

The BTO Magazine for Ringers and Nest Recorders

LIFECYCLE



AUTUMN 2018 ■ ISSUE 8

WOODPIGEON NESTING



TRAPPING TECHNIQUES



AGEING REED BUNTINGS

POST-JUVENILE MOULT

Opportunity to explore variation
in Blue Tits



BTO

Looking out for birds

Editorial

ISSUE 8 AUTUMN 2018



Welcome to the autumn edition of *LifeCycle*. After a long, hot summer and an unseasonably warm start to autumn, it seems hard to believe that winter is just around the corner. With most project ringing and nest monitoring finished for another year and submissions starting to arrive here at BTO HQ, some of you may be looking for a project to get stuck into this winter to fill the gap. If so, we are very pleased to announce the launch of a new national moult project looking at post-juvenile moult in Blue Tits (everyone's

favourite!), coordinated by volunteer David Norman – see page 4 for details about how to get involved. And if you aren't quite ready to give up your nest recording for the year, head to page 6 to see how you can extend your nesting season with the help of your local Woodpeckers.

For anyone who has a burning desire to ring or nest record on Ministry of Defence land but are unsure how to gain access, the article on page 10 will be of interest. This edition also includes articles on catching techniques for ringing in your garden without a mist net (page 12), ageing Reed Buntings (page 15) and a novel nest-box project involving Shags (page 20). We also introduce an exciting new project to create a Eurasian African Bird Migration Atlas (page 18).

Thank you to everyone who has contributed to this edition; we would be delighted to hear from anyone who would like to write, or contribute to, an article for a future edition and, as always, your feedback and suggestions for content would be welcomed. With the conference season nearly upon us, we look forward to meeting and chatting to some of you either at the Scottish Ringers' Conference or at Swanwick.

Ruth Walker & Carl Barimore

IN THIS ISSUE . . .

News from ringing and nest recording.....	3
Do you ring Blue Tits?	4
Woodpeckers: better late than never	6
T- and C-permit holder reps on RIN.....	9
Accessing the Defence Estate.....	10
No net – no problem!	12
The challenge of ageing Reed Buntings	15
Obituary: Dr Iain Main	17
A continental-scale Migration Atlas.....	18
Shags: a new nest-box species?.....	20
Publications	22
Noticeboard.....	23
Monitoring priorities: Greenfinch.....	24

LIFECYCLE

THE BTO MAGAZINE FOR RINGERS AND NEST RECORDERS

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NEWS FROM RINGING & NEST RECORDING

STAFFING

There have been some recent staff changes in the Ringing & Nest Recording Team. Ros Green, who many of you will have communicated with over the past year in her role as Licensing Assistant, has moved to a new position within the BTO. Mark Grantham has, once again, agreed to step back into the fold and provide cover in the Licensing Team, working remotely, two days a week. We will also soon have to say goodbye to Diana de Palacio. Diana, who has worked at the BTO for 14 years, over 10 of which have been in the Recoveries Team, has moved south with her family, but will continue working two days a week, remotely, until the end of the year. We welcome Mark back to the team and wish Ros and Diana all the very best in their future endeavours and thank them for all their hard work for the Team.

TO J OR NOTTO J?

You may have read in the Ringing Committee papers, DemOn Manual and /or Facebook threads about the plan to remove the 'J' code from the list of passerine age codes available. Please note that this change has not yet been implemented, so, until you hear otherwise please continue as you have always done by using the 1J, 2J, 3J & 5J codes where appropriate. The change has been discussed at RIN and a final paper will be taken to Committee in advance of the new coding system being launched, which we aim to do by the start of the 2019 breeding season.

PERMIT RENEWAL

This year's permit-renewal process will start, as usual, during the autumn for T- and C-permit holders, and by the new year for A-permit holders. There will be a few changes this year, which were explained in the email sent to all ringers a few weeks ago. If you have not received any emails about the renewal process by the end of October please let us know. The changes have been prompted by the move to a new membership database, Civi-CRM, which replaces the old



Blackcap with retrieved geolocator, by Robbie Phillips

The team were able to retrieve the geolocator from this Blackcap. If you see a Blackcap with a geolocator or colour rings, please contact a member of the team.

