

The BTO Magazine for Ringers and Nest Recorders

# LIFECYCLE



AUTUMN 2015 ■ ISSUE 2

RINGING FARMLAND BIRDS ■

NEST RECORDING ROBINS ■

WARBLER WING LENGTHS

## RINGING WADERS

A guide to mist-netting  
coastal waders



**BTO**  
Looking out for birds

# Editorial

ISSUE 2 AUTUMN 2015



**Welcome to the** autumn edition of *Life Cycle*. With the breeding season (mostly) over for another year and the nights beginning to draw in, thoughts are inevitably turning to what autumn and winter will bring. For us, this is a fascinating time as we turn our attention to the NRS, CES and RAS submissions that are steadily coming in. We will soon begin analysing these data for the preliminary online report on the breeding season, which will be published in November.

The colder months see many resident species flocking together and the arrival of our winter visitors, presenting different opportunities and challenges for ringers. In this edition, Gavin Siriwardena, Greg Conway and Neil Calbrade explain the methods, catching techniques and some of the results of their farmland bird project whilst, in the first of a two-part series on mist-netting waders, Nigel Clark shares his knowledge of catching in coastal environments. We have a guide to finding Robin nests for those thinking about plans for 2016, and two articles on making more of your own data; Ross Crates' large-scale moult study results and Richard Brown and Giselle Eagle's observations on wing length of migrant warblers. With plenty more besides, we hope there is something of interest to everyone in this edition.

As you will see, we have already taken on board much of your feedback in relation to the design and readability of the magazine – we hope you like the changes we have made. As always, we would be delighted to receive your feedback or ideas for content. If you would like to share your experiences and expertise by writing an article for a future edition, we would also love to hear from you.

With the conference season nearly upon us, we look forward to seeing and chatting with many of you over the coming months.

*Ruth Walker & Carl Barimore*

## IN THIS ISSUE . . .

News from ringing and nest recording.....	3
Making farmland ringing work.....	5
News from the Ringing Committee.....	8
Obituary: Mark Fletcher.....	9
Observing wing lengths.....	10
Post-juvenile moult in Blue Tits.....	11
The challenge of Robins.....	12
Wilde about monitoring.....	15
Mist-netting coastal waders.....	16
<i>Ringing &amp; Migration: future vision</i> .....	19
P...P...P...PIT-tag a penguin.....	20
Publications: using your data.....	22
Noticeboard.....	23
Monitoring priorities: Starling.....	24

Cover image: Sanderling, by Ruth Walker

# LIFECYCLE

## THE BTO MAGAZINE FOR RINGERS AND NEST RECORDERS

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The views expressed by the contributors to this magazine are not necessarily those of the Editors, the Council of the BTO or its committees. Quotations should carry a full acknowledgement.

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# NEWS FROM RINGING & NEST RECORDING

## WELCOME TO 'DEMON'

Our web developers are busy building 'Demon', the new demography online system that will incorporate exciting new features ensuring that it will be a worthy successor to IPMR. One of the major changes will be a map interface that will allow you to define your ringing and nest-recording locations precisely, digitise the boundaries of your sites, trace the outlines of colonies, map your net rides, pinpoint your nests and so on. There will also be a way of organising locations into meaningful groupings, such as all those associated with a personal project, all those of interest to a particular landowner, or any other criterion you choose and against which reports can be extracted or maps generated. Once up and running, the submission of data files will be a thing of the past as, essentially, each record will be captured as you enter it (but only finalised once you have checked and confirmed it). So, exciting times ahead!

Over the next few months, we will begin contacting all who have kindly offered to help us test Demon with the hope that it will be available to everyone during the first half of next year.

## FLIGHT LINES UPDATE

Summer 2015 saw artists from the Society of Wildlife Artists (SWLA) join nest recorders and ringers to document the work being done on our summer migrants. Among other things, the artists have joined ringers at an early morning CES session, visited islands with nesting Storm Petrels, watched Nightjars and Stone-curlews and donned wetsuits to sketch Reed Warblers and Cuckoos. This autumn, a team of artists travelled to Bardsey to document the work going on at a Bird Observatory. Work from this summer will feature in the SWLA's Natural Eye exhibition in London and contribute to a book on the wider Flight Lines project, due to be published in late 2016. Thank you to all of the ringers and nest recorders who have helped, or offered to help, with the project so far.



Nightjar, by Mike Toms

Nightjar was just one of the species that SWLA artists caught up with this summer, thanks to the help and support of BTO ringers and nest recorders.

## 2016 RINGING PERMIT RENEWALS

Online renewals for 'T' and 'C' ringing permit holders start in October and for 'A' permit holders just before Christmas. This year, to encourage early renewals, there is a £10 increase in the annual fee for those who renew after 30 November ('T's and 'C's) or 29 February ('A's). 'T's and 'C's: before you renew, your trainer needs to approve your renewal and the two of you should do your annual training review. All data and reports need submitting before renewal; this includes ringing data, clearing of all ringing data requests, special methods reports, rehab renewals and outstanding colour-marking renewals. Find the full details on [www.bto.org/permit-renew](http://www.bto.org/permit-renew)

## SCHEDULE 1 AND SPECIAL METHODS

Reporting and renewal instructions for Schedule 1 permits and special methods endorsements will be sent out by mid-October. Please help us manage the licensing workload and improve the service we provide you with by responding promptly to the reporting and renewal requests. Dealing with the routine renewals before Christmas gives us time to focus on the new and more complex cases in the new year.

## QUESTIONNAIRE FEEDBACK

A massive thank you from the editorial and graphics teams to the nearly 500 ringers and nest recorders who responded to the *Life Cycle* questionnaire. We are still analysing the results, but are pleased to say that we have taken many of your comments on board. You should notice a number of changes in this edition of the magazine and we hope these will help to make it easier to read.

## IPMR AND WINDOWS 10

If you are having any issues running IPMR on Windows 10, new guidance is available on the BTO website ([www.bto.org/volunteer-surveys/ringing/taking-part/submitting-records/ipmr](http://www.bto.org/volunteer-surveys/ringing/taking-part/submitting-records/ipmr)).

## NEW WEB RESOURCES

As part of the programme of improvements for the ringing pages of the BTO website, there is now a dedicated resources section located under the 'Taking part' menu. This section currently contains information that was previously located under the 'About ringing' menu, including the contents of the 'Useful downloads' →

⇒ page. Additional content will be added over the coming months; we are currently working on a guide to pullus ringing for instance. Other resources are still available through the ringers-only pages but, over time, these sections will be combined, so do bookmark the resources pages for future reference ([www.bto.org/volunteer-surveys/ringing/taking-part/resources-ringers](http://www.bto.org/volunteer-surveys/ringing/taking-part/resources-ringers)).

### BTO ANNUAL CONFERENCE

Don't forget that this year's annual conference to be held at Swanwick, Derbyshire, 4–6 December, focuses on ringing and nest recording. The programme includes talks on migration, tracking studies and phenology. The Ringers' Meeting will take place on the Saturday afternoon and, as always, there will be sessions on Friday and Saturday evenings showcasing NRS, CES and RAS. The full programme and booking form is available at [www.bto.org/news-events/events/2015-12/bto-annual-conference](http://www.bto.org/news-events/events/2015-12/bto-annual-conference)

### GRANTS FOR NEW RINGERS

Thanks to many donations in memory of Mark Fletcher (see page 9) and a further generous donation from an individual ringer, we are able to offer grants of up to £200 to trainees or 'C' permit holders (held for no more than three years) not currently in paid work or on a low income. Applications, from the ringer, or their trainer on behalf of the ringer, should be emailed to [jacquie.clark@bto.org](mailto:jacquie.clark@bto.org), explaining what the grant is for, and must be supported by the trainer who must certify that the need is genuine. See *Ringing News* (Vol 12, No 12, p 15) for more details.

### LESWO FLYING SQUAD UPDATE

Ken Smith reports that his appeal for records of Lesser Spotted Woodpecker nests was a great success. In total, 10 nests were found, six of which were inspected with video cameras. This may not sound very many, but represents a big increase in the number of nest

records for this species, as only two were received in 2014. Many of the nests were found during excavation and followed right through to fledging, providing excellent data. The research produced some interesting information on nesting habitat and breeding success which Ken will write up in due course. Thank you very much to everyone who responded to Ken's appeal in 2015. The 'nest inspection flying squad' will be operational again in 2016 when Ken will have available two extra nest inspection cameras that can be loaned out to observers with nests. So, if you find a Lesser Spot nest next year and would like to contribute to the study, Ken would love to hear from you.

### DO YOU RING WILLOW TITS?

Willow Tits are one of our most rapidly declining birds and have already been lost from many areas in south and east England. The RSPB is currently trialling ways of improving habitat for this species to improve its prospects and are also trying to increase their knowledge of this species and how it uses habitat. As part of this work, they wish to analyse faecal samples from across Britain to get a better understanding of their diet. They are

looking for samples from throughout the year and from adults and pulli at a range of locations. If you regularly ring Willow Tits and wish to help with this work please contact Paul Bellamy [paul.bellamy@rspb.org.uk](mailto:paul.bellamy@rspb.org.uk) or Steph Morren [stephanie.morren@rspb.org.uk](mailto:stephanie.morren@rspb.org.uk) for more details. Website link: [www.rspb.org.uk/forprofessionals/science/research/projects/204776-managing-willow-tit-habitat](http://www.rspb.org.uk/forprofessionals/science/research/projects/204776-managing-willow-tit-habitat)

### TO MIGRATE OR NOTTO MIGRATE?

The Icelandic breeding population of Oystercatchers is both resident and migratory in winter. To try to understand the trade-offs between these quite different strategies, a University of East Anglia/University of Iceland research programme has recently started. Both adults and chicks (when big enough) are ringed with two colour rings on the left tarsus and a flag above another colour ring on the right tarsus (metal ring goes on either tibia and is not part of the scheme). If you happen to see one of these Oystercatchers anywhere in the Britain or Ireland, please report it via [icelandwader@gmail.com](mailto:icelandwader@gmail.com) and you can help to figure out if individuals are set or flexible in their migration strategies.



