conference in Swanwick, which runs from 8-10 December 2017. The exact date and time of the AGM are yet to be confirmed; this information, along with the agenda and minutes from the 2016 AGM, will be circulated to all members by email imminently. We encourage you to come along and partake in either just the AGM or both the AGM and conference.

International Seabird Group Conference, 3-6 September 2018

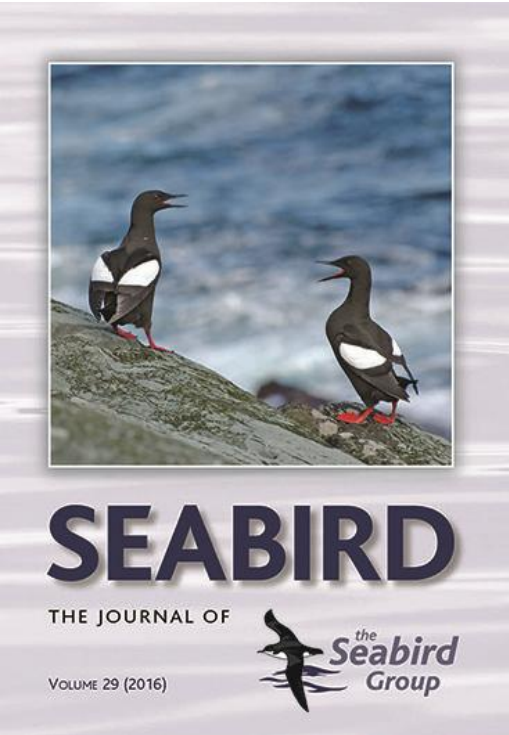
The **14th International Seabird Group Conference** will be held in Liverpool, over 3-6 September 2018. The organising committee from the Seabird Ecology Research Group (SEGUL) at the University of Liverpool are excited to announce confirmation of four plenary speakers: Kyle Elliot (McGill University, Canada), Ana Sanz-Aguilar (Mediterranean Institute for Advanced Studies, Spain), Thierry Boulinier (CNRS, France) and **Cleo Small** (RSPB/BirdLife International). The conference website is now live. Here, you can find more information about the event, location and plenary speakers. Registration and abstract submission are expected to open shortly. More details will be announced via the website and to our members via email.

Update your details

To make sure you receive all information relating to the above-mentioned AGM and conference, along with any other important updates and publications, from the Seabird Group, please make sure to keep us up-to-date with your contact details. If you have changed your email or postal address recently and not notified us, please contact our Membership Secretary, Alice Trevail (membership@seabirdgroup.org.uk) with your updated details.

Submit your papers to *Seabird*

We'd like to take the opportunity to remind all our members to consider ***Seabird*** when looking for an outlet for their scientific work. ***Seabird*** is produced in colour, printed annually (in December) and a hard copy is sent to all Seabird Group members. In addition, electronic copies of all articles carried will be made freely available on the Seabird Group website shortly after print copies have been released, thereby maximising the reach of your work!



We welcome papers on any aspect of seabird biology, conservation, identification, and status, including Short Notes and Letters documenting observations or preliminary findings that may lead to future research ideas. We are also particularly keen to hear from anyone with ideas for Review papers on topical issues affecting seabird conservation and ecology in the Atlantic, or with an idea for a Book Review.

The geographical focus of the journal is the Atlantic Ocean and adjacent seas, but contributions are also welcome from other parts of the world provided they are of general interest. All submissions are peer-reviewed. More information, including past issues of *Seabird*, can be found on our website: http://seabirdgroup.org.uk/publications.

If you have a paper to submit, or an idea you would like to discuss, please get in touch with the Editor, Richard Sherley (journal@seabirdgroup.org.uk).