Progress system in holding all licensing-related details. We ask you to please take particular care to check that all your contact details are correct on the renewal form, and that everything you expect is printed on your permit when you receive it; if you spot any mistakes, or are unsure about any aspect of the permit-renewal process this year, please contact us at ringing.licensing@bto.org

WINTER BLACKCAP STUDY UPDATE

This study is using ringing, colour-ringing and tagging methodology to investigate the behaviour, movements and breeding origin of overwintering Blackcaps, as there is still much to learn about which birds are stopping with us and how they are able to do so. The aim is for the colour-ringing element to continue in the longer term, monitoring potential trends in this apparently novel migration strategy.

After the second winter of intensive fieldwork, an impressive total of over 200 wintering Blackcaps have now been marked by a growing network of over 25 ringers across Britain and Ireland. The colour ringing is allowing us to build up a very detailed picture of garden/feeder use, which is highly variable between individuals, with some

very interesting movements identified, both within and between winters.

Geolocators have been fitted to a total of 86 individuals during the last two winters, to track their migration routes and identify breeding locations. Four geolocators were successfully retrieved from the 2016/17 winter and we're eagerly awaiting the return of more in the coming months. All geolocator birds have colour rings containing combinations with Red & Metal or Yellow & Metal, so please report these immediately if you see one!

We are keen to enlist the help of more ringers, so please get in touch if you have a site where you can catch wintering Blackcaps, and we will supply recording details and colour rings. Contacts: Benjamin Van Doren (benjamin.vandoren@zoo.ox.ac.uk), Greg Conway (greg.conway@bto.org)

INTERREX

Interrex have recently been experiencing issues with communications which may have led to delays in ring production or failure to deliver goods after payment has been taken. They have requested that anyone who needs an update on their order, or wishes to claim a refund, gets in touch at: shop@interrex.pl



Blue Tit, by Sarah Kelman/BTO

The sheer volume of data collected each year across a wide range of habitats and latitudes makes Blue Tit the perfect model species for studies of environmental impacts such as climate and land-use change.

Do you ring Blue Tits?

If so, you have made a good start towards taking part in our new project, explain David Norman and Dave Leech. The Blue Tit is much maligned due to its ubiquitous nature and aggressive temperament, but the former quality is actually a real strength. The Blue Tit demographic datasets are some of the most utilised on an annual basis, so your records really are put to good use straight away.

OTHER SPECIES

Having trialled the protocol on Blue Tit, the aspiration is to cycle through other species in future years, with Great Tit, Blackbird, Robin, Goldfinch, Chaffinch and Siskin all potential contenders. If you already have data on p-j moult, have suggestions for another study species or would like to help with coordination of future projects, please contact ruth.walker@bto.org

WHAT'S THE POINT OF THIS STUDY?

One aspect of the annual cycle that is still relatively poorly understood for the majority of bird species is moult, yet this neglect belies its importance. Replacing feathers is expensive and time-consuming but the benefits in terms of insulation and flight efficiency are likely to be great, creating the potential for significant trade-offs between moulting, breeding and surviving. Post-juvenile (p-j) moult may play a particularly important role in determining which birds make it through the winter, where they go and whether they find a mate.

Blue Tits are ideally placed to further our knowledge in this respect, and not just because they are caught in large numbers at many locations. In most individuals, it is relatively easy to see the extent of p-j moult, distinguishing the retained (old) feathers grown in the nest from those grown in the moult. In addition, the species is almost exclusively single brooded, so there can be no confusion caused by differential degrees of feather replacement exhibited by first-year birds of different ages.

The extent of p-j moult is thought to be a measure of the quality of the bird, either

directly in terms of condition, or indirectly in terms of fledging date, with later-fledged individuals typically less likely to recruit into the population. The intention of this study is to ask as many ringers as possible to record details of the partial p-j moult in birds of age code 3 (in November) and age 5 (in February) to see if the mean number of replaced feathers changes during the winter. The working hypothesis is that weaker birds, assumed to be those with less extensive p-j moult, are less likely to survive the winter, and thus this mean number will increase between sampling periods.

With data from a large range of sites, we shall also be able to explore spatial variation in the extent of moult, analysing data by region and habitat. By repeating the project every few years, perhaps on a five-year cycle, we may be able to identify temporal trends.

WHAT DATA DO I NEED TO COLLECT?

Data are welcomed from any site where you can catch reasonable samples of Blue Tits – garden, woodland, feeding station – using any method, including mist-net, traps, whoosh net, etc, provided that the same site and methods are used in both November

and February. You can register more than one site provided that the data from each are distinguishable. For every Blue Tit aged 3 encountered in November 2018 or aged 5 encountered in February 2019, we would like you to record the moult extent (number of retained juvenile feathers) in the greater coverts (OGCs) and alula, along with the wing length and weight (see Recording Protocol). We would also be interested in receiving data on tail and tertial moult, from those confident in collecting this information and inputting it into DemOn / IPMR. If you already hold such data from the same sites in previous years, we would be very pleased to hear from you.

