



NEWSLETTER 128

FEBRUARY 2015

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TRACKING CORMORANTS AT THE FALKLAND ISLANDS

Marine activities at the Falkland Islands are likely to grow with recent offshore hydrocarbon exploration and the anticipated economic and population growth that may follow. While research into understanding overlaps of pelagic mega-fauna (cetaceans, pinnipeds and penguins) with commercial activities is being ramped up, there is still a need to understand how inshore marine activities may change over time and how best they can be developed alongside conservation interests.

The Falkland Islands, South Atlantic, are well known for their iconic seabird populations, in particular penguins and albatrosses, which receive much research interest. However, with 61 species breeding at the Islands, there is a wealth of seabird ecology yet to be fully explored. In the austral summer of 2013-14, Falklands Conservation undertook a small study on the foraging behaviour of the two resident cormorant species, funded by the Seabird Group and the Falkland Islands Government. The **Rock Cormorant** *Phalacrocorax magellanicus* and **Falkland Cormorant** *P. (atriceps) albiventer* (known locally as **Imperial** or King) breed in colonies scattered along the coast and are fairly common and widespread. This study was conducted at two islands where both species breed in close proximity. **Middle Island** is a small island (150 ha) owned by Falklands Conservation and located at the east of the Falklands within the enclosed and shallow-water environment of Choisuel Sound (**Fig.1**). The remote island of **Steeple Jason** is owned by the Wildlife Conservation Society (New York) and is located to the outer northwest of the archipelago in deeper oceanic waters (**Fig.1**). Steeple Jason is internationally important as it holds the world's largest breeding colony of Black-browed Albatross, supporting 214,000 pairs in 2010.



Imperial Cormorant with GPS device attending nest at Steeple Jason.

Photo credit: Andy Stanworth.

We conducted field work when adult breeding cormorants were attending nests during the late incubation and chick-rearing periods. Modified GPS (i-gotU) units and dive loggers (CEFAS Technology G5) were deployed by taping to the lower back or tail feathers (see photo). In total, 22 and 20 GPS devices were deployed at Middle Island and Steeple Jason, respectively, on Imperial Cormorants, and 16 and 12 devices on Rock Cormorants. A total of 27 dive loggers were deployed across both sites and species and 30 regurgitated meals were collected opportunistically. Despite working in gale-force conditions on some days (typical Falkland summer), we managed to retrieve all but four devices. These are the first tracking data collected from **Rock Cormorants** at the Falklands; the data showed that they exploited the near-shore environment, foraging in association with kelp beds and travelling short distances (<2 km) from the colony. Kelp beds provide high densities of marine invertebrates and fish species, and, from recovered regurgitates, we found they were taking predominantly juvenile fish (*Patagonotothen* spp). **Imperial Cormorants**, being slightly larger and heavier birds than the Rock Cormorants, travelled further offshore, with males at Steeple Jason foraging the furthest (up to 41 km into the open ocean; **Fig. I**). At Middle Island, more than 90 % of travelling and foraging activity for both sexes was concentrated within the shallow waters of the enclosed Sound and only a few males ventured further offshore into the open water. Female Imperial Cormorants typically travelled and foraged in association with coastal features and land masses; at Steeple Jason, the furthest distances travelled were up to 30 km from the colony. Data collected by dive loggers showed typically shallow dives (<10 m) for Rock Cormorants, while the heavier Imperial Cormorants dived to 20–30 m.

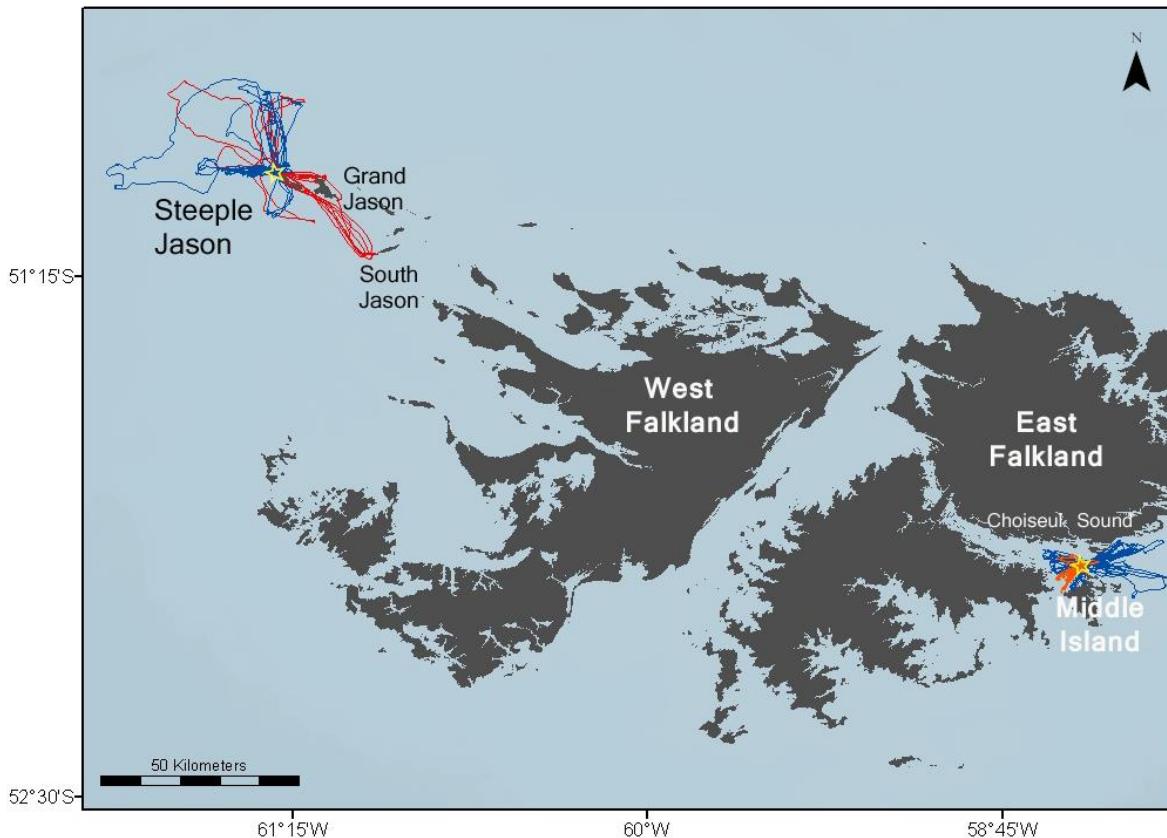


Figure I: GPS tracks of female (red) and male (blue) Imperial Cormorants at Steeple Jason and Middle Island.

The tracking data collected will now be fed into a Marine Spatial Planning project currently being carried out for the Falklands' waters by the South Atlantic Environmental Research Institute along with Birdlife International. The intention is to map and identify areas used by humans and wildlife and highlight any sensitive zones. The study showed that coastal zones, in particular kelp beds, are important foraging grounds for cormorants and those in close proximity to inshore or coastal activities will be more susceptible to disturbances. Surveys of breeding pairs were also conducted alongside tracking; in terms of future work, it will be beneficial to review the distribution and relative sizes of breeding colonies so that future activities and developments can be planned with minimal effects on Cormorant populations.