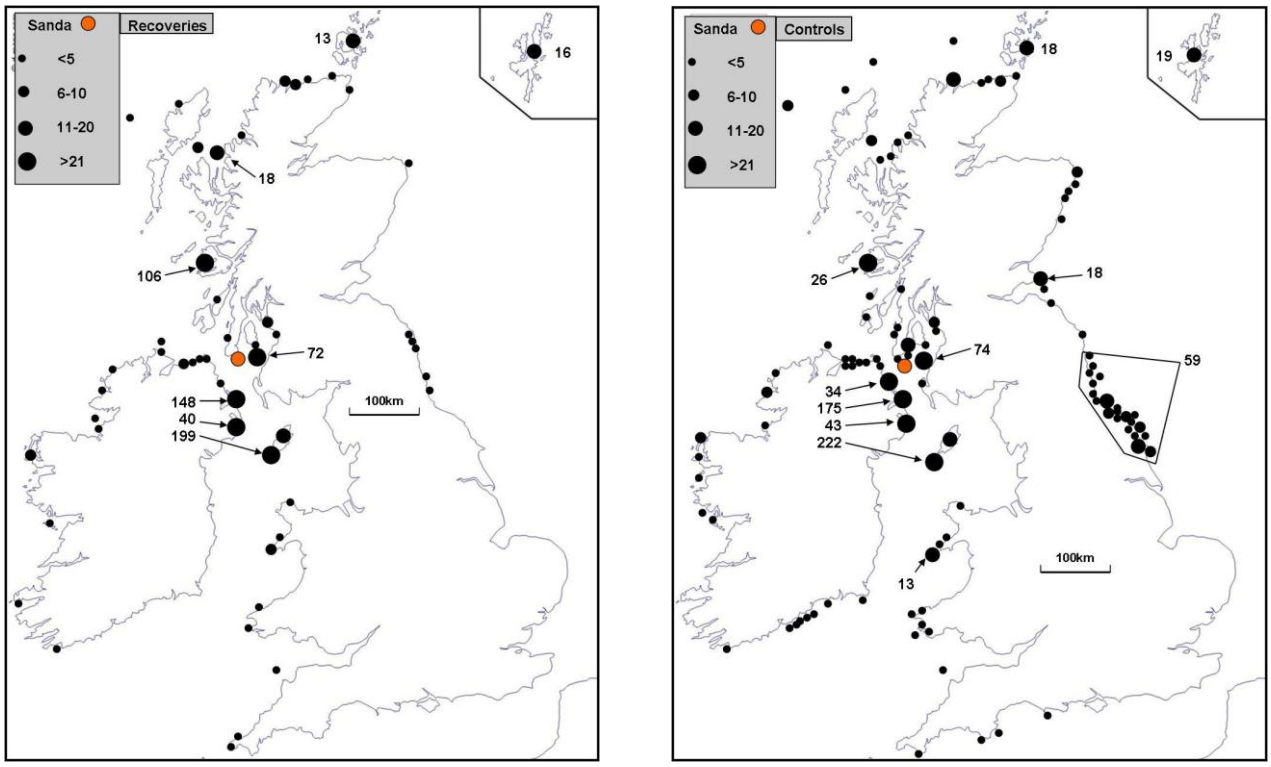
Storm petrels in South Kintyre

Rab Morton and Eddie Maguire, Sanda Bird Observatory

Earlier this year, we published a report providing a summation on movements of **European Storm-petrel** *Hydrobates pelagicus* to and from **Sanda Island** in South Kintyre, Argyll over the last 40 years (1976–2016). Around 13,000 birds were ringed on Sanda Island of which 2001 were either ringed or recaptured elsewhere. Connectivity was mostly with sites around the west and north of Britain and east and west of Ireland, but included small numbers on the east coast of Scotland and England and several from abroad, including Norway, the Faeroe Islands, Portugal and West Africa. There were major exchange notifications of ringed immature birds at a number of locations all within 150 km of Sanda Island. Analysis of all British Trust for Ornithology (BTO) notifications revealed that the majority of recoveries and controls at Sanda Island were in the marine areas of the north Irish Sea, North Channel and Firth of Clyde and at many locations around the mainland in the north of Ireland, especially in Down and Antrim (Northern Island) where breeding populations are absent. The exchange rate of ringed birds between breeding colonies and mainland sites (where the non-breeding population is targeted) diminished considerably over 150 km from Sanda Island suggesting that the marine areas closer to Sanda Island are a magnet for a large proportion of the immature population during the summer months; these marine areas are well clear of major breeding colonies in western and south-western Ireland and western and north-western Scotland. Further research, other than ringing, led to a significant discovery of how to sex breeding adults. In addition, another notable event in South Kintyre was the discovery that the wandering non-breeding population could be tape-lured and drawn into mist-nets on the mainland. The subsequent application and impact of this technique at coastal locations around the UK and Ireland by BTO ringers is discussed in the report. The full report can be found on the **Machrihanash Seabird and Wildlife Observatory**'s website.

The number of European Storm-petrels *Hydrobates pelagicus* ringed on Sanda Island and recovered elsewhere and the number ringed elsewhere and controlled on Sanda Island.

Location	Recovered	Controlled	Totals
Scotland	355	294	649
England	301	323	624
Ireland	312	355	667
Wales	15	23	38
Faeroes	1	-	1
Norway	1	3	4
Portugal	3	13	16
W Africa	2	-	2
Totals	990	1,011	2,001



Numbers of European Storm-petrels *Hydrobates pelagicus* ringed on Sanda Island and recovered at locations in Britain and Ireland (left) and ringed at locations in Britain and Ireland and controlled on Sanda Island (right). The cluster of control notifications on Sanda Island from the east coast of England may be related to an increased effort by ringers following the capture of 3 Swinhoe's Storm-petrels *Oceanodroma monorhis* at Tynemouth.

Resighting colour-ringed European Shags in winter

As part of a collaborative project between the **Centre for Ecology & Hydrology** and the **University of Aberdeen**, we are using resightings of field-readable colour-rings to locate **European Shags** in winter in order to understand migration behaviour and how it affects survival and subsequent breeding success.

Colour-ringed six-year-old female European Shag – Yellow AHI – a known Isle of May resident (Mark Newell).

Since 2009, Shags at multiple colonies along the east coast of Scotland and England have been ringed with a coloured plastic ring engraved with 3 letters. The Shag is an inshore species and individuals of all ages are present throughout the year at coastal roost sites, allowing individuals to be identified in the field using binoculars, a telescope or camera zoom.

Intensive winter resighting of colour-ringed Shags began in 2009 and since then individuals have been reported wintering in the UK as far north as Shetland and as far south as East Sussex. Every year, we also receive reports of individuals going further afield to France, Belgium and the Netherlands. In total, >45,000 resightings of individual Shags have been amassed from more than 150 observers along the UK coastline.

So far, the long-term resighting data have shown that the population is partially migratory, meaning that some birds remain resident at the breeding colony throughout the year, while others migrate to different areas along the coast outside the breeding season. Individuals generally spend the winter in the same location in different seasons. The challenge now is to understand when juvenile birds fix on their migration strategy and whether winter location is important in determining how well birds survive or breed.

During summer 2017, Shags were ringed at 15 colonies and, thanks to the amazing efforts of ringers, 1,467 Shags were colour-ringed. We would now like to get as many resightings as possible over the coming months. The winter season for resighting colour-ringed Shags runs from September until the end of March and we are always grateful to receive resightings from new observers.

Please get in touch if you are interested in getting involved and email shags@ceh.ac.uk with any resightings (including date seen, location, 3-letter code and ring colour). You can follow updates on our dedicated Twitter account: @shagmigration.

Shags at sunset, Isle of May (Mark Newell)

Breeding season summaries from around the UK

Many thanks to all those that have contributed summaries of the 2017 breeding season from seabird colonies around the UK. Offerings extend from Seaford on the south coast of England, to islands off the coasts of Wales and south-east Scotland, through the Scottish Hebrides, and up to the northern-most part of the UK in Shetland.

Razorbills, Isle of May (Mark Newell)

Shetland (excluding Fair Isle)

Martin Heubeck, Mick Mellor & Will Miles (SOTEAG), Rachel Cartwright, Andy Denton & Craig Nisbet (Scottish Natural Heritage), Lynne McKenzie (RSPB), Sheila Gear (Foula Ranger Service), Phil Harris & Roger Riddington (Shetland Ringing Group).

With few exceptions, population and productivity estimates were comparatively low this year. Notable was the total abandonment of the Guillemot monitoring colony at Burravoe by all individuals in late May. Also, that across Shetland, Arctic Terns arrived late, few laid, and many were seen hawking insects - further signifying a generally poor season. A huge winter rockfall across the Guillemot colony at Compass Head meant there were relatively few, if any, breeding attempts there this year. However, the resultant boulder-field habitat looks suitable for recolonisation by Guillemots, Shags and Razorbills (see photo).

Fulmar numbers at the Sumburgh Head, Troswick Ness, Esha Ness and Burravoe plots had changed little since 2016 (average change = +2%), whereas productivity at these plots had decreased (average of 0.35 chicks per June AOS count in 2017, 0.47 in 2016). **Gannet** productivity at Hermaness was 0.67 chicks fledged per AON, down from 0.73 in 2016, but on Noss productivity remained typically high (0.73). **Shag** numbers at Sumburgh Head and No Ness increased from 197 nests in total in 2016 to 221 this year, however Shag productivity had decreased (Sumburgh and Burravoe plots), on average from 1.31 chicks fledged per incubated nest in 2016 to 1.06 in 2017. On Mousa, Shag numbers decreased from 22 AON in 2016 to 19 this year, but productivity was 1.63 (1.46 in 2016).

On Foula, Noss and Mousa, **Arctic Skua** AOTs numbered 23, 2 and 2, respectively. Productivity was zero on Foula and Mousa, but 3 chicks fledged on Noss. **Great Skua** productivity was uniformly low: 0.04 chicks fledged per AOT on Foula, 0.11 at Hermaness (50% decrease since 2016) and zero on Noss. **Kittiwake** productivity at the monitoring plots on Mainland Shetland, Yell, Foula, Noss and Hermaness had decreased since 2016 (mean productivity of 0.15 chicks fledged per apparently laying pair in 2017,

range = 0.00-0.47, mean productivity of 0.54 in 2016, range = 0.14-1.06). **Arctic Tern** productivity was low at all monitored sites: 0.13 chicks fledged per nest at Hermaness, 0.06 on Noss and zero on Foula and Mousa.