HOW DO I TAKE PART?

The lead author of this article has volunteered to coordinate the field aspect of this study. Anyone wishing to take part will need to register with David Norman by emailing partmoult@gmail.com. Data can be recorded and submitted using existing fields in IPMR or DemOn (see Recording Protocol). To be able to extract the data, if you are using IPMR we will need to know the permit number associated with the ringer, the rings used (if different) and the relevant Places and (if relevant) Sub-site Code(s); if you are using DemOn, we will need to know the Username of the account you are inputting data through (i.e. who you are Operating As) and the relevant Location Code(s). Once registered, you can submit your data as normal and we will be able to extract it from the database

at BTO HQ. Once all the data have been collated, analyses will be undertaken by the project coordinator in collaboration with BTO staff, the end product either being a *LifeCycle* article or a *Ringing & Migration* paper, depending on the uptake and results.

Recording protocol

Everyone who ages Blue Tits should normally be looking for old greater coverts or moulted alula feathers; all that we are asking is for ringers to record these data and, optionally, any moulted tertials or tail feathers.

i) Please consistently record the same wing for each bird; some have asymmetric moult, usually differing by one feather between the two wings. Be careful not to bias the data by recording, for instance, the wing with more OGCs; always record whichever wing you normally examine for every bird.

ii) In DemOn, the fields you will need to record the data are Alula Score and Old Greater Coverts. In IPMR, the fields are OGCMoultScore and AlulaMoultScore. These can be added to your standard inputting field setup or, in DemOn, you will be able to use a custom field setup created specifically for the project. Both of these fields require only a single number to be entered (remember to record zeros where appropriate).

iii) If also recording tail and tertials, you will need to complete the Tail Moult Scores and Secondary Moult Score fields (or L Tail Moult Scores / L Secondary Moult Score depending which side of the bird you usually examine). These fields are derived from the moult card, so each tail feather or tertial should be recorded as 0 for old or 5 for replaced. For example, the right-half of the tail of the bird below will be scored 500000.

More details will be provided in the guidance material sent once you have registered.



Juvenile Blue Tit wing showing three old greater coverts and unmoulted alula feathers but one moulted tertial feather. The two central rectrices in this juvenile tail have been moulted and are bluer and more rounded than the unmoulted feathers.



Woodpigeon, by Mike Weston/BTO

Woodpigeon nests often seem to be built in exactly the same place from year to year, so it is always worth checking nest sites from previous seasons.

Woodpigeons: better late than never

While the nesting season is over by mid to late summer for most nest recorders, Paul Slater has found a way to extend his season. Since 1994, Paul has studied the Woodpigeons nesting in suburban Liverpool, predominantly at Sefton Park, a large Victorian recreation ground of 100 hectares. He completes over 100 nest record cards for Woodpigeons each year and rings about 100 nestlings. In this article, he reflects on the findings of his 25-year study.

Woodpigeons have a much later breeding season than most other species of bird. Although some breed quite early, most of the population that I study do not start nesting until later in the year, the majority between July and September. This is possibly because the young birds are mainly reared on ripening and ripe seeds, collected by the adults and regurgitated to the young, which become abundant at the end of the summer. In this and other studies, such as those carried out by Ron Murton while working for the Ministry of Agriculture, Fisheries and Food in the 1950s and 1960s, the main food fed to chicks at this time of year is seed such as wheat, barley and oilseed rape. Consequently, whereas many nest recorders will be most active earlier in the year, the majority of my nest finding and monitoring takes place much later in the season, and continues through until autumn.

NEST FINDING

My methodology for finding nests consists of systematic cold searching. Although birds can often be observed building, some of these attempts do not come to anything,

with nests not completed or no eggs being laid. In addition, some Woodpigeons engage in pseudo-incubation, where birds sit on completed, empty nests for lengthy periods of time before any eggs are laid. If birds are observed building, a note is made of the nest location and, if the attempt gives rise to an occupied nest, this is subsequently checked when the opportunity arises.

Most nests are found by walking around and below the canopies of trees, scanning them with binoculars. In my suburban study, I have found lime to be the favoured tree to breed in, followed by holly and then beech. All accessible trees are thoroughly scanned, even those with very open canopies, such as planes and sycamores.