This study was funded by the Seabird Group and the Falkland Islands Government. We thank Norman Ratcliffe (British Antarctic Survey) for his collaboration.

Sarah Crofts (Falklands Conservation - cso@conservation.org.flk)

MESSAGE FROM THE CHAIRMAN

Dear Seabird Group Members

I am delighted to announce that, at the 2014 AGM, we were able to fill all of the available ExCom posts with excellent candidates. I would therefore like to take this opportunity to introduce your new ExCom members:

Alice Trevail, who recently completed a Masters in Marine Biology at the National Oceanography Centre, Southampton, takes over from Lucy Quinn as the new Membership Secretary (Lucy has recently taken up an exciting assignment in Antarctica). **Stuart Murray** replaces Chris Thaxter as Ordinary Member; Stuart has a wealth of seabird survey experience, particularly on Scottish islands, and will therefore have particular responsibility for coordinating our approach to the next national seabird census (see below). **Will Miles** is another new member with extensive experience of surveying Scottish seabird colonies, and replaces Kerry Leonard as Treasurer. **Hannah Watson**, a postdoctoral researcher at Lund University, is the new Newsletter Editor (replacing Claire Smith), and **Holly Kirk**, a finishing PhD student at the University of Oxford, is Ordinary Member with responsibility for assisting with newsletter and journal editing (replacing Mark Newell). **Viola Ross-Smith** of the BTO takes over from Mark Lewis as Ordinary Member with responsibility for social media and ensuring that group activities are well advertised on Twitter and Facebook. **Katherine Booth-Jones** of the ZSL Institute of Zoology is the new Early Career Seabird Group representative (replacing Jenny Sturgeon) and will be supported in the role by **Ollie Padgett** and **Marianna Chimienti**.

On behalf of all Seabird Group members, I would like to thank everyone on ExCom (old and new) for their hard work supporting the group. Note that we are still looking for someone to work alongside Martin Heubeck on our journal, *Seabird*, in the coming months, in advance of his rotation off ExCom at the end of this year. So, if you are interested in editing or co-editing the journal and would like the chance to gain upfront experience working with Martin in the coming months, please let me know.

Another important development for the group is the next national seabird census. The Seabird Group is one of several organisations contributing to the census steering group and we have been pushing for fieldwork to get under way as soon as possible. It has now been agreed that census fieldwork will commence in 2015 and that JNCC will provide a census coordinator. All partner organisations will contribute and combine existing resources in the absence of significant external funding. The Seabird Group are committed to supporting census fieldwork undertaken by our members and the ExCom, guided by Stuart Murray, have been investigating where our £25k legacy fund may be best deployed for this purpose. This is all due for discussion at the next census steering group meeting in late February/early March, after which I will hopefully be able to provide more detailed information about how our members can contribute. The timescales involved mean we may sometimes need to use email and social media to get messages to you, so please make sure Alice has your up-to-date electronic contact details (see separate note below) and, if you don't already, follow us on [Facebook](#) and [Twitter](#) (@TheSeabirdGroup).

Finally, the Seabird Group was founded in early January 1966 and, although we are rightly focusing our resources on initiation of the census, we would like to recognise our upcoming 50th anniversary in an appropriate way. Our current thinking is to help support and promote our presence at the second World Seabird Conference in Cape Town, South Africa in late October, and we will provide further information about how we might do this in due course. If members have additional ideas or suggestions, including something that could be done at the late autumn AGM, please drop me an email.

Russell B. Wynn (Seabird Group Chairman/National Oceanography Centre, UK - rbw1@noc.ac.uk)

ELECTRONIC NEWSLETTERS AND MEMBERS' CONTACT DETAILS

A number of our members still receive newsletters in hard-copy format, sent in the post. While we are happy to continue to send paper newsletters to those who prefer it, sending e-Newsletters saves the Seabird Group money and frees up more money to direct into other areas, such as grants to fund research and conservation projects. Electronic newsletters are in colour, while paper newsletters are printed in black and white. Anyone who wishes to opt to receive electronic newsletters in future, please let our new membership secretary, Alice Trevail, know (see contact details below). Please also remember to update your details with us, should your postal or email address change. On a final note, it has come to our attention that a few members may have missed out on receiving the latest copy of the journal, *Seabird* 27, which was sent out at the end of 2014. If anyone has not received their copy of the journal, please get in touch with Alice. We apologise to those who may have not yet received their copy.

Alice Trevail (Membership Secretary - seabirdgroup.membership@gmail.com)

THOUGHTS OF A SEABIRD BIOLOGIST FROM THE 5TH INTERNATIONAL BIO-LOGGING SCIENCE SYMPOSIUM

What is the future for bio-logging studies of seabirds and what devices and technologies can we look forward to in coming years? The International Bio-logging conference, held every three years, offers an opportunity to catch up on the latest developments in technologies for gathering information on the behaviour, and increasingly the physiology, of wild animals. The meeting, and in fact the field of bio-logging itself, has been pioneered and dominated by marine mammal researchers, who share the same challenges as the seabird community: namely, collecting information about species whose lives are mostly spent far from human gaze and habitation. However, they have some advantages in that their species are generally large allowing the use of larger devices; because of this, new technologies are often applied to marine mammals first, before later miniaturisation. In late September 2014, ca. 800 people gathered for the 5th International Bio-logging Science Symposium (#BLS5, <http://bls5.sciencesconf.org>) in Strasbourg, France. Here's a brief account of what I picked up to be the key themes from the meeting for the seabird community.

A diverse set of plenary talks set out to synthesise different themes running through bio-logging. Rory Wilson (Swansea University) introduced the concept of the 'energy landscape', arguing that a fuller understanding of animal movement requires the consideration of energy use - the 'currency of life' - with, for example, a less direct path potentially energetically advantageous if a bird can use beneficial winds or thermals. David Gremillet (CEFE-CNRS Montpellier), giving the final talk, ambitiously looked at whether energetics can be used as a short-term proxy of Darwinian fitness. Following 70 Adélie Penguins with accelerometers, and combining this with 18 years of demographic colony monitoring, he investigated links between energy expenditure and fitness measures. A general paradigm is the 'live fast, die young' axis, with animals with higher energy expenditure expected to produce more offspring, but at the cost of a reduced life-span. Somewhat contrary to this, he found penguins with lower energy expenditure had higher lifetime reproductive success; a possible explanation is that most of the population already has relatively high energy expenditure, thus increasing energy expenditure further pushes them to earlier senescence.

To apply energetic theory more widely to the behaviour of tracked animals, we must develop effective ways of measuring energy expenditure. Several presentations looked at whether accelerometer data can be used to calculate energy expenditure, most looking at overall dynamic body acceleration (ODBA), or some variant of this measure. Tiphaine Jeanniard du Dot (University of British Columbia) used doubly-labelled water (DLW) to get a more precise measure of the total energy expenditure during foraging trips by fur seals. Dynamic body acceleration correlated well with DLW measurements, but only explained ca. 50% of variation in DLW-derived energy expenditure between foraging trips; while, rather surprisingly perhaps, a simpler measure of foraging effort - trip duration - explained 66% of variation. This is a sobering reminder that there is still much work to be done to refine our use of accelerometers. Combining accelerometers with magnetometers to record an animal's movement relative to the Earth's magnetic field may be one useful refinement of the technique. Hannah Williams and Emily Shepard (Swansea University) used this combination to study soaring flight in Andean Condors; could this potentially be a useful method for dynamic soaring seabirds too?