Guillemot numbers had decreased at all monitored sites since 2016 (-14% on Noss and at Hermaness, and on average -35% across 4 sites on Mainland and Yell). Guillemot productivity was 0.42 chicks fledged per laying pair at the Sumburgh Head plot (0.71 in 2016), where chick diet was 41% sandeels and 51% gadids, but productivity was zero at Burravoe (0.60 in 2016) due to complete abandonment of the colony in late May - unprecedented in 40 years of SOTEAG monitoring! **Razorbill** numbers at the four monitoring sites across Mainland and Yell had decreased since 2016, on average by -28%.

Compass Head, as viewed in 2008 (left) and in April 2017 (right), following a huge winter rockfall. Consequently, few Guillemots bred in 2017, but the resultant boulder-field looks suitable for recolonisation (Martin Heubeck).

Fair Isle

Richard Cope, Assistant Warden, Fair Isle Bird Observatory

It was a mixed season for Fair Isle's seabirds. Five of the eleven species monitored showed increases in the population monitoring plots, these were Fulmar, Gannet, Shag, Arctic Tern and Black Guillemot. Arctic Skua, Great Skua, Kittiwake, Guillemot and Razorbill all decreased, whilst **Common Tern** remained unchanged with no birds nesting again this season. Unfortunately, productivity was with one exception (Fulmar) all down on previous years.

FIBO have been ringing Great Skuas with darvic rings to study survival and local movements (Max Hellicar).

Fulmars provided the one bit of hope with a population increase of 6.7% on last season to 396 AOS (the highest since 2000), whilst productivity increased 4% to 0.52 chicks per AOS. The whole island **Gannet** population rose 13.9% to 3882 AON, the highest since 2013. **Shag** numbers in the plots increased 15.4% although productivity was down 50% to 0.22 chicks per AON, the lowest since 2011. **Great Skua** showed a 42.4% drop in population from 2016, whilst productivity was down 25.8% to 0.49 chicks per AOT. The **Arctic Skua** population dropped by 18.9% with productivity down 90.6% to just 0.03 chicks per AOT, in a disastrous year for this species. **Kittiwakes** continue to decline down 7.5% to 49 AONs in the plots, with productivity falling by 73.3%. **Arctic Terns** bred in good numbers resulting in a 172.9% increase to 322 AONs the highest since 2010. Unfortunately, productivity fell by 73.9% to 0.06 chicks per AON, with many chicks apparently starving to death shortly after hatching (although some prolonged spells of heavy rain may also have had an impact on chick survival). **Guillemots** dropped 25.6% in the plots to their lowest numbers since 2013, whilst productivity fell by 62.2% to 0.17 chicks per egg laid. **Razorbills** dropped 24.8% with productivity falling by 32.4% to 0.5 chicks per egg laid, although most of the chicks that fledged were substantially underweight. The Black Guillemot population increased by 13.2% to 214

individuals, the highest since 1997. **Puffin** productivity was down 0.25% to 0.48 chicks per egg laid, the lowest since 2011, with the majority of failures occurring at egg stage, when poor weather may have had an impact on survival.

Arctic Skuas were the subject of BTO research using GPS tags to investigate foraging movements and GLS tags that will provide insight into the migration and wintering areas. We are also darvic-ringing **Great Skuas** to discover more about their site-fidelity, survival and local movements.

Isle of May

Mark Newell (manew@ceh.ac.uk), Mike Harris, Sarah Burthe, Tim Morley, Nicci Cox, Sarah Wanless and Francis Daunt, Centre for Ecology & Hydrology, Edinburgh.

The 2017 season proved to be successful for all the main study species. With CEH present on the island continually for 3 and a half months, the cliff-nesting seabirds are monitored on a daily basis identifying just when any failures occur and establishing the effects of any extreme weather. The Isle of May was hit by a severe westerly gale and a particularly wet period in late June but neither had a dramatic effect on the breeding success of any of the study species. Return rates of individually colour marked birds were high for most species in 2017. The numbers of pairs nesting in the plots showed an increase on 2016 for all species and this was reflected in an increase in the all isle counts carried out by Scottish Natural Heritage (https://isleofmaynnr.wordpress.com/2017/08/30/breeding-seabirds-2017/).

Breeding success

- **Common Guillemot** breeding success at **0.74** chicks per pair laying was average.
- **Razorbill** breeding success at **0.62** chicks per pair laying was close to the long-term average but the highest since 2010.
- **Atlantic Puffin** breeding success at **0.87** chicks per pair laying was well above average and the highest since 1989. The heavy rains resulted in some burrows becoming flooded but overall breeding success was largely unaffected
- **Black-legged Kittiwake** breeding success at **0.94** chicks per completed nest was well above average for the fourth consecutive year.
- **European Shag** breeding success at **1.67** chicks per incubating nest was well above the long-term average (1.15) for the **10th** consecutive year.
- **Northern Fulmar** breeding success at **0.40** chicks per incubating nest was average although down on the previous four years.

Return rates

- **Common Guillemot** return rate at 84.2% was the only species below average and the lowest since 2007. This was surprising given that many birds had attended the colonies during the winter.
- **Razorbill** return rate at 94.7% was above average and the highest since 2010.
- **Atlantic Puffin** return rate at 89.3% was above average.
- **Black-legged Kittiwake** return rate at 88.5% was the fourth highest on record.
- **European Shag** return rate at 93.9% was the highest on record.

Kittiwakes had high return rates and above-average breeding success for the fourth consecutive year on Isle of May (Mark Newell).

The high return rate of Black-legged Kittiwakes helps explain the increased 2017 population count carried out by SNH. The 2016 return rate between 2015 and 2016 had also been very high suggesting that the population count of nests in 2016 was due to a proportion of the birds being present but choosing not to breed. Coupled with the high breeding success of the last few years there may be signs that Black-legged Kittiwake numbers on the Isle of May are going to increase in the next few years as those young are recruited into the population.

Sandeels (*Ammodytes* spp.) remained the main food of young Razorbill, Puffins, Shags and Kittiwakes. The diet of Guillemots was dominated by clupeids.

Under contract to Scottish Natural Heritage, a **full island Atlantic Puffin count** was made in early May 2017. Using the unit of measure as 'apparently occupied burrow' the Puffin population was estimated at 39,200 occupied burrows (95% confidence intervals: 32,200-46,300). Although this estimate is lower than the last count in 2013 (46,200), the substantial overlap in 95% confidence intervals (2013: 38,800-53,600) indicates that there has been no detectable change in the population size between 2013 and 2017.

For more information, check out the website or follow us on Twitter: @CEHseabirds and @ShagMigration.