When a nest is located, a note is made of the species of tree, approximate height above ground level and its whereabouts in the park. Sometimes nests are built on old (or even active) Grey Squirrel dreys, or on the old nests of other bird species; birds sitting on these nests can be difficult to see, so I pay particular attention to these structures.

TIMING

Most of my searching is carried out in the morning, with any climbing taking place as early as is practicable so as not to draw any unwanted attention and in order to minimise disturbance. In recent years, some members of the public visiting Sefton Park have taken to feeding Magpies and Carrion Crows and, as a consequence, they associate people with food. If these potential predators are present close to a nest site, then I wait for them to move away or I move on myself, returning later. Whether this supplementary feeding of corvids is affecting the breeding success of Woodpigeons in the park has yet to be determined; however, in areas where this feeding takes place, sites where Woodpigeons used to nest regularly are now avoided.

Tolerance of human presence, and the fact that nests can be closely observed from the ground, makes repeat checks of nests possible without disturbing the birds. These checks have provided evidence that some large young disappear before they could have fledged and searches of the area have occasionally found their predated remains nearby.

RINGING PULLI

The most suitable time to ring Woodpigeon pulli is when they are between 10 and 14 days old, when feathers are small to medium in NRS parlance. The legs of pulli that are younger than this are unlikely to

be developed enough to take a ring and pulli older than this may try to fledge prematurely and are also more difficult to handle. It is worth noting that single chicks grow faster than two chicks, and if food supplies are plentiful, the chicks will also grow more quickly. Chicks can be ringed in the canopy, at or near the nest, providing there is a suitable, safe position to do so.

If a nest holds more than one chick, then I will ring one, place it back on the nest and then ring the second, rather than removing both simultaneously. At the optimum age, the chicks stay put on the nest; although they may inflate themselves, lunge at you with their beaks or flap their wings, they will not leave the platform. Older nestlings can be handled by placing a cloth bag over the nest, removing the birds for ringing, then replacing them under the bag; the bag can be removed after several minutes, if possible after one has moved to a position just below the nest. If the young look to be older than about 16 days, then I do not climb and just make observations from the ground.

When handling young Woodpigeons, it is essential that nestlings are kept upright at all times to prevent them inhaling regurgitated milk from the crop. Chicks should not be held in the ringers' grip, which can put pressure on the crop, but instead should be cradled in the hand, with the breast towards the palm and feet between the fingers, without placing any pressure on the tracheal region.

BRANCHING

At the height of the breeding season, when the adults have access to plentiful, high-quality foods, the young can have a very fast rate of growth. In trees that are strong enough to take their weight, some birds can leave the nest as early as 18 days old. Although they do not move far at first, usually moving onto nearby branches, some birds can move high into the canopy of the nest tree, or into the canopies of adjacent trees, where they continue to be fed by the adults. This should be borne in mind when making return visits to assess the breeding outcome.

Monitoring

Woodpigeons may not be an obvious priority for monitoring as they are so ubiquitous but there are many interesting aspects of their ecology to explore. The population is growing rapidly, with a 450% rise in numbers since the mid-1960s, but has this increase been driven by changes in productivity or survival? They are expanding quickly into urban habitats; does this affect their nesting phenology or success? What are the impacts on potential competitors, such as Collared Dove, and predators, such as Sparrowhawk? To what extent are they implicated in the spread of trichomonosis?

With so many questions, it is important to collect as much data as we can. Breeding attempts are easy to find and monitor, yet we only receive c. 700 nest records a year and fewer than 300 pulli are ringed annually. So if you do find a Woodpigeon nest at any time of year, please collect the relevant data – nothing is ever too common to monitor.



Woodpigeon nest with chick, by Chris & Elspeth Rowe/BTO

Another issue that anyone handling chicks should be aware of is that during hot weather, some nestlings can be host to flatflies (also called louse flies or keds). Occasionally, these can transfer themselves to the observer at the nest. Although these insects are entirely harmless to humans, some people find them revolting, particularly the way they can take refuge amongst your clothing; when they realise that the conditions are not suitable for them, they usually move on!

TIME MANAGEMENT

When there are a lot of nests on the go, it is important to have good record maintenance; at busy times of the year, such as during August, I can potentially be ringing nestling Woodpigeons every day. By early October most birds have finished nesting, although there will still be some nests holding young. Although time-consuming, I find searching for Woodpigeon nests very pleasurable and rewarding.