One alternative to measuring body movement to infer energy expenditure is heart rate. Olivier Duriez (University of Montpellier) used an electrocardiogram (ECG) device (Little Leonardo, Japan) to measure heart rate of a vulture. He found that the vulture had an elevated heart rate during both take-off and landing, suggesting high energy expenditure during these activities. This lends support to some of Rory Wilson's suggestions that time-activity budgets alone are insufficient to explain energy expenditure, with transitions between behaviours often more important. This was particularly extreme perhaps for the case of the vultures, where heart rate was barely higher than resting during flight, when they could mainly use thermal soaring and gliding. However, in Black-browed Albatross, high take-off and landing costs from water have also been found with the same technique (Sakamoto et al., *J. Exp. Biol.* doi:10.1242/jeb.079905).

Increasingly, different data sources are being combined to gain new insights into animal behaviour. Thomas Bodey (University of Exeter) presented a study combining GPS-tracking of Northern Gannets with concurrent tracking data of fishing vessels using the vessel monitoring system (VMS), showing how gannets displayed sophisticated responses to fishing boats. Gannets switched behaviour depending on the vessel and gear type, and also the vessel behaviour, with birds more likely to switch to foraging if the vessel was fishing rather than steaming (see *Curr. Biol.* doi:10.1016/j.cub.2014.04.041). In a post-conference workshop on connecting prey and predators, Jeremy Goldbogen (Stanford University) and Ari Friedlaender (Oregon State University) presented a very impressive study testing optimal foraging theory in Blue Whales! Using a GPS plus accelerometer tag on the whales, and a narrow-beam echosounder aboard a boat, they followed tagged whales in real time, mapping the prey field experienced by the

tagged whales. They demonstrated that, at a critical prey density, whales switched from a strategy in which they minimised oxygen consumption to one in which they sought to maximise energy gain per dive.



Concurrent tracking of Gannets and fishing vessels revealed sophisticated responses to fishing activities.

Photo credit: Johan Nilsson.

Alsace in northern France provided a beautiful setting for a conference, though the regional dish Choucroute Garnie (pork five ways!) proved a bit too much meat for even some seasoned carnivores (and certainly this vegetarian author)! The conference underlined, for me, that we are still only at the beginning of the bio-logging revolution and this is an exciting time to be a seabird biologist, as new tools become available to investigate both old and new questions. The next Bio-logging conference will be in 2017 at the University of Konstanz in Germany, convened by Martin Wikelski. Special issues of the journals, Movement Ecology and Animal Biotelemetry, will be published shortly covering some of the studies presented at Bio-logging. Thanks to Yan Ropert-Coudert (IPHC-CNRS Strasbourg) and the rest of the BLSS committee for organising a great conference.

Tom Evans (CAnMove, Lund University, Sweden)

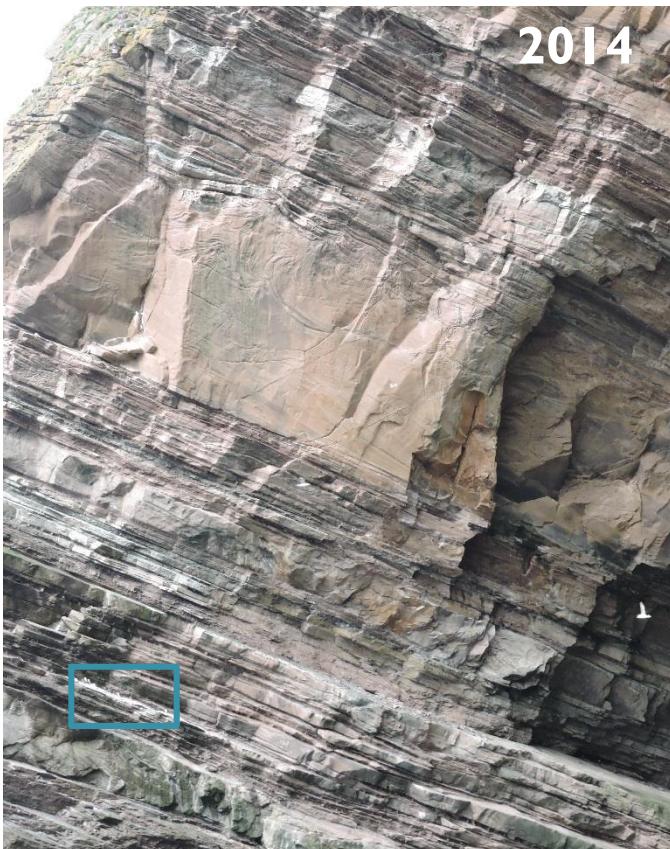
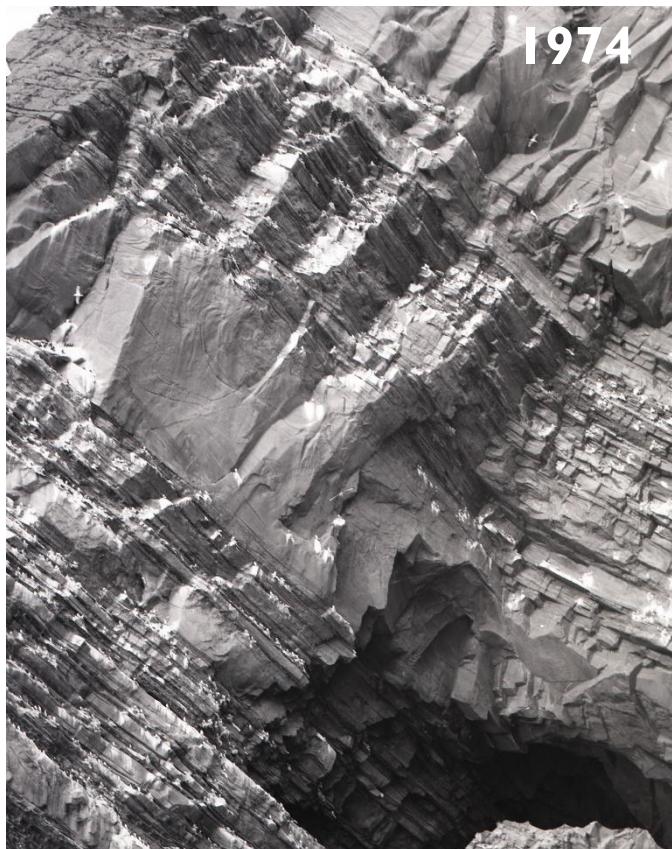
SEABIRD 28

Firstly, many thanks to all the authors, referees and book reviewers for their help in getting SEABIRD 27 published and circulated well before the end of 2014. The intention is now to build on this progress and get a similar-sized SEABIRD 28 published even earlier in 2015. Two refereed manuscripts have been held over, one new submission was received just before the end of the year and several other papers have been promised, but more material is required to get SEABIRD 28 to the desired 112 pages and to the printers by late October. If you have a half-written manuscript, or a story to tell that has yet to be committed to a keyboard, please consider submitting a first draft. Refereeing and editing does tend to get held up a bit in summer by fieldwork and family holidays, so your best chance of acceptance and publication in 2015 is to get your manuscript in as soon as you can.