St. Abbs

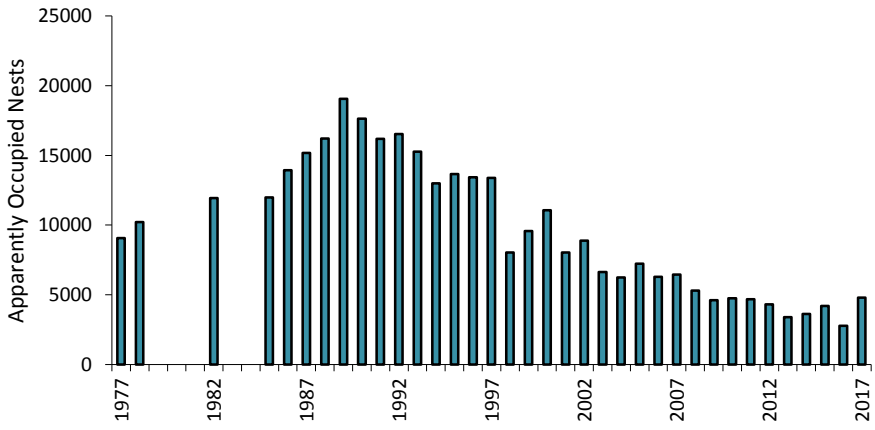
Liza Cole, Lizy Smith & Zander Salmond, National Trust for Scotland

It has been a mixed year for the seabird colony at **St Abb's Head National Nature Reserve**. It was apparent right from the start of the season that more **Kittiwakes** had returned to the cliffs than in recent years, resulting in a whole colony count of 4,803 AON, an increase of 73% on 2016 (which was the lowest count on record), and the highest count since 2008. However, to put this into context, 4,803 AON only represents 50% of the 33-year mean of 9,590 AON. Productivity was up too, with the figure of 1.02 chicks fledged per active nest being an increase of 32% on 2016, and representing 154% of the 31-year mean.

Shags have had a difficult year with storms washing away nests and eggs in May and heavy rainfall causing a lot of chick mortality in June and July. The whole colony count of 126 AON was a 2% increase on 2016, but the population is still struggling to recover from a series of wrecks on the East coast of Scotland and this year's count only represents 55% of the 33-year mean of 230 AON. However, although this year's productivity was down 22% compared to 2016, the figure of 1.46 chicks fledged per active nest represents 111% of the 28-year mean so that is encouraging.

Whole colony counts of Guillemots and Razorbills are only carried out once every 5 years (next count 2018), but we count numbers of birds in monitoring plots. This year, the sum of mean plot counts for **Guillemots** was down 6% on 2016, but was 8% above the 34-year mean; and, for **Razorbills**, the sum of the plot means was up 21% on 2016, and 9% above the 34-year mean. Guillemot productivity was 0.81 chicks "fledged" per active site, a 4% increase on 2016; Razorbill productivity was not monitored. No **Puffins** were recorded on land in late June suggesting no breeding occurred this year (2 birds were recorded last year).

Fulmar numbers were down 6% on last year. As the birds are sparsely scattered along the cliffs, we cannot monitor Fulmar success by studying monitoring plots, but we have recorded 3 young fledging from the 88 AOS recorded from land, so this could be seen as representing a productivity of 0.03 birds per active site. The whole colony count of 187 AON was down 5% on 2016 and was the fourth lowest count on record representing just 56% of the 33-year mean of 331 AON.



Numbers of apparently occupied nests of Kittwakes at St Abb's Head spanning forty years from 1977 to 2017.

The big news for 2017 was that it was the first year that a **Gannet** chick was recorded on the reserve. Last year we had a breeding attempt (late in the season and a poor attempt at building a nest, but, according to The Seabird Monitoring Handbook, that counted as an AON). This year we had 3 AON, which were, again, built late in the season. We could only see into one nest in which we recorded a chick in early July, but which did not survive 2 weeks. With Bass Rock full to capacity just up the coast, it will be interesting to see how this colonisation pans out in the years to come, and what effect this might have on other species, especially Guillemots.

St. Kilda

Gina Prior, National Trust for Scotland

Seventeen species of seabird regularly breed at St. Kilda but studying any aspect of demography is particularly challenging due to the remote location, difficult topography, largely inaccessible coastline, oceanic climate and a staff of one! The weather interfered with survey work with various combinations of strong winds, rain, mist and sea swell preventing access to cliff edges, steep slopes and the outer islands. The triennial plot monitoring of cliff-nesting birds – **Razorbill**, **Common Guillemot** and **Northern Fulmar** – started well but could not be completed; this will be rescheduled for 2018. Similarly, annual productivity for Atlantic Puffins could not be completed as sea swell prevented access to the island of Dun.

In previous years, the numbers of juvenile **Puffins** attracted to the lights on Hirta during the fledging period was once considered an indicator of breeding success, with more birds found in years when productivity was high. But this pattern has now broken down as light-reducing measures in the Village Bay area has reduced the number of birds attracted inland.

Fulmar numbers in two monitoring plots saw a 9% increase on 2016 with 227 AOS recorded. Productivity remained low, but stable, averaging 0.28 chicks fledged per AOS at two plots (0.21 and 0.35). For the second consecutive year, only one kittiwake AON was identified in 7 monitoring plots. A single chick hatched but failed to fledge. This is a significant decline from a high of 513 AONs and 0.72 chicks fledged per AON in 1994 when monitoring of these plots began.

A survey of breeding Fulmars, Razorbills, Common Guillemots and Kittiwakes on Boreray and the Stacs in 2016 was published this year (Miles, et al. 2017, *Scottish Birds*, 126 – 134). Without exception, the total population estimate for each species in 2016 was the lowest on record with numbers declining by 60% or more since the survey in 1999 as part of *Seabird 2000* (Fulmar – 65.6%, Razorbill – 59.8%, Guillemot – 64.8%, Kittiwake – 88.7%).

Three pairs of **Arctic Skuas** settled to nest, marking an increase on the two pairs noted in the previous seven years. Each pair produced two eggs with one chick from each clutch surviving to fledging age.

In 2015, 47 nest boxes were installed to study the breeding biology of **Leach's Storm-petrels**. This year, 15 boxes showed signs of use: 6 eggs were laid and 3 chicks hatched. Hatching was asynchronous with 43 days between the appearance of the first (16 July) and last (28 August) chick giving an expected final fledging date of 29 October. Other studies suggest occupancy rate of nest boxes increases over time which provides cautious optimism that the number of boxes occupied may increase next year.

Canna

Bob Swann

Counts showed that the breeding populations of many seabird species on Canna remain at low levels when compared to the peak counts of the 1980s. In 2017, Northern Fulmar, Lesser Black-backed Gull, Herring Gull and Great Black-backed Gull all showed small declines or no change in numbers and remain at very low levels. European Shag saw a slight increase in number, whilst Black-legged Kittiwake, Common Guillemot and Razorbill all showed increases with all three species having the highest recorded counts since the big crash in 2005.