Willow Tit, by Edmund Fellowes

Willow Tit has undergone massive population declines and range-contraction in the last 40 years and is red-listed.





Farmland mist-netting and walk-in trap (inset), by Gavin Siriwardena

Knowledge of how birds move around within a site is key to ensuring nets are placed in the most productive locations.

# Making farmland ringing work

Despite 20 years of conservation concern and the introduction of agri-environment schemes (AES), many farmland birds are still declining. Although not easy, focused ringing and resighting studies can help to inform management options for farmland birds. In this article, Gavin Siriwardena, Greg Conway and Neil Calbrade explain how to make ringing work for studies in this difficult habitat.

**BTO research into** farmland bird declines has included several major projects analysing ring recoveries to reveal how changes in overwinter survival rates have been critical in driving population change for most small farmland passerines. However, the ring-recovery data sets, even for common species like Yellowhammer, are rather small, so regional or local analyses are not possible. Also most open-country species are poorly covered by the Constant Effort Sites scheme.

To study farmland bird ecology to inform the design of agri-environment management, other data sources are needed. Defra commissioned BTO research in the 2000s to investigate local movements and survival and their relationships with overwinter supplementary feeding. This meant marking large numbers of birds and ensuring high re-encounter rates which, in turn, meant using novel methods targeting habitats to which standard methods may not be well suited.

## FARMLAND BIRD EXPERIMENTS

We needed to know about annual survival, movements within winter, and movements

between winter and breeding locations. Our experimental design was based around patches of supplementary seed, which we established in autumn, and observed and kept replenished throughout the winter. An important element of the design was that half of the areas were 'unfed', for comparison with the experimental, 'fed' areas. All seed-eating farmland birds were potentially of interest, but the numbers we attracted to our feeding sites meant that Yellowhammer and Chaffinch became our major study species.

## TRAPPING METHODS

We ringed Chaffinches and Yellowhammers across 20 areas of East Anglia, each of 4 km<sup>2</sup>, over three to five winters. We trapped mostly between January and March, when flocks were more concentrated. We used a number of different trapping methods, adapted according to habitat context and bird behaviour in each area. Our aim was to ring 30% or more of the birds in each study area, but some flexibility was essential because local numbers differed a lot, as did habitat structure, which was often not convenient for catching. In 'fed' →

In the trap shown above, the roof, sides and funnels were made of plastic-coated 13-mm wire mesh, all attached to the wooden frame. The inserts consisted of rectangular wooden frames that slotted into the larger frames, with inward pointing funnels, which were attached only when catching. The design for the trap can be found in the *Trapping Guide* on the ringers-only web pages.

⇒ areas, we effectively had long-term baited sites with (we assume) regularly feeding individuals that should then have been accustomed to the feeding site and therefore susceptible to trapping. However, no such advantage was available in ‘unfed’ sites, where we needed to trap mobile flocks in an open landscape. Catching birds in ‘fed’ areas also presented more problems than expected, in some cases, and it was sometimes valuable to target flock locations away from the feeding sites themselves. This meant that we needed a range of trapping approaches.

We focused on three general types of trapping: mist nets placed parallel to hedges, walk-in traps and whoosh nets. Our feeding sites were positioned next to hedges and ‘plan A’ was to use mist nets to intercept birds flying between seed patch and hedge. In practice, however, we found that birds tend to approach such patches from within the hedge or on the ground; the nets seem to have been rather obvious when viewed from above and often stopped birds from feeding at all. Nets next to food patches were only successful when they caught birds as they flew into the feeding site location from a direction more-or-less perpendicular

to the hedge. Whoosh nets and walk-in traps were considered because they should be unaffected by the presence and type of hedgerow vegetation. The restrictions with whoosh-netting due to ringers needing to be very close to the net with a clear line of sight along it were minimised by using remote-controlled triggers customised by Jez Blackburn from kit for toy cars. However, even with care to camouflage the net and leaving dummy nets *in situ* for several days prior to trapping, whoosh nets could clearly be seen to put birds off feeding in some locations.

Walk-in traps were custom-built to be portable and to allow gradual construction in the field so that birds could become accustomed to them. Hence, outer wooden frames were put in place a week or more before trapping was due to begin, a roof added after a few days and side-panel inserts with access funnels added only on the day of trapping. For catching, a Perspex chamber was attached to the open end of the trap. The floor of the chamber was a flap made of laminated paper, below which a wooden catching box was placed. In practice, most birds entering the traps fed or sat calmly until disturbed, when they could

Surveys mapping where flocks were found were essential to target trapping and the height of hedges, prevailing winds and density of ground vegetation were key factors determining the approaches to use.



Reed Bunting, by Edmund Fellowes

be persuaded to fly towards the Perspex chamber and hence to fall into the catching box. These traps worked best when placed within vegetation, such as in a game cover crop; birds seemed to be put off when they were out in the open.

In unfed areas, it was important not to supplement bird diets significantly, making the situation more akin to that likely to be found by most ringers wanting to catch birds in farmland. Flocks of target species were located during monthly surveys and short-term targeted baiting was used to try to concentrate these flocks where trapping would be easier. A similar approach was also successful in some fed areas, where concentrations of birds were found away from permanent food patches. In this situation the most successful trapping method was then the use of strategically placed mist nets to intercept birds moving between feeding sites or into sections of hedge used by flocks for shelter, with the walk-in traps also being used in some locations. In general, we found that we needed a 'toolkit' of a range of methods and to be adaptable to the landscape in each study area.

### **GETTING THE MOST OUT OF RINGING**

Trapping and ringing birds requires skill, experience and effort. Outside constant-effort trapping, re-encountering ringed birds in the countryside is a rare event, so much basic ringing activity there is less valuable than it could be. Although considerable field effort may be required, probably at least equal to the ringing effort made, resighting colour rings is straightforward and avoids issues such as acquired trap shyness and unfavourable weather; these may be a particular problem with re-catching open-habitat birds. This also means that recording marked birds is not restricted to trained ringers and that more data on survival and, especially, patterns of movement can be collected, increasing the 'value' of each ringed bird.

In our study, all Chaffinches, Yellowhammers, Goldfinches and Reed Buntings caught were fitted with individual colour-ring combinations consisting of one plastic colour ring and a BTO metal ring on one leg and two colour rings on

the other. In almost all cases, combinations were organised such that the colours and ring positions on the 'non-metal' leg were a unique identifier, alone, for the site concerned. This was very useful in resighting because it is very common for birds to show just one leg! By taking a small risk that unforeseen long-distance movements might occur, we were, therefore, able to boost effective numbers of resightings.

We resighted birds in winter and in summer up to 7 km from the study area. The former was only possible at our feeding sites; elsewhere, birds were too mobile or hiding their legs in vegetation. In spring, territorial males can be readily resighted while calling or singing from perches (although females are more difficult), while song playback is an effective means of persuading uncooperative birds to show themselves. With a telescope, rings can usually be read at distances of up to around 100 m.

The results revealed that winter food resources are most efficient if spaced in the landscape 500 m–1 km apart. In addition, we found that studies considering local resident breeding birds need to consider winter locations more than 1 km away to measure winter influences effectively and that population change was linked to survival and food provision.

### **WIDER APPLICATIONS**

Open-country farmland birds remain under-represented in the ringing database relative to their population sizes and the area of land that their habitat represents. They also have low recovery rates because they tend to die where people are unlikely to find them. However, our work shows that ringing can still provide useful information about these species if trapping effort is matched by effort spent generating re-encounters. Recaptures provide more certainty about individual identity, but resightings are less affected by habitat or trap shyness, and require less intensive effort. Resighting projects informed by surveys and made possible by creative trapping approaches offer opportunities to get more from ringing activity and could provide real citizen science from the combination of ringing and observation.

### **THANKS TO**

This work was funded by Defra as projects BD1616 & BD1628. Thanks for the many BTO staff who helped with surveys and ringing, especially Jez Blackburn, Trevor Girling, Chas Holt and Diana de Palacio.

### **HOW TO HELP**

We need your help to investigate how AES measures affect farmland birds and find solutions to reverse their declines. Please support our Farmland Bird Appeal by making a donation to this work at [www.bto.org/farmland-bird-appeal](http://www.bto.org/farmland-bird-appeal)



# News from the Ringing Committee

Ringing Committee (RIN) met on 25 April at Thetford and by now many of you will have looked at the minutes on the ringers-only section of the BTO webpages. New members Ewan Weston, Jen Smart and Stuart Bearhop were welcomed to their first meeting.

**As you may** know the BTO has recently produced its new five-year strategy (2015–2020 – [www.bto.org/about-bto/strategy](http://www.bto.org/about-bto/strategy)) and we discussed how the Ringing and Nest Record schemes should respond to this. The last full strategies were published in 1996 and, although we have produced strategies for demographic monitoring and communications over the last few years, nobody has stood back and asked what we want the Ringing and Nest Record schemes to look like in 2020. After some discussion we decided to form a small sub-group of RIN, led by Rob Robinson, to look at this and produce a discussion paper for the next meeting in October. This will be available for all ringers before the meeting (see below) as it is important that you have the opportunity to feed your views into the process.