Martin Heubeck (Journal Editor - martinheubeck@btinternet.com)

SHETLAND'S KITTIWAKES: NOW BELOW 4,000 BREEDING PAIRS?

From Muckle Flugga and Hermaness in the north to Fair Isle in the south, from Foula in the west to Noss in the east, and not forgetting all the many smaller colonies in between, Shetland's breeding Kittiwake population has been fairly closely monitored over the past 30 years. After a comprehensive census in 1981, no further whole-colony counts were made until 1985, the first year of the Seabird Colony Register census. Thereafter, surveys every few years of stretches of coastline or individual islands have tracked the fortunes of each colony, noting declines or extinctions at some and temporary increases or recolonisations at others. These data are held in a spreadsheet, with gaps in the years between actual counts of colonies filled in with estimates based on % change per annum, to provide an annual estimate of the overall breeding population. Actual counts at particular colonies are used to calculate the most recent population estimates until there is a recount.



West Gaad, Foula: A section of the mixed Kittiwake and Guillemot colony around the West Gaad natural arch on the north coast of Foula, photographed from the sea on 3rd July 1974 by Mike P. Harris (left) and on 21st June 2014 by Sheila Gear (right). The resolution on the 1974 photo is not clear enough for an accurate count, but at least 350 Kittiwakes (not necessarily on nests) and 450 Guillemots are visible. The 2014 photo shows just five Guillemots in the highlighted box.

Readers will know there has been a substantial decline over the past 30 years (**Fig. I**), a result of a combination of reduced adult survival, periodic very low breeding success, and possibly some emigration of established breeders (and/or reduced local recruitment of locally fledged individuals). While these factors may have affected breeding Kittiwakes in other regions of the UK, an added pressure at Shetland was increased predation of adults at colonies by Great Skuas, which, from direct observations and beached bird survey data, was particularly prevalent during 1991-97.

What may not be so widely known is the recent scale of this decline, with the 2014 estimate for the whole of Shetland being 3,856 nests, compared to 18,009 in 2000 and 54,564 in 1981. This level of accuracy is obviously spurious, but the 2014 figure is unlikely to be much of an underestimate for a combination of reasons. Half of the 2014 estimate was based on counts that year, including Fair Isle (963 AON), Foula (361 AON) and Sumburgh/Compass Heads (362 nests), while 16% was based on counts in 2012-13. Of the remaining 34% of the 2014 estimate, the greatest uncertainties were over colonies around Unst, last surveyed in 2009 (542 nests), and Noss (507 AON in 2010); at the former, numbers of nests in breeding success plots at Hermaness have been rather stable since 2009 while there has been a marked decrease (62%) since 2010 in success plots at Noss.

The rate of decline in the population estimate accelerated markedly in 1993 and (with the exception of 2013-14) has remained at 5-15% per annum since. The apparent 8% increase in the population estimate in 2014 was due to extensive non-breeding in 2013, with an overall 20% increase at colonies counted in both years. Although breeding success was relatively high in 2014 (mean \pm SD: 0.65 ± 0.37 fledged per AON at ten colonies; range: 0.00-1.08), this followed four years of very low success and any reversal of the population decline in the near future seems unlikely.

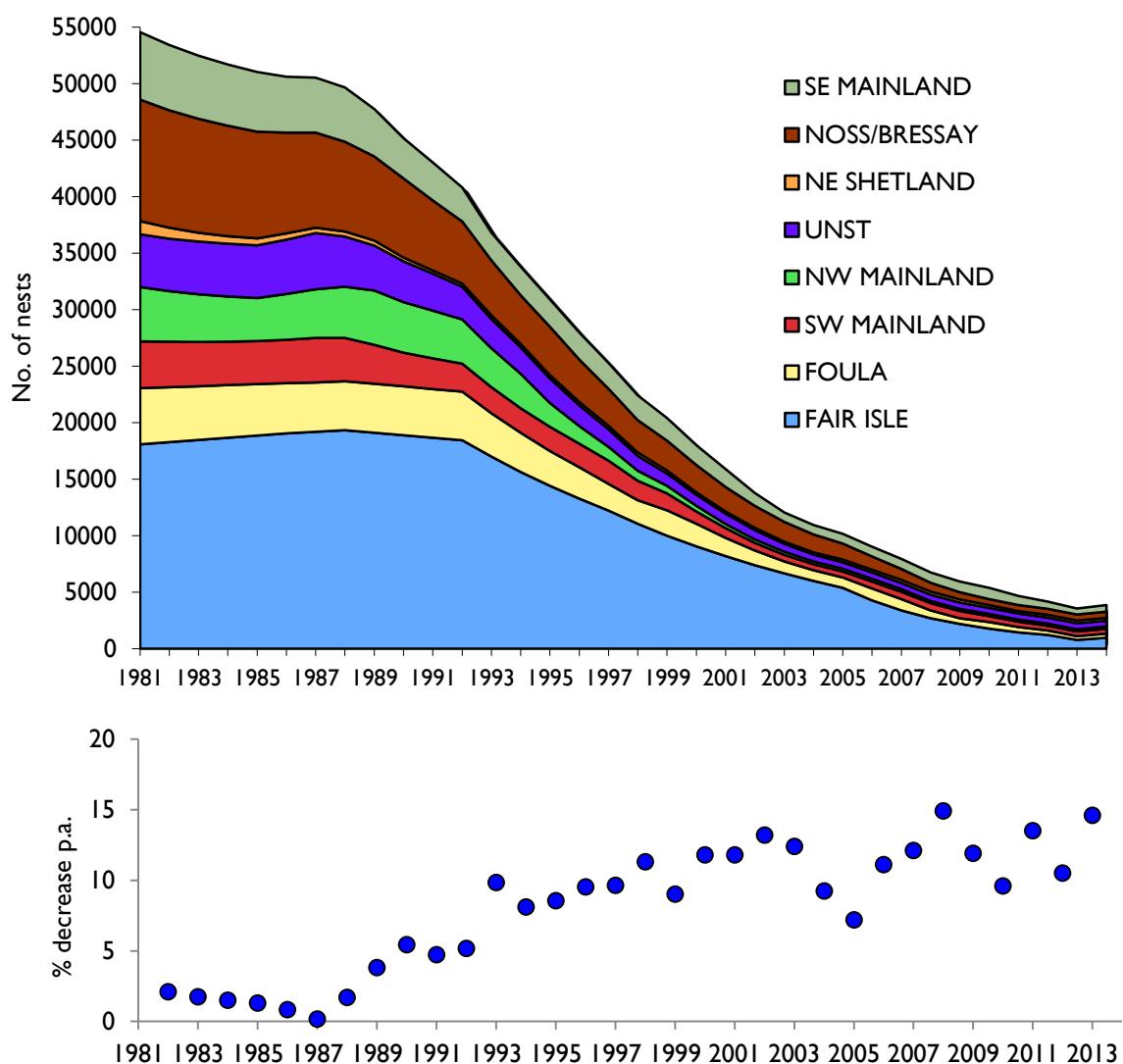


Figure 1. Upper: The estimated number of Kittiwake nests in different areas/islands of Shetland, 1981-2014. **Lower:** The annual percentage decrease in the population estimates. The 2013-14 figure (+8.4%) is not shown, and the 2010-13 figures should be treated with caution due to uncertainties over the number of nests at Unst and Noss.