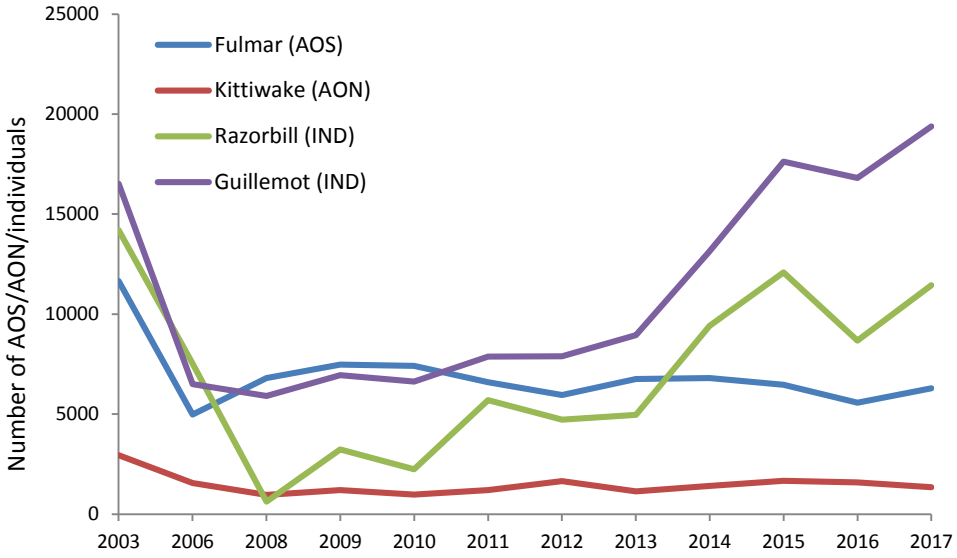
It appears that, for **Common Guillemot**, these increases are being driven by high recruitment rates of young birds. Trapping of adults resulted in 199 birds ringed as chicks being retrapped in the colony for the first time. Following low return rates of the 2004-2008 cohorts, the 2009, 2011 and 2012 cohorts are exhibiting unprecedented return rates in the 44 years of this study, suggesting high survival of young produced from these years. In addition, long-term data, as shown by the BTO's 'Retrapping Adults for Survival' (RAS) scheme, indicates high (89%) adult survival of Guillemots. Adult Guillemots weighed significantly more than recorded in recent years, whilst chick mass was close to the long-term average. Food appeared to be in plentiful supply in 2017. Fifty-eight fish carried by Guillemots were collected and identified. The sample was dominated by sprats (46%) and sandeels (40%), and the average length of both was greater than the long-term average.

Breeding productivity figures for **Herring Gull**, **Great Black-backed Gull** and **Black-legged Kittiwake** were above the long-term averages. **European Shag** productivity was close to average, whilst only **Great Skua** and **Northern Fulmar** had below-average breeding success, which in the case of the Fulmar was the lowest on record (0.22 young/AOS).

Mingulay

Laura Robertson, National Trust for Scotland

Following a downward trend of low counts in the early 2000s, several breeding seabirds on **Mingulay** appear to be increasing in number, particularly over the period since intensive monitoring began in 2013. The 2017 count for **Common Guillemot** was the highest over the 5-year period at 19,384 individuals (an increase of 116% compared with the lowest count of 8,945 in 2013). Another notable change is in the **Great Skua** population, which has increased notably from 76 pairs in 2013 to 160 pairs in 2016 (no count was completed in 2017). **Black-legged Kittiwake** numbers decreased in the last two years, but are still higher than in 2013 at 1,338 AON. **Razorbill** numbers again appear to have increased markedly over the 5-year period with an increase of 130.7% from 2013 to 11,453 individuals in 2017, although there has been variation between years. **Northern Fulmar** have remained fairly consistent, although 2017 provided the 2nd lowest count recorded over the monitoring period of 6,292 AOS. **European Shag** numbers are also showing a positive trend over this last 5-year period, increasing from 155 AON in 2013 to 182 AON in 2017.



Numbers of four seabird species on Mingulay between 2003 and 2017.

Bardsey and Ynysoedd Gwylan

Steven Stanfield and Liam Curson, Bardsey Bird Observatory

Fulmar saw a moderate increase to 20 pairs this year; this is a 33.3% increase on last year and 11.1% above the ten-year average (18.0 ± 7.4). A census of the **Storm-petrels** on Bardsey revealed 50 responses to playback during June and July, suggesting a population size of 175 pairs.

Visits to Ynysoedd Gywlan were made on 31/5 and 14/6. No **Cormorants** were noted nesting on Ynys Gwylan Fawr; a partial count was made of Ynys Gywlan Bach where 12 AON and 15 juveniles were counted. The total on Ynysoedd Gywlan is 61.4% down on the 2008-2017 mean (31.1 ± 19.6), and productivity is 16.1% lower than the 2008-2017 mean (1.49 ± 0.14). The **Shag** population on Bardsey increased to 45 pairs, a 15.4% rise on 2016 and 32.4% above the 2008-2017 mean (34.0 ± 6.60). A total of 82 young fledged, giving a productivity of 1.82, a 3.2% decrease on the 2008-2017 mean (1.88 ± 0.17). Ynysoedd Gwylan had a combined total of 145 pairs, 35.3% above the 2008-2017 mean (107 ± 34.3), the highest number recorded in the last decade. A minimum of 91 juveniles fledged on Ynys Gwylan Fawr, giving a productivity of 0.84. This figure 18.3% above the 2008-2017 mean (0.71 ± 0.09).

The population of Lesser Black-backed Gull declined again on Bardsey, with just 164 AONs counted. This is a 7.3% decrease on last year, and 16.8% below the 2008-2017 mean (197 ± 55.3). A productivity of 0.38, was a 31% increase on the 2008-2017 mean (0.29 ± 0.06). After declining in 2016, the **Herring Gull** population on Bardsey bounced back slightly to 377 pairs, 2.6% above the 2008-2017 mean (368 ± 36.4). A similar small increase in productivity was noted, the productivity figure of 0.64 (with 240 young fledging) is 4.9% above the 2008-2017 mean (0.61 ± 0.04).

The small population of **Great Black-Backed Gulls** on Bardsey increased to five pairs this year, 2% above the ten-year mean (4.90 ± 1.60). However, productivity was very poor this year, with just one young fledging. The resulting productivity figure of 0.20 was 77.8% below the 2008-2017 mean (0.90 ± 0.28). On Yngys Gwylan Fawr, 35 nest platforms and 24 large juveniles were counted,

while on Ynys Gwylan Bach 18 adults were visible, but no nest platforms could be seen. The total of 35 pairs is a 32.5% decrease on the 2008-2017 mean (51.9 ± 25.7). The Ynys Gwylan Fawr productivity of 0.68 is 20% below the 2008-2017 mean (0.85 ± 0.19).

A total of 125 apparently-occupied **Kittiwake** nests was counted on Bardsey. This is slightly higher than last year, but 13.8% below the 2008-2017 average (145 ± 73.5). However, it was a disastrous year for productivity. The "Little Kitt" colony numbered 53 nests, but completely failed. Great Black-backed Gulls were seen removing chicks from the nests!