It is normal to consider annual fees at the spring meeting and RIN agreed to follow past practice and increase fees for 2016 in line with the February 2015 increase in RPI (0.9% overall). We also agreed to offer discounted fees for ‘C’ and ‘A’ ringers under the age of 21 at the start of the year. Although not everyone who qualifies claims the discount, it was also felt that the reduced fee offered to ringers over 60 years old was now looking a bit out of step with retirement policies. So as not to disadvantage current recipients we decided to increase the qualifying age by one year per annum to bring it in-line with the state pension age. Late renewal of permits causes a disproportionate amount of extra work and therefore increases the costs to the scheme, so RIN also decided to encourage early renewal of permits by adding £10 to the



Corncrake, by Ruth Walker

Taking a DNA swab from this Corncrake's mouth provides valuable information supporting the reintroduction work being done on this species by RSPB.

annual fee for ‘C’s and ‘T’s renewing after the end of November and after the end of February for ‘A’s.

Andy Musgrove reported progress on the online databases and associated online submission portal for ringing and nest recording (‘Demon’ – demography online). The database aspects of this project are now complete and being used by the HQ team and this has already resulted in a faster turnaround of recoveries. The BTO has given Graham Austin time to project manage the online portal work which is now making good progress with prototypes likely to be available for testing later this year. This is now looking good for rolling out in 2016.

Over the last few years we have been meeting regularly with the Home Office to discuss the permits issued by the BTO under the Wildlife and Countryside Act and its overlap with the Animals Scientific Procedures Act (ASPAs) administered by the Home Office. We are pleased that the Home Office recognises the work the licensing team and BTO committees do in upholding welfare standards, and have indicated that they will be happy that, in future, the taking of contour feathers and other relatively non-invasive techniques, such as the taking of swabs,

can be covered by the BTO licensing process rather than being subject to ASPA. Allison Kew is working on finalising the details, but we expect that you will need a Special Methods licence to take such samples.

One of the vital roles of RIN is to represent the views of the wider ringing and nest-recording communities in the running of the schemes and consequently the Committee members are largely drawn from active participants. RIN feel that their discussions should be as open as possible within the constraints of individual privacy or commercial information. The minutes of the meetings are already made available on the BTO website but in addition we have now decided to publish, in advance of meetings, the non-confidential papers on which the Committee discussions are based. Please take the time to have a look at these and pass your comments to Committee members so they are able to represent your views.

As usual I am happy to receive your comments or views on anything concerning the administration of ringing and nest recording.

**Ken Smith, on behalf of Ringing Committee**



### INTRODUCING STU BEARHOP

**As an ecologist** with interests in foraging behaviour and migration, ringing is one of the most important tools at my disposal. Having first encountered the technique during my undergraduate degree in zoology at the University of Glasgow, individually marking birds became a key element of my PhD studying Great Skuas on Foula and St Kilda under the supervision of Bob Furness. I have now been ringing for over 20 years and have been fortunate enough to work with birds all over the world, from mist-netting Neotropical migrants in the Bahamas to grabbing albatrosses and penguins in the sub-Antarctic.

My obsession over the last 15 years has been working with the Irish Brent Goose Research Group to establish a long-term colour-marking project.

Most of the east Canadian high-Arctic population of Light-bellied Brent Geese spend the winter around the coast of Ireland and we have now captured and marked over 4,000 individuals in Ireland, Iceland and on the breeding grounds in the Queen Elizabeth Islands. I am very proud to be part of this project, which relies heavily on data from a network of volunteers who regularly submit resightings to our database.

We are all fortunate enough to be around at probably one of the most exciting times in the history of tracking birds; technology has revolutionised our ability to follow them and it is continually getting cheaper and smaller. I cannot see this replacing ringing completely however; it remains one of the easiest and most effective ways of identifying individual birds and this



Freydis Vigfusdottir

allows us to answer important questions about how and why they do what they do. For this reason I think ringing will continue to play an important role in helping us understand the lives of birds and I am really looking forward to representing the ringing community over the next few years.

## Mark Fletcher (1948–2015)

Chris Brown



**It was with** deep shock and sadness that the ornithological world heard of the sudden loss of Mark Fletcher in February, after a short illness.

Mark was known to many as a keen, dedicated and enthusiastic bird ringer, active in recent years with Tees and Farlington RGs, splitting his time between homes in Yorkshire and south Hampshire. Mark was an excellent team member, who loved the camaraderie of group ringing. He was a great tutor, happy to share his considerable knowledge and to chat to anyone about birds, music, history, his family, the joys of the choir or his village and its residents. It was always a privilege to spend time in Mark's company.

Mark was previously an active member of the Wash Wader RG and Wader Study Group. He took part in various expeditions, including a Dutch- and French-led trip to Banc d'Arguin, Mauritania. More recently, Mark joined annual expeditions to the Tagus Estuary, Portugal, studying waders, ringing and recording marked Black-tailed Godwits and Sanderlings.

Mark's considerable diplomatic ability, wise counsel and pragmatic skills were a real asset to

the BTO, serving as a member of both Ringing Committee and the Cannon Net Technical Panel.

Professionally, until he retired in 2011, Mark worked for MAFF (later FERA) as a government scientist. In his early career, work was focused on gull and human conflict, which resulted in weekly cannon-net catches of gulls on rubbish tips, making him undoubtedly one of the most experienced in this technique. He also wrote the Black-headed Gull species account for the *Migration Atlas*.

Mark was proud to have ringed more Mandarin Ducks than anyone else. On one occasion he had to explain himself to a senior member of the Royal family who found him with a sack of ducks over his shoulder!

He was a thoroughly decent chap, a true gentleman with a great sense of humour. He is greatly missed by all who knew him. Mark leaves his wife Sue and his two sons James and Adam. Donations made in memory of Mark are helping to fund new ringers that otherwise might not be able to continue ringing (see News from Ringing and Nest Recording p4).

**Pete Potts and Robin Ward**

# Observing wing lengths

Skokholm Island was home to Britain's first Bird Observatory, founded in 1933 by the pioneering ornithologist Ronald Lockley. Encouraged by his friend H.F. Witherby (of *British Birds* fame), he began a programme of ringing on Skokholm which would continue, uninterrupted except for the war years, until 1976. Skokholm is now owned by the Wildlife Trust of South and West Wales and was re-accredited as a Bird Observatory in January 2014. Wardens Richard Brown and Giselle Eagle explain how they are using their ringing data to study patterns in the biometrics of arriving summer migrants.



Willow Warbler, by Dawn Balmer

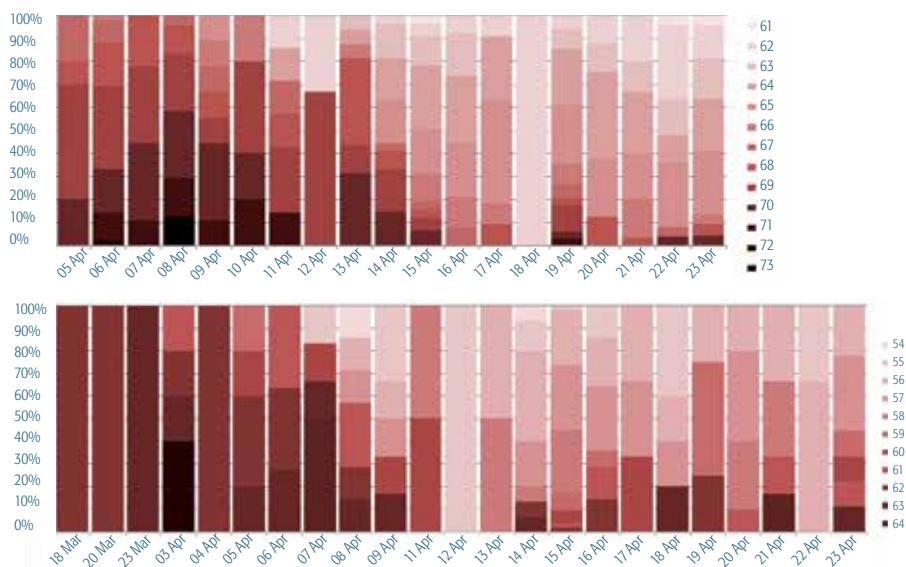
Taking biometrics in autumn, as well as in spring, can provide useful information on morphological characteristics potentially linked to migration.

**Although Skokholm is** perhaps best known for its spectacular seabird colonies and long-term monitoring projects, for the past three years we have welcomed nearly 100 different visiting ringers who have come to contribute to our studies of migrant birds. There are three permanent Heligoland traps on the island and mist nets are operated whenever the winds allow. Unsurprisingly, a good variety of migrants have been ringed, but even more interesting are the phenomenal amount of data being generated in relation to our commoner migrants and some of the patterns that are emerging.

For example, a look at the wing lengths of spring Willow Warblers reveals that the majority of the early migrants have longer wings than later migrants; the smaller birds tend to come through later in the season. This would suggest that the majority of early migrants grounded on Skokholm are males. But do males arrive first because there is an evolutionary advantage to arriving earlier at the breeding grounds to establish a territory prior to the arrival of the females? Or do our observations just show that larger birds are more efficient fliers, their larger wings allowing them to head north more quickly than smaller birds? We

have found the same pattern with our passage Chiffchaffs; the average wing length of handled birds declining as the spring progresses. However, a look at the Blackcap data reveals a different picture; there seems to be no correlation between wing length and the timing of migration. Perhaps the picture is blurred in this species by the occurrence of birds that have wintered in the UK which could not be separated from early migrants from further south?