Martin Heubeck & Mick Mellor (University of Aberdeen/SOTEAG); Sheila Gear (Foula Heritage); David Parnaby (Fair Isle Bird Observatory); Afra Skene & Jonathan Swale (Scottish Natural Heritage).

RSPB SANDEEL WORKSHOP

In December, the RSPB held a workshop on sandeels at the Scottish Seabird Centre in North Berwick. The workshop brought together experts from a range of fields - fisheries scientists, seabird biologists, marine mammal researchers, and advisers from government agencies - to discuss sandeel conservation for the first time. The aim was to build new working partnerships, share knowledge, uncover knowledge gaps and ultimately begin to identify key actions in order to protect sandeel populations and

increase their resilience against the multiple threats they face. There were presentations on a range of topics including seabird and cetacean feeding ecology, North Sea fisheries management and the latest research on sandeel ecology. The workshop triggered some really energetic conversations, which highlighted that:

- Drivers of sandeel population declines are very complex and vary from region to region, but climate change is a major threat;
- There is a clear need for more research on seabird and cetacean diet in multiple regions, both within, and outside of, the breeding season;
- Sustainable fisheries management and closure (where appropriate) has been, and will continue to be, very important in sandeel conservation;
- Minimising human impacts, including new ones such as renewable energy developments, on sandeel aggregations is a priority.

We now look to build on these partnerships, including that with the Scottish Seabird Centre, draw on what we learned and take forward the priority actions we identified.

For more information, please see our blog <http://www.rspb.org.uk/community/ourwork/b/biodiversity/archive/2014/12/15/what-a-tangled-food-web-we-weave-conserving-sandeels-for-the-marine-ecosystem.aspx> or contact Thalassa McMurdo Hamilton Thalassa.McMurdoHamilton@rspb.org.uk

Thalassa McMurdo Hamilton (RSPB)

PAPER REVIEWS

DELL'ARICCIA, G. ET AL. (2014) OLFACTORY FORAGING IN TEMPERATE WATERS: SENSITIVITY TO DIMETHYLSULPHIDE OF SHEARWATERS IN THE ATLANTIC OCEAN AND MEDITERRANEAN SEA. JOURNAL OF EXPERIMENTAL BIOLOGY, 217: 1701-1709

It has long been understood that many seabirds, procellariiformes in particular, use olfaction for both navigation and prey detection at sea. However, much of this evidence comes from sub-Antarctic species. In this study the authors measured the response of Cory's (*Calonectris borealis*) and Scopoli's (*C. diomedea*) Shearwaters to dimethylsulphide (DMS) in both experimental and natural environments. DMS is a compound produced by grazing phytoplankton, which is highly dispersed within the marine environment. The presence of phytoplankton is a good correlate for zooplankton feeding and hence a signal for zooplankton predators - small fish and squid. These are favoured prey items for many procellariiform seabirds and thus DMS may be a major cue for foraging seabirds. Here, the authors tested shearwater responses to DMS by presenting birds with the molecule in a Y-maze (a standard ethological method for measuring choice). They also observed the number of birds that were attracted to DMS at sea (in the Atlantic and Mediterranean Seas) by releasing DMS-scented and control (unscented) vegetable oil slicks. Both shearwater species responded to DMS in the choice test and at sea, in both oceans. This shows that sensitivity and attraction to DMS is widespread in petrel species, including those in temperate water ecosystems.

SERGIO, F. ET AL. (2014) INDIVIDUAL IMPROVEMENTS AND SELECTIVE MORTALITY SHAPE LIFELONG MIGRATORY PERFORMANCE. NATURE, 515: 410-413

Many members of the Seabird Group are interested in seabird migratory behaviour, with many actively involved in its study. Since ageing seabirds can often be tricky (unless ringed as nestlings), most migration studies track birds on their first migration and/or adults of an unknown age. As of yet, we understand little about if, and how, an individual's migratory behaviour varies with age. This cross-sectional study examined how migratory performance changes over an individual's lifetime in the black kite (*Milvus migrans*). The authors used GPS transmitters to track migration in 92 birds of known age on their migration from Spain to West Africa, also monitoring breeding success and fate following tag failure. Sergio et al. found extensive age differences in both timing of migration and flight behaviour, showing that the development of migratory behaviour follows a consistent trajectory throughout life. The authors also showed that increased fitness was correlated with early departure. Given that many members of the Seabird Group are building long-term migration datasets and beginning to track younger birds, it may be interesting to see if similar patterns begin to emerge from marine migrants.

Holly Kirk (Assistant Newsletter Editor/Oxford University)

UK GOVERNMENT CONSULTATIONS

The UK government is currently consulting on two policy areas that may be of interest to our members. A joint consultation between Defra, the Northern Ireland executive, the Scottish government and the Welsh government is seeking views on plans to implement the **European Marine Strategy Framework Directive (MSFD)** in the UK. The MSFD requires that EU member states put strategies in place to achieve or maintain 'Good Environmental Status' (GES) in their seas by 2020. Specifically, the current consultation covers the programme of measures to maintain or achieve GES. Relevant aspects include biodiversity, invasive species, commercially-exploited species, litter, contaminants and underwater noise amongst others. Anyone who uses the sea for any purpose, or has an interest in it, is encouraged to participate. More information on the consultation can be found at <https://consult.defra.gov.uk/marine/msfd-programme-of-measures>. You can respond via the online survey or email.

Defra is also consulting on the second tranche of **Marine Conservation Zones (MCZs)** around the English coastline and in the Irish Sea. The consultation is seeking views on the potential designation of each of 23 proposed MCZs, as well as the possibility of adding new features for conservation in 10 MCZs from the first tranche. While few of the proposed MCZs feature seabirds in their designation, members may be interested to view the list of proposed sites in case they have any relevant knowledge or recommendations to contribute to the consultation process. More information and access to the online survey can be found at <https://consult.defra.gov.uk/marine/tranche2mczs>.

MASS MORTALITY OF SEABIRDS ON US PACIFIC COAST

This winter has seen thousands of Cassin's Auks (*Ptychoramphus aleuticus*) washed up on beaches along the Pacific coast of the US, in what is being described as an unprecedented mass mortality event. There is no evidence of disease, trauma or oiling; it seems that the birds have starved to death. Cassin's Auks breed along the Pacific coast from Alaska's Aleutian Islands south to Baja California. Following fledging, both adults and young move far offshore, where they forage for krill. They are considered an excellent indicator of ocean conditions. A higher than normal number of winter mortalities was expected following a massive increase in breeding success in 2014, but the body count has far surpassed any expectations. It is thought that somewhere between 50,000 and 100,000 corpses have washed up so far. No previous bird mortality event tracked by the US Geological Survey since 1980 has exceeded 11,000 deaths. The mortalities have followed a period of ocean warming in the North Pacific, which contributed to a drought and 2014 being the hottest year on record in California. Although conditions were favourable early in the season, contributing to 98% of pairs breeding successfully in the first round of laying on the Farallon Islands (located off the coast of California), most abandoned on second attempts. Blue and Humpback Whales, which also feed on krill, were also observed to have left the island earlier than usual. It is thought that the warm water likely caused a drop in zooplankton prey, coinciding with peak fledging. However, it does not explain why the mortalities have so far been restricted to a single species.