Catching adults for RAS

Woodpigeon is, in some ways, an ideal species for RAS. They are not too difficult to catch, and are quite visible, making it relatively easy to read colour marks. Currently, there is only one RAS project on Woodpigeon, run by Lee Barber in his garden here in Thetford. Here, he provides some advice on catching adult birds.

Adults can be caught in Potter traps or large drop traps throughout the year, although they tend to visit the garden less at harvest time. Woodpigeons are strong birds that can flap when caught, potentially knocking traps over, so, if catching on a bird table it is advisable to fix the trap to the table to prevent it being knocked to the floor. Woodpigeons prefer to land and walk into traps, so placing the trap on a large bird table will make them more likely to use it. Baiting the trap with wheat will attract Woodpigeons but, if expense is not an issue, sunflower hearts are preferred; mixing the two together can help to lessen the financial burden! If traps are placed on the ground, siting them underneath sunflower-heart feeders will help to bait the trap with seed dropped by the feeding birds.

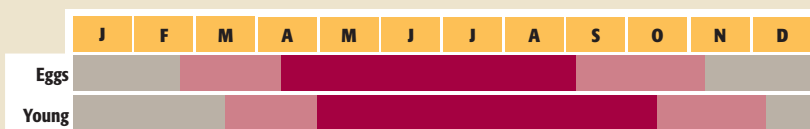
Woodpigeons have an adult survival rate of c. 60%, although in an urban setting, predation by cats might reduce this figure. A successful RAS project will therefore require approximately 60 adult birds to be caught each year to stand a chance of re-encountering 30 of these the following year. This presumes that 80% of the marked population can be re-encountered each year; if fewer are re-encountered, the marked population will need to be larger. If you are interested in starting a Woodpigeon RAS, please get in touch with Ruth Walker at ras@bto.org

Woodpigeon: nest-recording profile

Resident. Ubiquitous (bar bare uplands): mostly in farmland, woods and open scrub with scattered bushes; even on treeless heathery islands (Hebrides, Orkney and Shetland) and rocky hillsides. Increasing in towns/villages, where nesting starts significantly earlier. Usually solitary, but semi-social in optimum habitats. **Site:** In tree, bush or hedge up to 25 m, usually at 3–5 m on spreading bough or close to trunk; evergreens preferred early in season; later, broadleaves, especially bushes, also honeysuckle and other climbers; sometimes on ground in heather (Scottish islands), hedge bottoms, even crops or marram, or on building ledge or other artefact.

Nest: Flimsy platform of twigs, lined rootlets, grass and straw, but, if reused for another brood or in a subsequent season, becomes more solid; ground nests involve only lining. May use old stick nest as foundation or evict smaller species e.g. Collared Dove.

Broods: 2–3. **Eggs:** 2 (1–2). **Incubation:** 15–18. **Hatching to fledging:** 29–35 days.



Nest-finding tips: Territory indicated by cooing, notably in mornings and mid/late afternoons, and by male display flights. Pairs perch near chosen sites. Male collecting twigs easily watched back. Nests found by walking under spreading trees or along hedges against light. Adults can be seen sitting tightly at later egg and small-young stage; at other times, they crash off with loud clatter.

Text adapted from BTO's Field Guide to Monitoring Nests. Woodpigeon nest, by Chris & Elspeth Rowe/BTO

T- and C-permit holder reps on RIN

This autumn, we will be looking for candidates, nominated by their trainer, to fill the T- and C-permit representative positions on Ringing Committee (RIN). We could not think of a better advert for the roles than to ask one of the existing representatives to say what they thought of their term on the Committee. Ellen Marshall, our current T representative, has done just that, so read on...



Ellen Marshall, by John Clark

In 2015, my ringing group at Treswell Wood, Nottingham, suggested that I put myself forward for the advertised position of Trainee Representative on the Ringing Committee at the BTO. At the time, I had only been ringing for a year, and so the prospect of attending meetings with very experienced and knowledgeable ringers was quite daunting! I was quite unsure what, if anything, I would be able to contribute to these meetings, and prior to the first meeting I was extremely nervous. I am happy to say that I was wrong to be unsure and anxious, and was instantly welcomed to the Committee by all members. I have now attended the bi-annual meetings for the last three years, and have thoroughly enjoyed each of them.