As a Bird Observatory we are very keen that we make the most of our ringing data, and indeed our newly digitised census log data (over 70 years of daily observations). As such we would like to encourage anyone interested in data analysis, particularly students looking for quality data sets, to get in touch. Similarly, if you would like to ring at Skokholm Bird Observatory then please enquire at [skokholmwarden@gmail.com](mailto:skokholmwarden@gmail.com)



Willow Warbler (top) and Chiffchaff (bottom) wing lengths (mm) during spring 2015.

# Post-juvenile moult in Blue Tits

**The extent of** post-juvenile moult in many species can be quite variable. Blue Tits typically show such variation, with some individuals retaining many juvenile greater coverts and alula feathers, while others moult all of these, plus some of their tail.

Why do some birds moult more than others? Could moult extent be linked to conditions in the nest such as nestling mass and fledging date? Could moult extent also be linked to sex, since male Blue Tits often appear brighter than females? In contrast to pigment colours such as greens and yellows, blue colours in feathers are almost always determined by the structure of the feather. Adult feathers are brighter than juvenile feathers because they are structurally more complex.

To try to answer these questions, we needed full knowledge of the history of a large sample of birds. The Blue Tit population of Wytham Woods, where hundreds of birds are monitored annually, provided this detailed life-history data. With help from many students and volunteers (and multiple sacks of sunflower seeds), we caught more than 2,500 Blue Tits over three years, recording the moult extent of each (Crates et al. 2015). Have sympathy for the fingers of all involved, as Blue Tits like sunflower seeds almost as much as tender, cold finger skin! We looked at the correlation between fledging date, nestling mass, sex and residency status and post-juvenile moult extent. We classed birds as residents if they hatched in one of Wytham's nest boxes, or immigrants if not.

Plugging these predictors into the computer, sex emerges as by far the most important factor. Male birds had moulted on average more of their juvenile plumage than females. Male Great Tits and Siskins also moult more extensively than females (Rymkevich & Bojarinova 1996, Senar et al. 1998, Bojarinova et al. 1999) and this may be a widespread phenomenon in passerines. Resident birds had moulted slightly more than immigrants, perhaps because immigrants invest less energy in their post-juvenile moult and more in dispersal. Alternatively, birds that moult less extensively may fail to establish a local territory and are forced to look further afield. Fledging date and nestling mass



Contrasting moult in Blue Tit wings: juvenile wings showing moulted (left) and unmoulted (right) alula feathers

Blue Tits by Dawn Balmer

didn't appear to influence moult extent – it appears that late-fledged birds can 'catch up' with the early birds by starting to moult at an earlier age or at a faster rate. Similarly, heavier chicks were no more likely to moult more feathers than lighter counterparts.

We have some ideas about the causes of variation in moult extent, but what about the consequences? Why should male birds moult more than females? We know that the brightness of the crown is an important display feature for Blue Tits, but what about coverts and tail feathers? Were males that moulted more extensively more likely to breed or have higher reproductive success?

The short answer to all of these questions is no. Breeding males had moulted no more juvenile feathers than non-breeders. How many feathers a breeding male did moult didn't appear to influence his reproductive success either. Perhaps female Blue Tits don't assess the quality of males on the brightness of their wing and tail feathers. Their selection may focus on the crown, because it appears that moult extent in the wing and tail doesn't provide the female with any reliable information about the quality of a male. Research in Kestrels supports this idea, where different plumage features varied in their importance as advertising signals (Vergara & Fargallo 2011).

It would be interesting to look at broad-scale patterns in moult extent in Blue Tits, using moult data from ringers throughout the country. This is just one quick and simple way that ringers can add value to their activities.

**Ross Crates**

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Robin nest in bracken debris, by Mike Toms; Robin, by John Proudlock

Robins are well known for nesting in a wide range of locations. Those nests built on open ground within leaf litter are some of the most difficult to find.

# The challenge of Robins

For the budding nest recorder, Robin may be one of the first nests they encounter, yet the species is very rarely a choice for targeted nest monitoring. Carl Barimore takes a closer look at the challenges of recording a species for which David Lack felt that ‘stumbling on’ a nest was very easy, but finding a nest in a known territory was an ‘altogether different matter’.

When it comes to the number of nest records submitted to the BTO, Robin is the 15<sup>th</sup> most monitored species overall. Some 646 records were sent in for 2014. The records tend to come from across the volunteer network, with very few recorders submitting 10 or more Robin nest records within a single season.

**During my first-ever** week as a nest recorder, Robin was the third nest I found. I was searching ivy at Wicken Fen Nature Reserve in early March, having found Blackbird and Song Thrush nests earlier in the week. I was – quite literally – feeling my way when it came to nest finding, but ivy was working. As I gently brushed my hands across a patch growing against a dead tree trunk, I uncovered a small, mossy cup, nestled on a base of dead leaves, with a lining of fine hairs. I didn’t know what it was, but I knew it wasn’t a thrush nest, so I was delighted. An emailed photo to my mentors brought back a confirmation of Robin, and on the next visit the nest contained eggs. That year I found five Robin nests by methodically searching ivy – still the most I’ve recorded in a single season.

**FOUND BY PLENTY...**

Many a nest recorder might have a similar story, and many more would say that they come across two or three Robin nests every year, either by chance in the field or regularly in their garden. Robin is abundant and well known for its eclectic nest site and habitat preferences; about half its

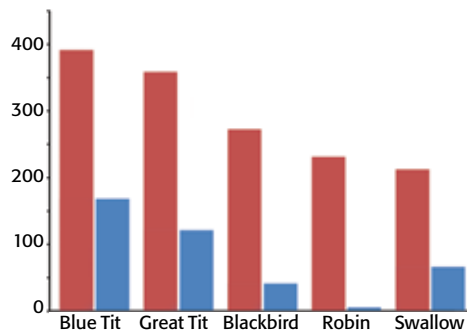
nests monitored for NRS are encountered around human habitation, the other half divided roughly 2:1 between woodland and farmland. This pattern is perhaps not all that surprising, given that Robin is a common breeding species, encountered widely by nest recorders covering different regions and habitats.

Significantly, however, although Robin is one of the species most often encountered by nest recorders – 227 participants monitored at least one nest in 2014 – it is also one of the least intensively monitored. Most relatively abundant species have ‘core’ nest recorders who tend to focus on them, building up invaluable local data sets by systematically monitoring 20–50 or more nests per species per year. With Robin, only five nest recorders submitted more than 10 records in 2014.

**...MONITORED BY FEW**

Looking back into the Nest Record Scheme archive, it is apparent that dedicated Robin recorders have always been few and far between. Several participants have achieved the amazing feat of monitoring well over 200 Robin nests in their nesting

The top five species by number of NRS participants (y axis) who submitted at least one record in 2014 (red bars) and also the number of participants who submitted more than 10 records (blue bars).



career (see Table). Often though, these are accumulations of finding four or five nests annually, over a long period of recording – still a real contribution.

**TOO DIFFICULT TO MONITOR?**

So why are Robin nests so little monitored in good numbers by individuals or groups when other common passerine species are well monitored both broadly and intensively? No doubt part of the reason is the often-claimed difficulty of finding Robin nests, which are usually well concealed and can be built in a very wide variety of possible sites. Moreover, adults are notoriously wary of being watched back to the nest. David Lack noted that ‘stumbling on’ a Robin nest was very easy, but that finding a nest in a known territory was an ‘altogether different matter.’

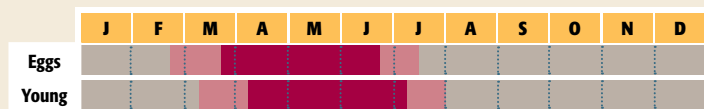
Even so, there are still some good examples of recorders who have been able to find large numbers of Robin nests systematically, by taking full advantage of the species’ abundance.

**METHODICAL SEARCHING**

Bruce Campbell’s field guides make mention of one ornithologist who, near the end of a long career as an amateur field ornithologist, decided to spend a season focusing on just two species. This was JH Owen, who found and monitored 108 Spotted Flycatcher nests and 199 Robin nests that year. Owen found the Robin ➔

**Robin: nest recording profile**

Resident; found in all types of woodland and wooded country, including parks and gardens. Solitary. **Nest:** Built by female. Varies in size, depending on size of hole/cavity to be filled. Foundation of dead leaves; often little more than a cup of moss, grass, and a few dead leaves, lined with finer grasses, plant fibres, hair and rootlets. Nest site highly variable. Typically in hole, hollow or recess. Usually below 2 m and often much lower. Grassy banks and ivy-covered tree trunks and walls common. Many nests are on the ground, for example in tufts of grass, roots of tree trunk and piles of leaf litter. **Broods:** 2, sometimes 3. **Eggs:** 4–5 (2–8). **Incubation:** 13–14 days. **Hatching to fledging:** 13–14 days.



**Nest finding tips:** Tapping/searching along banks, walls and ivied trunks/stumps can be productive. Nests well-concealed. Females sit tightly, so can be flushed at close range. Adults wary at all stages, but female carrying nesting material is easier to spot. Risk of desertion at building/laying stages is high, so note the spot and return later. Nests can be empty a considerable time before laying. *Tsee* and *tic* alarm calls can indicate presence of nest. Female is fed off the nest by male during incubation and early brooding, performing a begging display and accompanying *sweez-eez-eez* call (the same as begging juveniles).