The exponential increase of **Guillemots** shows no sign of abating, with 1,574 adults on ledges (AOL) recorded this year, another 16.9% increase on last year's tally and 41.6% higher than the 2008-2017 mean (1111 ± 285). In a sample plot at Bae Felen a minimum of 29 chicks big enough to fledge were counted. This sample productivity of 0.40 is 48.1% higher than the ten-year mean (0.27 ± 0.04). This year's **Razorbill** population of 1,742 AOL was a 24.3% decrease from 2016. A minimum of 246 eggs/young were counted in the colonies, this was an 11.4% decrease on the ten-year mean (278 ± 93.3).

The **Puffin** population increased yet again on Bardsey, with higher numbers and Puffins continuing to spread south around Pen Cristin. The highest count of the year was 169 in July, but several other counts in the region of 110-140 were made throughout June and July. While the exact occupancy figure for Puffins is very hard to ascertain in a dense Manx Shearwater colony, one slope north of Bae Felen in which the vast majority of burrows were thought to have been dug by Puffins held 91 AOB's. It was also estimated there were five pairs spread around Pen Cristin, five pairs at Bae Felen and 17+ pairs in the North End Gull Colony. A minimum estimate of 100 pairs are likely to be present around the island, but in reality, the number could well be closer to 115 or 120. A systematic burrow count on Ynys Gwylan Fawr this year found 663 apparently occupied burrows, a 9.3% decrease on the 2008-2017 mean (731 ± 95.2). The population has declined by an almost identical rate in the last two years, with a 9.5% decrease compared to the ten-year mean recorded in 2016.

*Numbers presented are means ± standard deviation (for population sizes) or standard error (for productivity estimates).

For more information on Bardsey Bird Observatory, visit their website or follow them on Twitter @bardseyobs.

Skomer

Edward Stubbings, Birgitta Büche (The Wildlife Trust of South and West Wales) & Matt J. Wood (University of Gloucestershire)

Fulmar: No whole-island count in 2017. Productivity was 0.41 chicks per AOS which is close to the average of the previous five years (0.40).

Manx Shearwater: Responses (to playback) within the standard census plots were down slightly on 2016, but close to the five-year mean, indicating that the population remains stable. In 2017, each plot was censused twice to compare response rates to old tape recordings (male call only) and MP3 recordings (male and female calls). Breeding success in 2017 was 0.58, this being 0.05 lower than in 2016. A chick ringed in 1991 was found this year in the breeding colony on Ramsey Island, north across St. Brides Bay.

Storm-Petrel: Ringing of adults in the colony at Tom's House continued, with an increasing number of retraps from previous years.

Herring Gull: Numbers remain at an all-time low with 297 AON. This represents a 7.5% decline on the previous year. Productivity was up on the previous year at 0.72.

Lesser Black-backed Gull: Counts and productivity calculations are in preparation, but it was obviously another poor year, with dwindling numbers in most sub-colonies and poor reproductive success**.** A ringed bird was found washed ashore dead at nearby Nolton Haven, having been ringed as a chick 29 years ago.

Great Black-backed Gull: Numbers were slightly up on 2016 at 120 AON and productivity was 1.32 chicks per AON (8.33% down on 2016).

Kittiwake: This year's whole-island count fell, once again, to 1,336 AON, a drop of 9.48% on the previous year. Productivity was also very poor at just 0.33 chicks per AON, a drop of 49.2% and the lowest since 2012. We remain concerned that Pembrokeshire's Kittiwakes may be beginning to suffer the same fate as sites further north.

Guillemot: A mean of 24,665 individuals was counted in 2017. This represents a 3.86% increase since the last whole-island count in 2015. Productivity was 0.69 chicks per active breeding site, which is 10.2% higher than last year's figure (0.63) and 7.8% higher than the mean of the previous five years (0.64).

Razorbill: No whole-island count of Razorbills in 2017. There was a decline of 3.8% in the total number of Razorbills counted across all the study plots compared with 2016. This is, however, a decline of <1% from the five-year mean. Productivity was 0.52 chicks per active breeding site.

A dead Lesser Black-backed Gull, ringed as a nestling in 1988 – making it 29 years old! - was found on the shore on Skomer this summer (P Reufsteck).

Puffin: There was another large increase in the total number of individual Puffins counted in spring 2017 at 25,227. This represents an increase of 11.9% on the previous year and is the highest total since current records began in 1988. Productivity at the study plot on the Neck was 0.77 chicks per occupied burrow.

More information will be available once the full Skomer Seabird Report 2017 becomes available at http://www.welshwildlife.org/news/wildlife-trust-reports/.

Seaford

David H Howey

The colony of **Black-legged Kittiwakes** *Rissa tridactyla* on the chalk cliffs at **Seaford** in East Sussex is the largest on the south coast of England. Figures produced by Hamilton (2016) show that, in 2011, the Sussex colony represented just over 50% of the total breeding Kittiwake population on the English south coast between north Devon and north Kent. At that time, the Sussex colony numbered 1,128 AON (apparently occupied nests) but numbers have fluctuated since then. In recent years, the numbers of AON have been 725 in 2014, 660 in 2015, 1,120 in 2016 and 773 in 2017. Productivity in 2017 was 0.69, which is below the level of 0.8 necessary for the colony to maintain its population (Coulson, 2011).

In addition to low productivity, there are two other possible threats to the colony. The chalk cliffs along the Sussex coast are extremely unstable and subject to increasingly frequent falls. In June and July 2017, there were three cliff falls within 3 km of the Kittiwake colony. Previous cliff falls have generally been during the winter months, so falls during the breeding season are a worrying trend.

A further possible threat is the offshore wind farm currently under construction off the Sussex coast. This will produce a barrier effect on the line between the Kittiwake colony and the birds' favoured feeding area. If the Kittiwakes continue to use the direct route when the wind farm is operating there will be an obvious collision risk. Alternatively, if the birds fly around the wind farm to reach their feeding grounds this will add to the energy budget but how significant that increase will be is unknown.

References

Coulson JC. 2011. *The Kittiwake.* T & AD Poyser.

McMurdo Hamilton T, Brown A and Lock L. 2016. Kittiwake declines extend to southern England and beyond. *British Birds* 109: 199-210.

Editor's note

E.ON are currently constructing the Rampion Offshore Wind Farm, which involves the installation of 116 wind turbines 13 km off the Sussex coast, and 27 km associated underground cabling. Wind energy is considered to be one of a suite of technologies that are required to combat climate change, which poses one of the biggest threats to global biodiversity. However, wind energy installations should be sited sensitively and steps taken to minimise impact on wildlife. Concerns were raised by the RSPB, Sussex Ornithological Society and Natural England about the potential impact on birds migrating through the English Channel and local breeding populations, especially Black-legged Kittiwakes, in respect of disturbance, displacement and collision risk. Both organisations raised concerns that the predicted increase in baseline mortality of Kittiwakes and Gannets was significant. Although the area is used by regionally or nationally important numbers of seabird species - including Gannet, Kittiwake, Fulmar, Guillemot, Razorbill – it was deemed that these species forage over a wide area and the footprint of the wind farm represented a very small part of larger foraging areas.