Adapted from articles in The Press Democrat, National Geographic and Birdwatch.



A Cassin's Auklet bearing a time-depth recorder at South East Farallon Island, California.

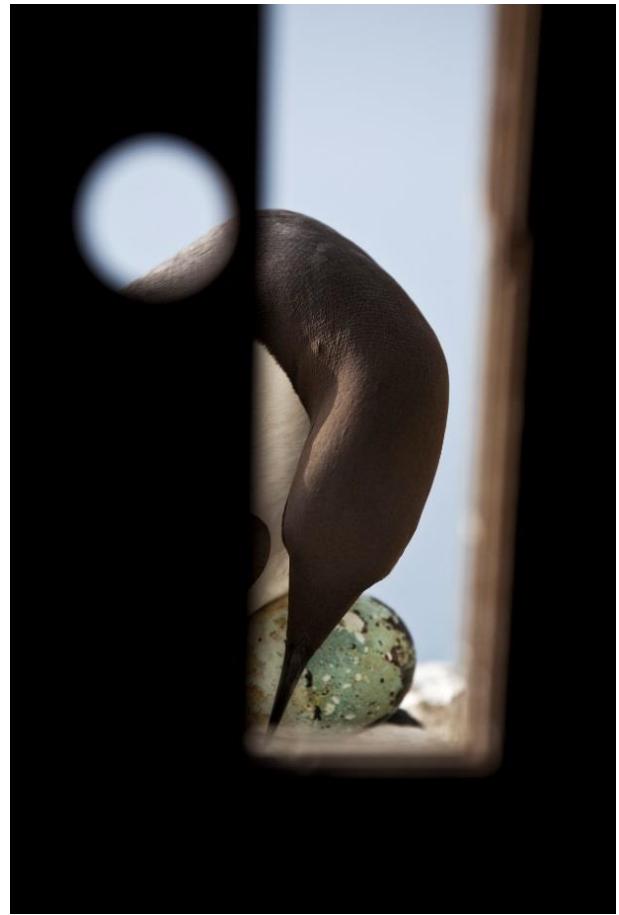
Photo credit: Hannah Watson.

BALTIC SEABIRD PROJECT

ACTIVITY REPORT 2014

The Baltic Seabird Project (BSP) was established in 1997 with the objective of gaining insight into the Baltic Sea ecosystem through studying its seabirds. BSP is primarily funded by Stockholm University and WWF Sweden. Field studies focus on Stora Karlsö, an island to the west of Gotland, and surrounding waters. The island supports breeding populations of Common Guillemots, Razorbills, Lesser Black-backed Gulls, Herring Gulls and Cormorants. A whole-island census of Guillemots in 2014 confirmed the consistent increase that has been indicated by annual counts in selected plots. The population has increased from ca. 6000 breeding pairs in 2005 to ca. 14000 pairs in 2014. Each year, more and more pairs are breeding at the Murre Lab, an artificial breeding colony, which offers great opportunities for research (see picture). From just a single egg in 2009, 21 eggs were laid in 2014, from which 14 chicks fledged. Large numbers of Guillemot chicks are ringed on Stora Karlsö each year, facilitating many monitoring and research studies, including one on adult survival. In 2014, an individual that was ringed in 1972 was re-sighted on the island; at 42 years old, this is a remarkable age for a Guillemot! More information can be found at www.balticseabird.com.

A window onto a Guillemot's world: the Murre Lab on Stora Karlsö offers fantastic opportunities for close encounters with Guillemots during the breeding season. Photo credit: Aron Hejdström.



UK BEACHED BIRD SURVEY 2014

The 2014 UK Beached Bird Survey was held during the weekend of 22-23 February. Over 550 volunteers walked 1,948 km of beaches along the UK coast. In total, 3,717 seabirds were found dead. This includes seaducks, divers and grebes, but excludes corpses recorded as 'wings only', and resulted in a density of 1.91 dead seabirds per km walked. This was the third highest density recorded since the current Beached Bird Survey format began in 1991 (range: 0.14-3.80).

The relentless winter storms that battered the UK coast in the months preceding the survey, and the large amount of rain that fell, made large parts of the south-west coast unstable and a decision was taken to cancel the Beached Bird Survey from Dorset to Somerset. This was a difficult decision to make as the Survey coincided with what may be the biggest North Atlantic mass seabird mortality event ('wreck') in living memory. The wreck began in late January and continued well into March. Increased numbers of dead seabirds were found on the north coast of Portugal, northern Spanish beaches, SW coast of France (northern Bay of Biscay), the Channel Islands, the south-west coast of England and Wales, and all along the west coast of the UK as far north as Shetland. Comparing this year's results with those from previous years will have to take into account that 150-200 km of coastline in the south/south-west of the country were not surveyed. But, even without the data from the part of the coast that took the brunt of the wreck in the UK, the high density of dead seabirds found is disconcerting. It is likely that, had the survey been carried out in that region, the national density of dead birds per km in 2014 would have exceeded the highest-ever figure of 3.8 birds/km in 1994.

Over 80% of all the seabirds found were auks, followed by cormorants/shags (5.6%), gulls (4.9%) and the largest number of Kittiwakes (141 or 3.8%) recorded since 2002 (**Table 1**). Twelve divers were also found, the highest figure since 2003, but the actual density per km was below 0.01. Numbers and densities of Fulmars, Gannets and grebes were below average. On a species level, just under half (48.7%) of dead birds found were Razorbills and almost a third (32.4%) were Guillemots. Only 2.1%, however, were Puffins. This is in sharp contrast to the total number of dead Puffins found during the wreck, which amounted to about 54%

of the more than 54,000 dead seabirds recorded. The vast majority of Puffins were found along the French coast and this shows that only international-wide recording can highlight the true scale of such a mortality event. The fluctuating trends in density for the three main species groups (auks, gulls and cormorants/shags) since 1991 are presented in **Figure 1**, clearly indicating the major mass mortality events of 1994, 1996 and 2014.

Table 1. Numbers, density and % oiled for different seabird groups found during the 2014 National Beached Bird Survey.