**The top 10 Robin nest recorders, showing the number of records they have submitted and the year they first started**

	First year	Total
Birklands Ringing Group/Charles Mapletoft	1971	736
John Brook and others	1975	729
Hughenden Ringing Group	1987	385
Richardson, Fenwick, Grainger and Lonsdale	1967	376
Bristol Naturalists’ Society/HR Hammacott	1950	363
Bruce Campbell	1949	332
Lancaster & District Birdwatching Society	1962	321
Isabel Hildred and others	1983	281
Jim Cheverton	1956	264
Merseyside Ringing Group	1986	240

Text adapted from BTO’s *A Field Guide to Monitoring Nests*. A steep bank – an often-used nest location, by Mike Toms; Robin eggs and chicks, both by Richard Caselli



⇒ nests mostly by methodically searching vegetation, including banks.

A more recent example is provided by Birklands Ringing Group in Nottinghamshire, who have been consistently submitting over 20 Robin nests records per year since 1999. Group member Andy Lowe recalls that the focus on Robins began after a pullus they had ringed was recaptured on the Isle of Wight.

The majority of nests are found at Center Parcs', the operation being overseen by nest recorder and ringer, Kevin Gustard, who is also Center Parcs' Senior Conservation Ranger. Over 100 of the park's residential lodges feature a front trellis, with a thick cladding of ivy.

Each January, Kevin takes the year's growth off the top of each ivy to ensure it remains thick. The ringing group begins to look for nests in late February and then systematically work through all the ivy-clad lodges throughout the season. Nests are also found on grass verges and in the lodge gardens too, when adults are spotted with food or materials on the way to and from chalet checks.

Kevin has even ensured that the nest-monitoring and pullus-ringing activities feed into Center Parcs' educational activities: in May, holidaymakers can book onto a 'baby bird walk' and get taken to see active nests of a number of species being monitored by the group. These walks are so popular they sometimes have to run four in a day, taking each group to a different set of nests.

#### FIELD EFFICIENCY

One of the Scheme's newer participants, Stephen Carter, who is based in Gwent, was the second biggest contributor of Robin records in 2014. However, Stephen maintains that Robin isn't actually one of his focal species, despite having found 70 nests since 2008. He puts his Robin tally down to a simple combination of being vigilant during box checks – Stephen monitors a nest-box population of hole-nesting passerines in a local wood – and checking suitable-looking and previously occupied sites on his way between boxes. A Robin alarm call during a box check is always followed up, beginning with a



Incubating Robin, by Mike Toms

A Robin nest in a small cavity at the base of a tree, the female sitting tight.

quick inspection of any obvious cavities in trunks, earth, or clumps of grass.

#### WATCHING BACK

Despite its famed wariness, there are two particular features of Robin behaviour that aid watching them back to the nest. The first of these is that the use of leaf litter for the nest base means that the female can be seen carrying large and often obvious material to the chosen nest site.

A second useful feature is the variety of behavioural calls associated with nesting activity. In addition to the familiar alarm call, the female may replicate the chick begging call when being fed off-nest by her mate; she can then be watched back.

#### FANCY A GO?

Perhaps one of the biggest challenges with monitoring Robin is that it isn't an ideal candidate for either direct searching or watching back, or, to use some NRS terminology, the species isn't an obvious friend to either 'arsers' or 'leggers'. Yet JH Owen, Birklands Ringing Group and Stephen Carter show us that consistent field practice can yield good results. Know of some grassy banks near you?

Robin, by Chris Bradley



Nest-visiting females often perch near the nest for a few minutes before entering the nest, presumably to check that they are not being watched by a potential nest predator.



# Wilde about monitoring

A quick glance at the comments on Findlay Wilde's blog ([wildeaboutbirds.blogspot.co.uk](http://wildeaboutbirds.blogspot.co.uk)) illustrates that it is not just adults that can inspire the next generation of conservationists; young people can inspire both each other and the adults around them. In this article, Findlay Wilde introduces Evie and Abby Miller who are trying to encourage their school friends to connect with nature through nest-box monitoring.

**Well I don't** know about all of you, but for me it has been a very busy summer full of RAS, WeBS counts and of course nest recording! And it is nest recording that is the focus of this page.

Nest boxes have become an important element of BTO-reported nest records over the years. When the Nest Record Scheme started in 1939, there were no nests reported in boxes. Over the years since, nest-box reports have grown and grown.

Last year I built a whole pile of boxes with my dad and persuaded the local farmer to let me put some up in his woods; a few went in our garden as well. It has been fascinating to see how they have done. I was surprised by the 100% occupancy in the woodland boxes and wonder if this suggests an issue with natural nesting sites, or if it is just an easy option for the birds.

Of particular interest was the colonial box we put up for our House Sparrows. Last year the Blue Tits got to it first, but it seemed to confuse them as they started nesting in three of the four compartments before abandoning it altogether. This year though, the House Sparrows got to it first and knew exactly what they were doing.

I would encourage anyone of any age to put up a nest box, be it a basic home-made box or one with a live camera feed. It is an easy and fun way to get involved in monitoring wild birds and the results can be both surprising and fascinating.



Evie Miller, by Paul Miller

Evie checking out one of the nest boxes at school. Monitoring nesting through to completion would enable national chick survival rates to be calculated.

## MONITORING NEST BOXES AT SCHOOL

**A brilliant example** of monitoring nest boxes comes from A Focus on Nature (AFON) members Evie (15) and Abby (13) Miller, whom I caught up with recently, and here is what they have been up to.

This year, we received a grant from the Derbyshire Ornithological Society to help us with our ringing. We decided to buy some ringing equipment and 20 nest boxes to put up around our school to try and get other pupils more involved and interested in nature. We placed 10 boxes in the wooded area surrounding our school and 10 closer to the school buildings, surrounding a large pond. The nests closest to the school buildings, with greater human disturbance, weren't used.

The project included many variables such as where the hole in the box was placed (10 of the boxes had the hole central and 10 had the hole in the top left hand corner). This was done to see if the placing of the hole affected predation; however none were predated this year so next year might be more revealing.

There were 11 Blue Tit nesting attempts. Of these, two nests had cold

eggs and dead young, one had cold eggs, six nests fledged chicks and two were abandoned at nest-lining stage. 36 eggs hatched, all chicks were ringed and 23 chicks fledged, giving a 64% survival rate. This year, Blue Tits seem to have suffered due to a shortage of food and cold, rainy days. We don't have any other years to compare this with on our site, but the chick failures are consistent with similar anecdotal reports on the NRS forum and on social media.

Unfortunately, other than my friends asking a couple of questions about the nest boxes, no other students showed any interest in the project. However Abby's form tutor was very supportive and showed a lot of interest in what we were doing. We hope to encourage greater awareness next year. We are looking forward to next breeding season and re-assessing the siting of some of the boxes to ensure greater occupancy.

**Evie Miller**



Wader mist nets, by Rob Robinson

It is much easier to set nets in daylight, and at low tide, but this requires someone to stay and watch the nets until dusk. The nets are set high and with plenty of pocket.

## Mist-netting coastal waders

Many coastal waders breed in habitat that is under considerable threat, be it from development, saltmarsh accretion or global warming. Long-term monitoring of waders is essential if we are to understand their changing needs over the coming decades. This article is the first in a two-part series looking at how to mist-net waders. In this first part, Nigel Clark of the Wash Wader Ringing Group shares his experiences of catching waders in coastal habitats.

### LOCATION, LOCATION, LOCATION

Waders can be caught effectively in three types of locations:

- i) across shallow channels or pools that are covered at high tide, although this needs to be done with extreme care and a very good knowledge of the rate at which the tide comes in;
- ii) along the edge of saltmarsh with lines of nets set at right angles to the edge of the saltmarsh. This is only safe and effective when high tide reaches the edge of the saltmarsh, but doesn't cover. Again an extremely good knowledge of the local conditions is important for these sites;
- iii) over pools on saltmarshes, particularly if the saltmarsh is grazed so that there is a very short sward suitable for birds to roost on. The pools do not need to be very large; as many as 50 birds can be caught in a single net over a pool that is only 10 m across. The best pools are those nearest to the outer (seaward) edge of the saltmarsh which are shallow enough for birds to land, either in the pool or on the muddy

fringes. Waders fly low over these pools at night, but over the open saltmarsh they fly too high to be mist-netted successfully.

Setting nets at right angles to the wind direction, but with the net set largely over water, is generally most successfully, as birds tend to circle over the marsh and then reduce speed whilst flying into the wind as they descend over the pool.

### CHOOSING NETS

When mist-netting waders, a large number of heavy birds may be caught at once and it is vital that the nets do not sag into water if this happens. Using nets no longer than 12 m in length, set with the bottom shelf at least 1.5 m above the water, should prevent this, although some ringers use longer nets with a support in the middle. In order to generate enough tension on the nets, and to minimise the risk of shelf strings breaking under high tension, nets should have braided, rather than twisted (stretchy), shelf strings. Larger-mesh

nets (38 mm stretched, 19 mm knot-to-knot) work best, as birds are more likely to be caught, rather than 'bouncing'. Two- or three-shelf nets with plenty of pocket are ideal. If there is a lot of ambient light from nearby towns etc., less-visible, single-shelf nets can prove much more effective.

### SETTING NETS

When setting a line of nets, best practice is to have three guys on each end of the line and one on each intervening pole. The multiple guys at each end of the pole provide very good tension and ensure that the nets do not collapse if one guy gives way. The middle of the three guys is set in line with the nets and should be tied near the top of the pole, with the other two tied lower and at 25–30° to the pole. Using substantial wooden pegs, about 600–700 mm long, to which the guys are attached before being hammered into the ground, will help to maintain tension and prevent the pegs coming out of the ground.