Paper reviews

Fretwell, P.T. *et al.* 2017. Using super-high resolution satellite imagery to census threatened albatrosses. *Ibis* 159: 481-490. DOI: 10.1111/ibi.12482

Satellite imagery at 30 cm resolution was used to count individual **Wandering Albatrosses** at a colony in **South Georgia** and ground-truthed against ground-based counts. A 20.1% overestimate was made, due to the presence of partners, pre-breeders and failed-breeders (this ratio may vary according to various factors).

The same technique was applied to **Northern Royal Albatross** colonies in the **Chatham Islands**. On the Fourty-Four Islands, the colony was a similar size to the 2009/10 ground-based counts, but the colony on the Sister Islands was only 32% of the size it had been (images taken 52 days earlier showed a colony around 60% of the previous size, suggesting failures occurred in the mid-incubation to brood-guard period).

On images of this scale, an albatross shows up as two pixels. Although the resolution is lower than aerial photographic survey, there are no stitching errors as can occur with the latter technique. This is useful as a relatively cheap and disturbance-free method for surveying inaccessible colonies of large species, especially where their colour contrasts with the substrate.

Grist, H. *et al.* 2017. Reproductive performance of resident and migratory, males, females and pairs in a partially migratory bird. *Journal of Animal Ecology* 86:1010–1021. DOI: 10.1111/1365-2656.12691

Colour-ring resighting at breeding colonies and winter roosts was used to classify 435 known-sex individual **European Shags** breeding on the **Isle of May** as either resident or migratory (birds seen wintering on the Scottish coast between Aberdeen and Inverness). Across the winters 2009/10, 2010/11 and 2011/12, 243 and 192 birds were classified as resident or migrant respectively. Migration strategy was not found to be sex-biased and strategy switching by individuals occurred only rarely.

Mean breeding success differed between years, suggesting differing environmental conditions for reproduction between years. However, a consistent pattern was revealed in which individual resident males or females hatched their broods six days earlier and fledged 0.2 chicks per pair more than individual migrant males or females. In addition, pairs in which both male and female were resident hatched chicks 12 days earlier and fledged an average of 0.7 chicks per pair more than pairs where both adults migrated.Despite these differences there was no evidence of assortative pairing according to migration strategy. Possible underlying mechanisms and implications are discussed further in the paper, which is free for anyone to read.

3rd Word Seabird Conference

The Australasian Seabird Group has been successful in their bid to host the **3rd World Seabird Conference** - the world's biggest gathering of seabirders – in 2020! It is planned to be held in Hobart city in the spring of 2020. The two previous conferences brought together ~800 delegates from more than 40 countries for presentations, posters, meetings and workshops. It is hoped that some exciting field trips will be developed in conjunction with the conference in both Australia and New Zealand. Keep an eye on the ASG's website and Twitter account (@AUS_NZ_Seabirds) for further details.

Grant report: Measuring the breeding success of Red-billed Tropicbirds (*Phaethon aethereus*) on St. Eustatius, Dutch Caribbean

Thomas Foxley

Rats are widespread invasive species and have been reported to be a big problem for seabirds in many parts of the world. Many seabird species are adapted to breeding on isolated islands that – until relatively recently – were free from predators. A slow breeding rate and lack of defensive adaptations mean that many seabird populations have crashed under pressure from invasive species.

In the 2011-12 breeding season, a 0% breeding success rate was reported for **Red-billed Tropicbirds** on Saba, a small island in the Dutch Caribbean, approx. 26 km north east of St. Eustatius. Following this report, a pilot study was set up on St. Eustatius in the 2012-13 breeding season, monitoring five breeding sites. Results from this study suggested that breeding success could be as low as 33% at some sites. One site – Pilot Hill, the largest and most accessible of the five sites (figure 1) – was selected for more intense monitoring.

Nest cavities were monitored weekly; if birds were found (photo 1), these were extracted and biometrics (mass, bill length, bill depth, head-bill length) taken (photo 2) and birds were ringed. Biometrics for adults were only taken for new individuals as once mature bill measurements do not change. Chick biometrics were taken weekly. Ten camera traps were deployed in nests to try to identify the causes of breeding failure; these generally focussed on nests with eggs and new chicks (up to two weeks old).

Of nests monitored from 14th October 2013 to 8th April 2014, 60% hatched successfully. Of those that hatched successfully, there was 65% fledging success. Overall breeding success was 45% (table 1). Rats and Tropicbirds were the only cause of egg loss identified by camera-trapping. Many photos were also taken of land crabs; while these were not seen taking any eggs they visited nests frequently and were photographed scavenging eggs taken by rats. Six incidents of rats taking eggs were recorded on camera (e.g. photo 3) and there were two incidents of eggs being destroyed by Tropicbirds (e.g. photo 4). It wasn't possible to identify individuals from photos so it's impossible to say eggs weren't destroyed by the parents; however, it appeared likely that this was caused by other adults. Photos show that rats take eggs opportunistically – they do not force birds from eggs and only predated upon eggs that had been left unattended by adults. Adults often left eggs unattended; the reason for this is unknown – perhaps due to inexperience or the need to feed.

This first year of intensive monitoring at Pilot Hill has laid important foundations for the long-term monitoring of breeding Tropicbirds on St. Eustatius. The monitoring programme will continue and the results found will contribute to informing conservation strategies for seabirds in the Dutch Caribbean.

I'd like to thank the Percy Sladen Memorial Trust and the Seabird Group for helping fund my stay on St Eustatius, Steffen Oppel and Ellie Owen for their help and advice, and all the volunteers who helped with fieldwork (Sven, Ryan, Charlotte, Catherine, Eric, Robert-Jann, Elsbeth, John, Sheila, Ian and Dalia).

Editor: You can read Thomas' full report on our website.

Adult Red-billed Tropicbird with chick at the nest (Thomas Foxley)

UK National Seabird Census: Sula Sgeir SPA, aerial survey, June 2017

Stuart Murray (murraysurvey@yahoo.co.uk)

Sula Sgeir is one of Scotland's least known, least visited and remotest islands. It lies 83 km northwest of Cape Wrath on the mainland and 65 km north of the Butt of Lewis in the Western Isles. As a Special Protection Area for seabirds, it was a major target for the current UK National Seabird Census, '*Seabirds Count*', but the cost of a combined boat and land-based survey were beyond the budgets of any of the interested parties. However, the Gannet colony on the rock has been successfully surveyed from the air on four occasions, most recently in 2013, and it was noticed then that **Guillemots** stood out clearly in many of the photographs. This was the species we were most keen to census, as a partial count made in 2012 suggested Guillemot numbers could be half of what they were in 1986 (Murray & Wilson 2013). Given that camera technology has moved on considerably since the days of colour slide film it was thought worthwhile attempting a relatively low cost, aerial photographic survey.

Financial support came from the Seabird Group, Scottish National Heritage and the Scottish Ornithologists' Club. The funding was enough to pay the basic costs of a private flight from the mainland, but for various reasons this didn't work out and a commercial charter had to be negotiated. The survey was then only made possible by Historic Environment Scotland stepping in and meeting half the greatly increased cost, providing they could photograph the archaeological sites on both Sula Sgeir and nearby North Rona.