2014 National Beached Bird Survey Species Group	Number found	Density (no./km)	% Oiled
Auks	3111	1.59	0.5
Gulls	184	0.09	0.5
Cormorant & Shag	209	0.11	2.4
Fulmar	23	0.01	0
Gannet	18	<0.01	0
Kittiwake	141	0.07	0
Seaducks	16	<0.01	0
Divers	12	<0.01	0
Grebes	3	<0.01	0
Terns	0	0	N/A
Skuas	0	0	N/A
Petrels	0	0	N/A

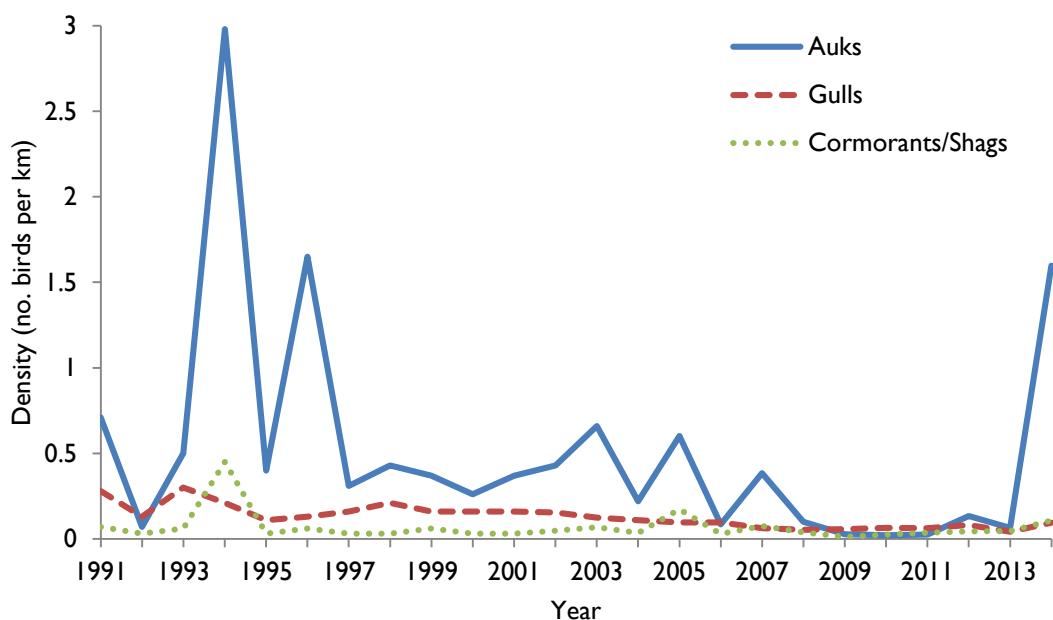


Figure 1. Trends in overall density of auk, gull and cormorant/shag corpses, 1991-2014.

Oiled birds were only found in three of the eight survey regions and were highest in the South (**Table 2**). The overall oiling rate of 0.5% of the birds found dead is the lowest recorded since 1991 (range: 0.5–26.8%). Although this appears to be good news, it will be largely an artefact of the unusually large proportion of birds that have died of other causes, but also due to a lack of data from the south/south-west, which normally have the highest oiling rates. A Black-headed Gull, one Gannet and a Razorbill were found entangled in fishing line/netting. Twelve seabirds, mainly auks, were recorded sick, but free of oil. At seven stretches of beach, three of them in the South, slight oiling was recorded and a 3km stretch in Sutherland was heavily oiled. As in most years, plastic rubbish and debris from the fishing industry was reported from many beaches. The highest density of dead seabirds per km was recorded in Orkney (7.6), followed by Wales (5.0) and the North-west (2.9). Northern Ireland recorded its highest density of dead seabirds since 1991 (0.6), but, on the east coast of England, density levels were not elevated compared with previous years (**Table 2**).

Table 2. Numbers, density and % oiled for all seabirds found in each region during the 2014 National Beached Bird Survey.

Region	Distance walked (km)	Number of dead seabirds	Density (no. dead birds/km)	% Oiled
Shetland	49.4	78	1.58	0.0
Orkney	37.9	287	7.57	0.0
North-east	521.5	400	0.77	2.0
South-east	292.1	29	0.10	0.0
South	108.9	188	1.72	3.2
South-west	0	N/A	N/A	N/A
Wales	156.3	788	5.04	0.0
North-west	653.6	1875	2.87	0.3
N. Ireland	128.6	72	0.56	0.0

We thank the regional RSPB staff for coordinating the survey in their respective regions and Martin Heubeck of the Shetland Oil Terminal Environmental Advisory Group (SOTEAG) for providing data from Shetland. A big “Thank You” also goes to all the volunteer coordinators and surveyors who helped with the 2014 Beached Bird Survey. The next National Beached Bird Survey will be held on 21-22 February 2015.

Adapted from the UK Beached Bird Survey Report 2014; the full report can be obtained from **Sabine Schmitt (RSPB - Sabine.Schmitt(at)rspb(dot)org(dot)uk)**.

SEABIRD GROUP AGM

MINUTES OF THE 49TH ANNUAL GENERAL MEETING CARRBRIDGE, 3PM 15TH NOVEMBER 2014

1. Present/Apologies

Present: Mark Newell, Jenny Sturgeon, Russell Wynn (Chairman), Martin Heubeck, Ellie Owen, Will Miles, Marianna Chimienti, Derren Fox, Ian Francis, Davide Dominoni, Sjurdur Hammer, Kirsty Lees, Francis Daunt, Alan Leitch, Andrew Ramsay, Mark Oksein, Ian Darling, Sheila Russell, Mike Harris, Sarah Wanless, Brian Little, Chris Redfern, Bernie Zonfrillo, Rob Robinson.

Russell Wynn gave an introduction to the Seabird Group and highlighted recent activity, such as the creation of the early career group, our conference at Oxford in March and the lifetime achievement award for Bill Bourne.

2. Minutes of the 48th AGM

Members asked whether there had been any news on updating the beached bird survey. Ellie Owen reported that there were internal discussions within RSPB to bring the survey up to date, but that this had not yet lead to specific changes. Ideas on how the beached bird survey could be updated were invited. Minutes were proposed by Mike Harris and seconded by Sarah Wanless.

3. Matters arising from the minutes

There were no matters arising from the minutes.

4. The 49th Annual Report

Russell Wynn went through the 49th Annual Report, which was proposed by Jenny Sturgeon and seconded by Martin Heubeck.

5. 2013-14 Accounts and Treasurers Report

Russell Wynn presented the accounts, which had been emailed prior to the AGM by Kerry Leonard. Russell Wynn highlighted that the group receives approximately £7000 from subs and explained that we are looking into higher interest accounts for the group's legacy. The £2000 from gift aid was used to cover travel grants for the 12th Seabird Group Conference. Accounts were proposed by Francis Daunt and seconded by Andrew Ramsay.

6. Membership

Membership is increasing with 30 new members and 3 new life members in the last year.

7. Seabird Journal

Martin reported that *Seabird* 27 was with the printer. Martin Heubeck, Andy Webb and Harry Scott were thanked for producing the journal. Russell Wynn thanked the contributing authors and reviewers.

8. World Seabird Union

Russell Wynn explained our role in the World Seabird Union and advertised the WSU conference in October 2015 in Cape Town.

9. Nominations to the Executive Committee

- Alice Trevail was elected Membership Secretary. Proposed Ellie Owen, seconded Mark Newell.
- Will Miles was elected Treasurer. Proposed Sarah Wanless, seconded Martin Heubeck.
- Hannah Watson was elected Newsletter Editor. Proposed Jenny Sturgeon, seconded Marianna Chimienti.
- Holly Kirk was elected Ordinary Member (Assistant Newsletter Editor). Proposed Andrew Ramsay, seconded Ian Darling.
- Viola Ross-Smith was elected Ordinary Member (Social Media and Outreach). Proposed Rob Robinson, seconded Ian Francis.
- Katherine Booth-Jones was elected Ordinary Member (Early Career Seabird Group). Co-opted.
- Stuart Murray elected Ordinary Member (Seabird Census). By vote.

The membership thanked Maria Bogdanova for also volunteering as Ordinary Member (Seabird Census) and it was noted that we hoped to make use of her skills and experience in the Group in future.