## Health and safety

Saltmarshes can be dangerous places, especially at night. Even when you know a marsh well, it is easy to fall in a creek or to become disorientated if fog descends. The following tips should help to minimise risks:

- No one should go out on a marsh on their own at night.
- Walk in single file so that only one person is likely to fall into a creek, and there is someone following who can help them out.
- Carry furling sticks or prodders to help with balance and to check for the presence and depth of creeks.
- If there are any creeks that have to be crossed to get to the catching site, it is important to leave a mist net pole or other marker in place to identify the crossing points should the tide come higher than expected and cover the marsh.
- Always be wary of weather conditions and the potential for surge tides, especially in the aftermath of severe storms. In the worst-case scenario, the tide may completely cover a marsh and, in doing so, hide the visual markers (creeks, causeways) that guide your route off. This may result in you having to wait on the marsh for the tide to recede. There are a number of very useful websites that give tidal ranges and predictions for much of the UK, including one that predicts storm surges ([www.ntsif.org/storm-surges/surge-forecast](http://www.ntsif.org/storm-surges/surge-forecast)).
- Always carry two-way radios or mobile phones and a powerful torch for security should the unexpected happen.
- Be cautious until you know the site well; use only a few nets on the first catching attempt at a new site. When you know the site better, the number of nets set should be appropriate to the size and experience of the team.

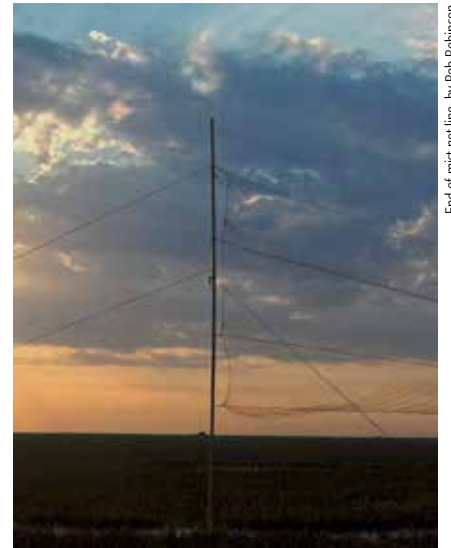
In order to stop the nets from sagging while being put up, the guys on the intermediate poles should be set in the direction of the line to maintain tension. When the nets are up the guys should be moved to lie at 90° to the netline, in alternating directions from the nets; a slight zig-zag can also be introduced to the line of nets to help maintain stability.

## CATCHING

When catching in a tidal situation, birds may arrive on the site two hours before high tide; it is therefore best to have the nets set by about three hours before high tide. For this reason, it is rarely successful catching on high tides that are less than two hours after sunset. Catching can be effective if high tide is just after dawn, however, as the majority of the catching will happen whilst it is still dark. On most sites, few birds are caught after high tide, so nets can be taken down once the birds have been extracted at high tide. Waders do not feed over high tide but should be released within four hours of capture. The best tides to catch on are those where the saltmarsh doesn't quite cover (or only just covers) and when the moon has not risen by high tide, or when it is around new moon.

On some sites birds will naturally come to the pools, but playing recordings of wader flocks will greatly increase the catch; Redshank calls seem to work particularly well on The Wash. Recordings of mixed wader flocks are available to download from the ringers-only pages of the website. Putting the recording on two hours before high tide, as long as it is fully dark, is usually ideal. Unless absolutely necessary, it is best to avoid using torches on a marsh as this could put off other birds coming in and affect night vision. However, if the catch is larger than anticipated, first turn off any sound recordings and, to prevent any more birds being caught, hang lit torches from the nets.

Birds will often come in to pools in flocks and so it is a good idea to have a team of people located close to the



End of mist net line, by Rob Robinson

Guys positioned 'one-up, two-down' help to maintain tension on the end pole.

nets at all times who can extract birds as they are caught. Extracting waders from nets is rather different to extracting passerines and requires considerable skill as birds are often carpalled (particularly in windier conditions), requiring the wing to be drawn through the net. Never hold waders by the legs when extracting, or at any other time, as they are subject to capture myopathy (known as 'cramp') and the chances of cramp may be increased if the birds are held by their legs (see *Ringers' Manual* and Clark & Clark 2002).

If there are multiple birds in the nets, always extract from the bottom shelf first, to avoid putting strain on birds caught in the other shelves as the weight above them is removed. For higher shelves, take poles out and lean the nets over, rather than stretching to extract or pulling the net towards you, as the tension on the nets makes this very difficult.

Most species of wader can be double-bagged (or sacked in the case of large species like Curlew) if necessary. This is advantageous for smaller birds such as Dunlin in cold weather. Bags do not need to be tied shut as waders will not try to climb out. The one species that should never be double-bagged is Turnstone, as they might fight. ➔





Nets at sunset and keeping cages, by Ruth Walker

Mist nets over water at dusk (left); tall keeping cages (shown on right) are essential to prevent ‘cramp’ in long-legged species, such as Curlew. Extra material along the sides prevents birds from escaping.

⇒ Carrying bags on carabiner neck hooks, or over the wrist (ensuring they do not drag in the water), will leave hands free for balance or for carrying a prodder. Birds should be taken back to ‘base camp’, where they are ringed and processed, at regular intervals and, if the size of the catch requires birds to be kept while waiting to be processed, they should be put into keeping cages (see *Ringers’ Manual*).

If birds have been double-bagged, the bags must all be checked very carefully. If a variety of species is being caught, pinning species name labels onto keeping-cage compartments can prove very helpful. To avoid the possibility of ‘cramp’, birds should not be left in bags for long periods and long-legged birds should be processed and released first. Keeping cages should not be left unattended at night to avoid any predators finding them.

**RELEASING BIRDS**

Releasing birds onto a field with short grass or onto a ploughed field, well away from lights at base camp, is ideal. Transport birds in keeping boxes and release birds into wind so that it is easy for them to take off, but allow time for their eyes to accommodate to the

dark. It may be helpful to put a mist-net pole on the ground as a marker beyond which birds are released, so that there is no risk of standing on any birds that have not flown immediately. Alternatively, release from the top of a sea wall, by letting each bird stand on the palm of the hand and then gently raising the hand up and down. The bird should naturally open its wings and take off into wind as the hand is lowered. If there is no wind at all, birds may need to be launched gently.

**REFERENCE**

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‘Part 2: Mist-netting inland waders’ will feature in the autumn 2016 edition.

**International Wader Study Group (IWSG)**

The IWSG is an organisation for both volunteer and professional wader researchers. The group aims to bring together researchers from all continents to help organise cooperative studies and projects and to provide opportunities for the exchange of information on waders and their biology. This is achieved through holding an annual conference, publishing a peer-reviewed journal *Wader Study* three times a year, publishing occasional volumes of *International Wader Studies* and by acting as Wetland International’s



Wader Specialist Group. The work of IWSG helps provide information on current threats to wader populations and habitats worldwide. [www.waderstudygroup.org](http://www.waderstudygroup.org)

Turnstone, by Ruth Walker

# Ringing & Migration: future vision

Although initially a means of finding out about the dispersal and migration of birds, bird ringing today has much wider relevance for investigating survival rates, monitoring abundance and productivity, and for studying individual behaviours and species characteristics. With 'migration' in its title, *Ringing & Migration* is clearly about where birds go, but the 'ringing' part encompasses the wider uses of ringing and bird marking in ornithology. Historically, *Ringing & Migration* has been a journal for articles on bird biology in which ringing, marking and associated techniques play a key role.



Great Skuas, by Ruth Weller

A study investigating age at first breeding of Great Skua in Shetland was the editor's choice for the open access article in June.

As Chris Redfern explains, the June edition of *Ringing & Migration* reflects the wide remit of the journal, with papers describing the value of long-term ringing efforts for conservation (Caspian Tern and Skylark), the value of colour-ringing studies (Great Skua, Bullfinch, Marsh Tit), moult studies (Graceful Prinia and Swift) and sexing techniques (Buzzard and Siskin).

*Ringing & Migration* welcomes papers on all aspects of the biology of wild birds in which marking or other techniques are used to identify and study individuals or groups. Many excellent studies are carried out by unpaid ornithologists, but too few of these are analysed and written up for publication. As a result, the journal has struggled in recent years to attract sufficient papers to fill each edition. In light of this, a decision was taken by BTO Council to set up a working group, comprising members of Ringing Committee, BTO staff, members of the *R&M* editorial team and others with relevant experience of the publishing world, to look at the future direction of the journal.

At a meeting in June, this group discussed the remit of *Ringing & Migration* and decided that it should

retain its strongly membership-driven focus, rather than try to chase higher-impact papers that are currently submitted to other journals. The group also discussed whether the journal should become open access, but this was considered to be financially unsustainable at this time. It will therefore continue to be a subscription-based journal. There is an open access paper in each issue, that we will promote via social media to highlight the journal to a wider audience. The inclusion in the journal of the annual Ringing and Nest Recording Report was considered to be important as feedback to the participants in our schemes. It also helps to make the scientific value of the schemes clear and provides a citable reference to the schemes for researchers to use in publications. The report may incorporate additional results from the Nest Record Scheme in future.

Much of the meeting focused on the type of papers that might appear in *Ringing & Migration* in future and how to attract them. Suggestions for content included producing analyses and interpretation of ringing data to deliver updated *Migration Atlas* texts, tracking papers, particularly the second

and third papers to emerge from a piece of work, and, most importantly, papers on other aspects of demography, particularly nest recording. The wider range of papers will provide more interest in the very important study of demography. A new strapline will probably be added to the journal in future to reflect this wider remit.

It is hoped that these developments will help to increase the number of papers submitted to *Ringing & Migration*. In particular, we want the journal to be accessible to you, allowing you to publish the results of your studies. There was therefore discussion about opportunities for mentoring and support for less-experienced authors from within the wider academic family. For example, PhD students and post-docs may be tempted to provide support because of the Personal and Professional Development (PPD) programme – we will be following this up. In the meantime, get out those results, dust them off and get in touch. The editor and editorial team will provide advice on the preparation of manuscripts and would be delighted to receive more contributions from BTO ringers and nest recorders! We look forward to hearing from you.