The focus being on Guillemots, we wanted to carry out a survey by mid-June at the latest. We were dished on this for two reasons, appalling weather and limited availability of the aircraft; as a result, we did the flight on the last possible date, 30 June 2017. Had there been early fledging, many of the birds would have gone; however, information from Sumburgh Head - (Shetland) the nearest monitored Guillemot colony - told us that first fledging only happened there that day. Also, work going on at Cape Wrath showed no indications of fledging, or decreasing numbers of adults onshore throughout the following first week of July. Although the count will not be comparable with any previous counts, we will at least have a count and it can be used as a baseline for any future aerial survey. More than for most seabird colonies such a survey is likely, principally to keep on top of what is happening with the gannetry. It is the only UK colony where young gannets are killed (under license by the Scottish Government) for human consumption and the next Gannet survey can surely include Guillemot.

As far as I know, this is the first time in the UK that an auk will have been counted from aerial photographs, although it has been done in Iceland for both Guillemot and Razorbill (Gardarsson 1995). The final results will take some time to prepare but the indications are that the exercise has been both successful and delivered value for money.

Gardarsson, A. (1995). Numbers and distribution of Common Murre *Uria aalge*, Thick-billed Murre *U. lomvia* and Razorbill *Alca torda* in Iceland. *Bliki* **16**: 47-65.

Murray, S. & Wilson, L. J. (2013). Guillemots and Kittiwakes on Sula Sgeir in 2012. *Seabird Group Newsletter* **123**. June 2013.

An aerial view of Sula Sgeir from the west, 30 June 2017. The gannetry can be seen as the white areas (Stuart Murray).

UK National Seabird Census: Cape Wrath SPA, land and sea survey, June 2017

Digger Jackson (digger@atlanticecology.co.uk) and Stuart Murray (murraysurvey@yahoo.co.uk)

The **Cape Wrath Special Protection Area** (SPA) covers 21 km of coastline in the extreme northwest of mainland Scotland. The site includes the Clo Mor cliffs, the highest sea cliffs on the UK mainland (up to 281 m). The main SPA designation features are the large colonies of cliff-nesting seabirds, in particular: Fulmar, Kittiwake, Guillemot, Razorbill and Puffin. The remoteness of the area and large size of the site (it includes *c*. 8 km^2 of moorland/blanket bog), coupled with the difficulties of obtaining good views of most of the bird dense sections, make the Cape Wrath/Clo Mor colonies challenging to survey. As part of the Scottish Natural Heritage (SNH) site condition monitoring programme, a survey was commissioned in 2017 to count the cliff-nesting seabirds on the SPA. Counting was undertaken by the authors between 31 May and 4 June, using a combination of land-based and boat-based methods. This note summarises the main findings and full results will be available from SNH in early 2018.

Centred on the Cape Wrath headland, the SPA runs south down the west coast for *c*. 6 km and east along the north coast for *c*. 15 km. The last survey was for Seabird 2000 and the coastline was divided into 16 main count sections. These sections were adopted again in 2017 and, to facilitate counting, the 16 main sections were divided into 60 sub-sections. A portfolio of marked photographs was also made, taken from offshore, or the land, covering the entire SPA coast and showing both section and sub-section boundaries. In addition to counting the 16 sections, a series of small monitoring plots that lend themselves to land-based counting were defined for the first time, and it is intended that these will form the basis of regular, future monitoring.

The coastal distribution of breeding seabirds in the SPA is very uneven; the great majority (approx. 98%) breed on Clo Mor, in the five main sections running east from Kearvaig Bay. The west coast sections hold very few breeding seabirds, mainly Fulmars. The north coast sections from Cape Wrath to Kearvaig Bay also hold relatively few breeding seabirds, most of which are on the cliffs in the vicinity of the lighthouse. There appears to have been no gross changes in the overall species distribution between the individual count sections since the Seabird 2000 counts. Comments on the SPA qualifying species follow.

Fulmar: The estimated number of breeding Fulmar has reduced by approx. 33% since 2000 (1,859 to 1,253 AOS). The observed change is broadly in line with the magnitude of declines seen elsewhere in north and west Scotland.

Kittiwake: The estimated number of breeding Kittiwake has reduced by approx. 65% since 2000 (10,316 to 3,622 AON). The observed change is broadly in line with the magnitude of declines seen elsewhere in north and west Scotland.

Guillemot: The estimated number of breeding Guillemot has reduced by approx. 7% since 2000 (40,786 to 38,045 birds). The observed decline is likely to be only a coarse indication of actual changes, as this species is difficult to count accurately at Cape Wrath, particularly in the sections requiring boat-based counts, where scree slopes, caves and deep ledges cannot be easily viewed and, as a result, undercounting is likely. Colonies elsewhere in north Scotland have shown varying trends since Seabird 2000, with large declines at some sites and more modest declines at others.

Razorbill: The estimated number of breeding Razorbill has increased by approx. 8% since 2000 (2,972 to 3,215 birds). The observed increase is likely to be only a coarse indication of actual changes as, in general, birds are difficult to count accurately; this is particularly so at Cape Wrath due to the height of the cliffs and the semi-concealed sites favoured by the species. Colonies in north Scotland have mostly shown small to moderate reductions since Seabird 2000, but at regularly counted colonies there is evidence of numbers recovering in the past few years.

Puffin: A direct comparison between the number of Puffin counted in 2017 and 2000 is not considered to give a valid indication of any population change over this period, as the 2017 counts were undertaken at a time of year (early June) when Puffin numbers are unlikely to give a reliable indication of the numbers breeding. The Seabird 2000 Puffin counts were undertaken later in the year as part of a separate exercise. Nevertheless, it is clear that Puffins continue to breed in reasonable numbers in the SPA, although largely in areas that are inaccessible.

Other breeding species: All other seabirds encountered on the SPA were mapped and counted. Principal cliff-nesters were **Shag**, **Herring Gull** and **Great Black-backed Gull**, with **Arctic Skua** and **Great Skua** on the blanket bog. All five were breeding, but in trivial numbers. Herring Gull was virtually unchanged, with 12 AON in 2000 and ten in 2017. Great Black-backed Gull increased from nine to 13 AON and Shag from 39 to 67 AON. Five (possibly six) territories of Arctic Skua and three territories of Great Skua were noted, though most of these were breeding outside the landward extent of the SPA.

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The Seabird Group promotes and helps co-ordinate the study and conservation of seabirds. Members also receive the journal *Seabird*. The Group organises regular conferences and provides small grants towards research.

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Current retirement dates (at AGM) are shown in brackets:

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Submissions for the newsletter should be emailed to the newsletter editor: newsletter@seabirdgroup.org.uk. We recommend a maximum of 1500 words and ask that photographs and figures are sent as separate files and with full credits, where appropriate. **Deadlines are: 15th January (February edition); 15th May (June edition); and, 15th September (October edition).** Every effort is made to check the content of the material that we publish. It is not, however, always possible to check thoroughly every piece of information back to its original source as well as keeping news timely. If you have any concerns about any of the information or contacts provided, please contact the Newsletter Editor.