Russell Wynn alerted members to the upcoming role of Journal Editor, which becomes vacant in 2015.

Exiting committee members were warmly thanked and applauded and new members welcomed to ExCom.

10. The Next National Seabird Census

Russell Wynn updated the membership on the role of the Seabird Group on the census steering group and the current situation following the failure of the Heritage Lottery Fund bid. Our members are comprised of both experienced seabird surveyors and enthusiastic skilled early career members and the role of ExCom is to facilitate members to take part in the census. Russell Wynn reiterated our intention to use the £25,000 legacy to support our members taking part in the census, in particular to fund the census of a number of remote or challenging colonies. Mike Harris expressed concern that surveyors should be skilled rather than members of the public (public involvement was a theme of the failed Heritage Lottery Fund bid). Martin Heubeck suggested that statutory agencies should commit staff time. Sheila Russell asked how many years the count would be made over; Martin Heubeck answered three years. Concern was raised that a resubmitted bid to the Heritage Lottery Fund would result in counting not starting until 2017; the membership and ExCom expressed their grave concerns at such a delay to this important census.

11. AOB

Francis Daunt gave an update on the next (13th) Seabird Group Conference. This will take place in Edinburgh on 6-9 September 2016; Francis is the local organiser.

The meeting was closed at 1600.

CONFERENCES AND COURSES

THE SEABIRD GROUP AT THE WORLD SEABIRD CONFERENCE 2015

Are you planning to attend the 2nd World Seabird Conference in Cape Town this year? If so, we'd love to hear from you. The Seabird Group has entered its 50th year and hopes to celebrate this in some way at the upcoming WSC. We'd love to know how many members are attending and those who hope to present their research, so we can start to plan how best to mark our 50th anniversary. If you're attending, please contact our membership secretary Alice Trevail (seabirdgroup.membership@gmail.com). Our early career researchers should also contact the early career representative Katherine Booth-Jones (Katherine.BoothJones@ioz.ac.uk). More details about the conference can be found at www.worldseabirdconference.com.

10TH CONFERENCE OF THE EUROPEAN ORNITHOLOGISTS' UNION, 24-28 AUGUST 2015, BADAJOZ, SPAIN



The 10th conference of the European Ornithologists' Union (#EOU2015) is to be held on 24-28 August 2015 at Badajoz, Spain. The conference venue is at the University of Extremadura. The conference will feature 15 symposia and 6 round table discussions. Abstract submission closes on 27 March 2015. The diverse programme features topics such as sensory ecology, thermoregulation, urban ecology, personality, bird-parasite interactions and radar aeroecology, amongst others. Early-bird registration closes on 30 April. Registration includes the welcome reception, all lunches and refreshment breaks, conference dinner and mid-conference tours. Further details on the conference can be found at <http://www.eou2015badajoz.com> and on the scientific programme at <http://www.eou2015science.org>.

PHD COURSE – ANIMAL MIGRATION, LUND UNIVERSITY, SWEDEN



Ecology of Animal Migration

**International PhD-student course at Lund University, Sweden
2nd – 13th November 2015**

Organized by
Centre for Animal Movement Research (CAnMove) and the Department of Biology at
Lund University

Course coordinators:
Dr. Rachel Muheim, Prof. Anders Hedenstrom

Applications (opens 2nd February 2015): canmove.lu.se



LUND UNIVERSITY
Centre for Animal Movement Research

MAMBO 2, 19-20 MARCH 2015, BANGOR, NORTHERN IRELAND

The 2nd Measuring and Monitoring Biodiversity Offshore (MAMBO) conference is to be hosted by the BTO in partnership with Ulster Wildlife on 19-20 March 2015. The conference is focused on the science that underpins marine designations and marine conservation policy. This conference is suitable for anybody interested in the marine environment, including Government departments, NGOs, local authorities, consultants, academics and those in the offshore development industry, as well as individuals with an interest on understanding and conserving the marine environment.

The programme is designed to be interesting, challenging and stimulating, while also providing a superb opportunity for networking with other marine enthusiasts. The keynote speech is to be given by Erich Hoyt, a Research Fellow with Whale and Dolphin Conservation. Speakers include lots of familiar names such as Andy Clements (Chief Executive, BTO), Mark Tasker (JNCC/ICES), Kerry Leonard (BTO Seabird Co-ordinator for Northern Ireland) and a talk from one of our early career researchers, Nina O'Hanlon (University of Glasgow).

Further details can be found at <http://www.bto.org/news-events/events/2015-03/mambo-2-conference> and the full programme and booking form at http://www.bto.org/sites/default/files/shared_documents/events/more_info/2015-03/2015-03-19-mambo-2-conference-programme-and-booking-form-250115.pdf. The full conference cost is £96 (inc. VAT), though concessions are available.

To book, please use the booking form available at the previous link or contact Shane Wolsey at shane.wolsey@bto.org.



Imperial Cormorant colony at Steeple Jason, Falkland Islands.

Photo credit: Sarah Crofts



Website: www.seabirdgroup.org.uk
Facebook:
www.facebook.com/pages/The-Seabird-Group/505575036157550?ref=ts
Twitter: [@TheSeabirdGroup](https://www.twitter.com/TheSeabirdGroup)
Seabird Group Forum:
<https://groups.yahoo.com/neo/groups/seabirdgroupforum/info>

Registered charity No. 260907

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.

CURRENT SEABIRD GROUP COMMITTEE

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

Chairman	Russell Wynn (2015)	rbw1@noc.ac.uk
Secretary	Ellie Owen (2016)	ellie.owen@rspb.org.uk
Treasurer	Will Miles (2018)	willtsmiles@hotmail.com
Membership Secretary	Alice Trevail (2018)	seabirdgroup.membership@gmail.com
Seabird Editor	Martin Heubeck (2015)	martinheubeck@btinternet.com
Newsletter Editor	Hannah Watson (2018)	seabirdgroup.newsletter@gmail.com
Website Officer	Jeff Stratford (2016)	jeff.stratford@pms.ac.uk

Ordinary Members:

Assistant Newsletter Editor	Holly Kirk (2018)	holly.kirk@merton.ox.ac.uk
Early Career	Katherine Booth-Jones (2015)	Katherine.BoothJones@ioz.ac.uk
Seabird Census	Stuart Murray (2018)	murraysurvey@yahoo.co.uk
Social Media	Viola Ross-Smith (2018)	viola.ross-smith@bto.org

Current membership rates

Standing Order	£20
Concession	£15
Institution	£35
International:	£21
Life	£300

The Newsletter is published three times a year. The editor welcomes articles from members and others on issues relating to Seabird research and conservation. **Deadlines are: 15th January (February edition); 15th May (June edition); and, 15th September (October edition).**

Submissions for the newsletter must be in electronic format, preferably in word and should be no more than 1500 words. Please email photographs/figures as separate files and with full credits.

Every effort is made to check the content of the material that we publish. It is not,

however, always possible to check comprehensively every piece of information back to its original source as well as keeping news timely. Please will readers make further checks at their own discretion, if they have any concerns about any of the information or contacts provided, and contact me to allow feedback to other readers if necessary. **We also try to provide a forum for readers' views so that those provided in the Newsletter are not necessarily those of the Editor or Seabird Group.**