Wandering Albatrosses, by Alastair Wilson / British Antarctic Survey

Colonial nesting gives the opportunity to monitor numerous nests simultaneously, with adults of many species being very approachable at this time.

## P...P...P...PIT-tag a penguin

The integrated population monitoring approach is not unique to British & Irish populations. Many of our seabirds are undergoing long-term declines and the techniques used to study the birds discussed by Alastair Wilson (British Antarctic Survey), will be familiar to many British ringers. The long-lived, site-faithful nature of seabirds lends itself to the production of survival estimates generated through ringing studies, as the success of RAS seabird projects show.

Ringing a Wandering Albatross is an incredible experience; they must be one of the world's 'ultimate' birds, circumnavigating the globe on a 3.5-m wingspan, and living for decades. To think that just a few months ago I was ringing European Storm Petrels on Skomer Island, at the opposite end of the seabird size scale!

**Bird Island** is a small (4.8 km x 800 m), sub-Antarctic island at the northwestern end of South Georgia, 1,390 km east-southeast of the Falkland Islands. Captain James Cook discovered the island in 1775, and came up with the apt name 'on account of the vast numbers [of birds] that were upon it'. My role as Penguin and Petrel Zoological Field Assistant (ZFA) and Winter Station Leader for the British Antarctic Survey (BAS) at Bird Island, South Georgia, began in December 2014 when I arrived with our technician, Summer Station Leader, two BAS senior scientists and two other ZFAs, one studying albatrosses, the other, seals. To get here took months of preparation; medical, navigation, engineering, sea survival and scientific training, providing the skills necessary for an 18-month deployment. We spent the summer working and training with our predecessors, and now I am overwintering in a team of just four people.

### SCIENCE

Science here falls into two main areas, Long Term Monitoring and Survey (LTMS) to monitor changes in Antarctic

ecosystems, and shorter projects which are often carried out by visiting scientists or PhD students, and the ZFAs. Collecting LTMS data takes up most of our time, and provides indicators for seabirds and seals of population size and trends, reproductive success, survival, breeding frequency and diet, and hence the quality and abundance of their prey. For example, data on albatrosses have been collected here since 1958, and show clear declines in their populations. BAS data on seabird populations are used by organisations such as the Convention for the Conservation of Antarctic Marine Living Resources, to help inform management of the marine ecosystem, and the Agreement on the Conservation of Albatrosses and Petrels, to understand and highlight reasons why these species are declining.

### GIANT PETRELS AND PENGUINS

One of my main jobs is to monitor the Northern and Southern Giant Petrels, the 'geeps' (pronounced like the 4x4) as we call them. Every breeding attempt in the study area is recorded, and the nest location mapped using a GPS and marked with a



stake. Adults in the study area have uniquely marked colour rings, and can breed every year, usually pairing for life. There are a few mixed pairs, always a male Southern and female Northern Giant Petrel, but these breeding attempts tend to fail, and hybrids are very rare (<0.1% of birds).

The ring number and sex of each adult is recorded, daily visits pinpoint the laying date, and weekly checks follow the fate of the nest until fledging. Prior to fledging, the chicks are ringed, weighed, and their bill length measured to determine sex (males have a much longer bill).

I also monitor the two species of penguin that breed here, Macaroni and Gentoo. The number of Gentoo pairs averages around 3,000 but fluctuates markedly from year to year. An aerial survey in 2002 estimated 46,500 pairs of Macaroni breeding on the island, split between three colonies known as Little Mac (Fairy Point), Middle Mac (Mac Cwm) and Big Mac (Gold Crest Point). Experiencing a penguin colony is incredible – the sight, sound and smell of 35,000+ birds bombarding your senses. It's not possible to ring penguins, and flipper bands can be detrimental, but microchipping offers a safe and reliable alternative for long-term identification of individuals. The beauty of this system is that you can use an electronic reader in a gateway to log the passage of each bird on its traditional route back and forth to the sea without the need for recapture.

## RINGING

Black-browed and Grey-headed Albatrosses (mollies), Wandering Albatrosses, giant petrels and Brown Skuas are ringed in study colonies or areas, allowing the history of individuals and pairs to be followed throughout their lives. Ringing is one of the key tools that we use to deliver the science. Each year we ring up to 700 Wandering Albatrosses using special L+ rings, 330 giant petrels and 800 mollies, and a few Brown Skuas, White-chinned Petrels, Blue Petrels and Antarctic Prions. In the last six years around 10,000 birds have been ringed on Bird Island.

Winter is quieter on the island. Gentoos still come ashore each night to roost and Leopard Seals hunt them and the remaining

Fur Seals. Now, however, spring is here. Wanderer chicks are losing their down and exercising their wings, breeding rounds for the mollies, giant petrels and penguins have begun and soon our successors will arrive. This job has been a dream come true and has exceeded every expectation. Working so closely with such incredible wildlife is a true privilege. It's not uncommon for a giant petrel to preen your arm, and investigate up your jacket sleeve with their beak whilst you check their ring number! It is hard work, but the experience of being on such a magical island, with an incredible group of like-minded people ensures it is something I will never forget.

## REFERENCE

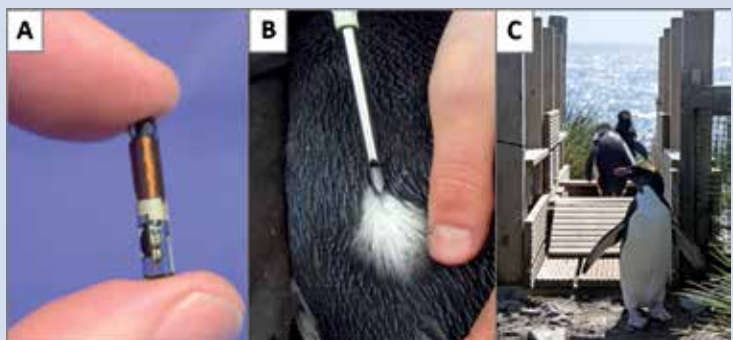
Prince, P.A., Rothery, P., Croxall, J.P. & Wood, A.G. (1994) Population dynamics of Black-browed and Grey-headed Albatrosses *Diomedea melanophrys* and *D. chrysostoma* at Bird Island, South Georgia. *Ibis* 136, 50–71.

## Fish and chips for Macaroni Penguins

Many of the Macaroni Penguins at Bird Island are marked with microchip tags (Figs A & B). These tags work in the same way as the microchips that many of our domestic dogs and cats carry. Each tag has a unique number that can be read electronically. At Bird Island, the unique numbers associated with each penguin are recorded by a gateway system that is positioned at the entrance to the colony. This system enables individual weight and attendance data to be recorded with minimal human disturbance to the birds (Fig C).

The study colony of Macaroni Penguins at Little Mac, has declined by 70% since the 1980s. Recent work by Cat Horswill during her PhD with the BAS set out to understand this trend using the attendance data recorded by the gateway. The study examined how survival rates change in response to multiple drivers. These included environmental pressures that are thought to influence the availability of food resources, as well as local predation pressures. The research provided compelling evidence that adult Macaroni Penguins are equally influenced by both of these pressures.

Horswill, C., Matthiopoulos, J., Green, J.A., Meredith, M.P., Forcada, J., Peat, H., Preston, M., Trathan, P.N. & Ratcliffe, N. (2014) Survival in Macaroni Penguins and the relative importance of different drivers: individual traits, predation pressure and environmental variability. *Journal of Animal Ecology* 83, 1057–1067.



British Antarctic Survey

# Using your data

This feature highlights some of the scientific papers that have been produced using the data that you collect through the Ringing and Nest Record schemes. An in-depth review of another paper, by Ross Crates, looking at post-juvenile moult in Blue Tits, can be found on page 11 of this edition.



Tawny Owl, by John Proudlock; Blue Tit, by Liz Cutting; Puffin, by Ruth Walker

These three pieces of work use ringing and nest recording data alongside those from other core monitoring schemes to reveal the factors that influence our bird populations.

## DOES GOSHAWK PREDATION IMPACT ON TAWNY OWL POPULATION SIZE?

Tawny Owls have been intensively studied in Kielder Forest in northern England since 1979 and their main prey species, Field Vole, has been monitored there since 1985. The ‘superpredator’ Northern Goshawk appeared in the area in 1973 and their population has been monitored continuously since then. This study used recovery data to investigate predation of Tawny Owls by Goshawks as they colonised Kielder Forest. It looked at the extent to which predation was sex- and age-selective. The results showed disproportionately high predation of juvenile owls. Among adults, females were more susceptible to predation than males and the risk of predation appeared to increase with age. The authors concluded that this implies age-selective predation may shape the decline in survival with age. They further found that Goshawk abundance did not affect owl population size or immigration to the area. However, it did appear to have an impact on owl prey abundance resulting in a delayed effect on recruitment into the population.

Hoy, S.R., Petty, S.J., Millon, A., Whitfield, D.P., Marquiss, M., Davison, M. & Lambin, X. (2014) Age and sex-selective predation moderate the overall impact of predators. *Journal of Animal Ecology* 84, 692–701.

## DOES RINGING DISRUPT PARENTAL DUTIES IN BLUE TITS?

A three-year study undertaken in Germany investigated how quickly adult Blue Tits returned to provision their young after capture, handling and marking. Birds were caught in nest boxes (by blocking the hole) when feeding 9–11-day-old young and the time of their first nest visit after release was then recorded. During handling, ‘known’ birds (those that had previously been caught and ringed) were just processed and released whereas a number of additional procedures (including PIT tagging, blood sampling, feather sampling, behavioural testing) were carried out on ‘unknown’ birds. Birds took on average 4.2 hours to return to the nest (range 20 minutes to 18 hours) compared to an average 4.5 minutes (range two minutes to 9.5 hours) for naturally occurring gaps between visits. ‘Known’ birds returned on average 1.9 hours after release, compared to 6.3 hours for ‘unknown’ birds. Most importantly, the study concluded that whilst capture can have a strong effect on immediate behaviour, there were no long-term effects on offspring or breeding success as a result of delayed parental return to the nest.

Schlicht, E. & Kempenaers, B. (2014) Immediate effects of capture on nest visits of breeding Blue Tits, *Cyanistes caeruleus*, are substantial. *Animal Behaviour* 105, 63–78.

## ASSESSING THE CAUSES OF PUFFIN DECLINE IN SHETLAND

This study investigated the mechanisms behind an apparent major decline in the number of Puffins breeding on Shetland. The team used a 27-year data set (including ringing records, colouring resightings and nest monitoring) to estimate changes in population size and in two key demographic rates: adult survival and breeding success. The variation in these demographic factors was then related to Great Skua abundance (main predator) and chick food supply, which it is thought may have driven the decline. During the study period, Puffin numbers were estimated to have halved, whilst skua numbers were estimated to have trebled; however, adult survival rates for Puffin remained high. Breeding success and the amount of fish prey brought ashore by adults both decreased substantially during the same period. The results led the authors to conclude that the Puffin decline was not due to an increase in the Great Skua population, but was a result of reduced immature recruitment into the breeding population, a factor often undetected in seabird populations.

Miles, W.T.S., Mavor, R., Riddiford, N.J., Harvey, P.V., Riddington, R., Shaw, D.N., Parnaby, D. & Reid, J.M. (2015) Decline in an Atlantic Puffin population: evaluation of magnitude and mechanisms. *PLoS ONE* 10, e0131527. doi:10.1371/journal.pone.0131527.

# Noticeboard

## ADVERTS

### POTTER TRAPS FOR SALE

Two sizes (12" & 16") also Chardonneret and other traps on request. For prices please contact John Mawer on 01652 628583 or via email [johnmawer@hotmail.com](mailto:johnmawer@hotmail.com)

Potter traps, by John Mawer



### LARGE SPRING TRAPS

One metre square. £80 each + £8 carriage, or free carriage for 2+ traps. Proven success in catching harriers, buzzards, Great Skua, Sparrowhawk and gulls. Netting not supplied, but instructions provided. Traps can be dismantled for painting, etc. Made to order. Please contact Dave Dutton.

Large spring trap, by ClaireSmith



## CONTACTS

Nest Record Scheme: [nrs@bto.org](mailto:nrs@bto.org)  
 Ringing Scheme: [ringing@bto.org](mailto:ringing@bto.org)  
 Constant Effort Sites: [ces@bto.org](mailto:ces@bto.org)  
 Retrapping Adults for Survival: [ras@bto.org](mailto:ras@bto.org)  
 Colour Ringing: [colour.ringing@bto.org](mailto:colour.ringing@bto.org)  
 Ringing Data Submissions: [ringing.data@bto.org](mailto:ringing.data@bto.org)  
 Licensing (general): [ringing.licensing@bto.org](mailto:ringing.licensing@bto.org)  
 Schedule 1: [ringing.schedule1@bto.org](mailto:ringing.schedule1@bto.org)  
 Special Methods: [ringing.specialmethods@bto.org](mailto:ringing.specialmethods@bto.org)  
 Ringing Sales: [ringing.sales@bto.org](mailto:ringing.sales@bto.org)

## 2016 PERMIT RENEWAL AND ANNUAL FEES FOR RINGERS

### ENCOURAGING EARLY RENEWAL

The licensing team is asking for your support in submitting permit renewals as soon as possible. All ringers on email should have received an email on 10 September explaining the ringing permit renewal process and annual fees; the linked Licensing Update can be found on the ringers-only web pages. If you did not get this email, please contact [ringing.permit@bto.org](mailto:ringing.permit@bto.org) or telephone and ask for permit renewals so that we can check your email address. Permit renewal emails will start in early October for 'T' and 'C' permit holders and just before Christmas for 'A' permit holders. Please remember that it is your responsibility to ensure you have a permit so if you do not receive renewal information for 2016, or don't get your permit after you think you have renewed, please get in touch. As always, if you do not have email, a printed renewal will be sent to your postal address.

### SPECIAL METHODS RENEWALS

All project leaders are asked to submit special methods reports for 2015 breeding season projects by 30 November. Those of you with all-year projects should submit by 31 January and those with winter projects should submit any 2014/15 winter reports by 30 November and then 2015/16 reports by 31 May.

### SCHEDULE 1 PERMITS (RINGERS AND NEST RECORDERS)

All Schedule 1 permit holders are asked to submit nest records by 30 November (unless you have late Barn Owls). Please aim to submit renewals for Schedule 1 permits by 1 January 2016. We will prioritise renewals submitted by this date.

We would like to say thank you to all of you who renew early.

## CONFERENCES

**20–22 November:** Scottish Ringers' Conference, Carrbridge, Inverness-shire

**28 November:** Southeast Ringers' Conference, Sandwich Bay BO, Kent

**4–6 December:** BTO Annual Conference, Swanwick, Derbyshire

## THE 2016 CES VISIT PERIODS

Visit	First Date		Last Date	No of Days
1	Sunday 1 May	to	Wednesday 11 May	11
2	Thursday 12 May	to	Saturday 21 May	10
3	Sunday 22 May	to	Wednesday 1 June	11
4	Thursday 2 June	to	Saturday 11 June	10
5	Sunday 12 June	to	Wednesday 22 June	11
6	Thursday 23 June	to	Saturday 2 July	10
7	Sunday 3 July	to	Wednesday 13 July	11
8	Thursday 14 July	to	Saturday 23 July	10
9	Sunday 24 July	to	Wednesday 3 August	11
10	Thursday 4 August	to	Saturday 13 August	10
11	Sunday 14 August	to	Wednesday 24 August	11
12	Thursday 25 August	to	Saturday 3 September	10



# Monitoring priorities: Starling

Familiar enough, but in decline, the Starling is a species for which ringing and nest recording can make an important contribution. As this article explains, there are lots of ways that you can help.



Starling, by John Harding

## CURRENT KNOWLEDGE

Starling has undergone a rapid decline in breeding abundance since the 1960s, tentatively linked to a reduction in food availability, due to changes in farming practices. NRS data show an increase in productivity per breeding attempt during the period of decline, which may represent a density-dependent response, but little is known about long-term changes in the numbers of broods produced per pair. Previous studies identified first-year survival as a major factor in the decline; adult survival rates may also contribute and, while the RAS trend appears stable, the direction of the trend varies greatly between projects.

## HOW YOU CAN HELP

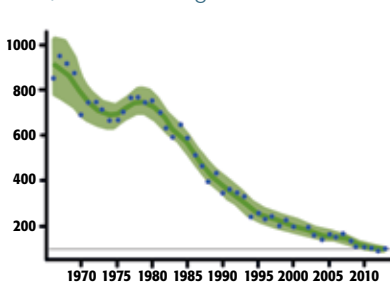
**Erect boxes** – Uptake rates vary, often depending on the availability of alternative sites (e.g. pantiles), but preference is for a hole-box design with a 45-mm-diameter entrance, placed at 2.5 m or higher on trees or buildings.

**Monitor nests through the season** – NRS currently gets 200–300 records per year compared to 500–1,000 in the 1990s. Laying typically starts at the beginning of April, with repeat clutches produced in June; studies recording the incidence of repeat brooding would be particularly valuable, especially if parents can be identified.

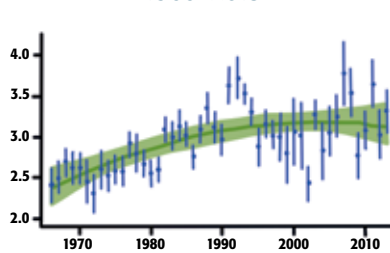
**Ring pulli** – birds of known age and location provide vital information about recruitment and post-fledging dispersal; the number of Starling pulli ringed has dropped by 50% since the mid-1980s to c. 1,500 per year.

**Capture/re-encounter adults during the breeding season** – Starlings are an ideal species for colour-ringing; they can be caught easily using mist or whoosh nets, traps, or at the box during the late chick stage. Neighbours can be recruited to watch out for the birds. PIT tags may also be fitted, allowing adults to be identified at the nest box.

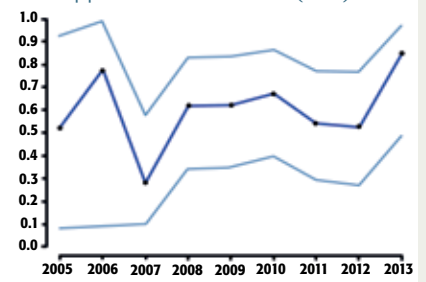
CBC/BBS index England 1966–2013



Fledglings per breeding attempt 1966–2013



Apparent adult survival (RAS)



The first two graphs shown are taken from the BirdTrends report ([www.bto.org/birdtrends](http://www.bto.org/birdtrends)), where results from the Ringing and Nest Record schemes are published annually. RAS trends can be viewed online ([www.bto.org/volunteer-surveys/ringing/surveys/ras/results](http://www.bto.org/volunteer-surveys/ringing/surveys/ras/results)).