I must admit that prior to attending the meetings, I had absolutely no knowledge of RIN, of the people who were essential to it, and the work that they did. As a new trainee, my knowledge of the Scheme ran to what relevant information I had read in the *Ringers' Manual*, what was in my trainee pack, and information about the birds themselves. The inner workings of the Ringing Scheme were a mystery to me, and so when I attended the first meeting, it was quite an eye-opening

experience to discover all the hard work that goes on behind the scenes.

I was encouraged from the start to contribute and have my input, and I often found that my comparative lack of experience was beneficial in that I was able to approach issues from an outside perspective and give the opinion of a new trainee. This came in particularly useful during a recent review of training, where I was able to contribute ideas to refine the training process and information supplied to new starting trainees. Through discussions of issues such as this, I have gained a lot of new knowledge. Being a part of RIN has given me a new and improved perspective on the Ringing Scheme and helped me to understand the importance of my own ringing activities.

Sadly, my tenure on the Committee is now over, and RIN are looking for new T- and C-permit Representatives to begin next year. I would recommend that anyone who is at all interested in the position put themselves forward – it is an unparalleled way to learn about the Ringing Scheme, meet extremely knowledgeable people, forge useful contacts and contribute in a wider way to an activity that many of us both enjoy and find rewarding. It can be

easy to focus on the technical aspects of ringing, on the birds and the rings, but behind it all is a complex network of data and dedicated people that together creates the BTO Ringing Scheme.

I hope that during my time I have made some valuable contributions to the Committee and I wish the best of luck to whoever is lucky enough to take on this fantastic opportunity.

Finally, I would recommend that if any ringers have any queries about the Ringing Scheme, please don't hesitate to contact a member of the Committee. They are genuinely pleased to hear your questions and concerns, and every input from ringers is considered and discussed at meetings. Everyone's input – from trainees to trainers – contributes to a better Ringing Scheme for both the birds and the ringers.

THANK YOU

We would like to take this opportunity to thank Ellen and Kate Clarke for their commitment to the roles of T- and C-permit representatives respectively over the past three years. We would also like to thank the retiring RIN members, Jen Smart and Ewan Weston, for their contributions to RIN over the past four years. **Ian Bainbridge on behalf of the Ringing Committee.**



Salisbury Plain, by MOD

Salisbury Plain Training Area is the largest Defence Training Estate in the UK, extending over 38,000 hectares. It has been used for military training for over 100 years, preventing its ancient chalk grassland being converted to farmland.

Accessing the Defence Estate

The Ministry of Defence (MOD) Estate covers almost 2% of the UK land mass, including c. 170 SSSIs, 130 of which also hold international or European designations. With access to these areas often restricted, many of these sites are unspoilt and remote, making them potentially of interest to ringers and nest recorders alike. In this article, Iain Perkins, Conservation Officer for the Defence Infrastructure Organisation, explains how to gain access to MOD land.

PERMISSIONS

We are aware that there may be ringers operating on MOD land, with local permissions in place, who do not have a current MOD ringing permit. If any ringers are in this position, please get in touch to arrange for a permit to be issued by emailing the Conservation Group Team on DIO-ConservationGroups@mod.gov.uk

As the third largest landowner in the UK, the MOD is committed to conservation and preserving the biodiversity on the Defence Estate. We use data from ringing, where appropriate, in management plans and to show and understand trends at a local level whilst being able to compare it with national data. Nest recording is also very useful, particularly when arranging army exercises and future habitat management, especially if breeding bird assemblages are a feature on a SSSI.

The majority of MOD land is available, with permission, for ringers and nest recorders to access, but there may be a few exceptions including some sites that are completely closed for security reasons. There are no restrictions on the type of ringing or nest recording that can be undertaken on MOD land, providing it doesn't prove too resource-heavy, for example in relation to security guarding or administration. Ringer numbers are limited on each site though, so additional requests for a site where ringing already takes place would be looked at on a site-by-site basis, or for specific projects or species.

Any ringers or nest recorders who wish to access MOD land should initially contact the Conservation Group Team to identify the site or the project for which permission is being sought. The Team will then assist with facilitating permissions. It should be noted, however, that the ultimate decision as to whether access is granted lies with the Head of Establishment, i.e. the person responsible for the site itself.

To feed into the environmental aspect of the Defence Estate, anybody ringing on MOD land requires an MOD ringing permit (in addition to their BTO permit) that needs to be renewed annually; permits run from 1 April to 31 March. Prior to the permit being renewed, ringers must have submitted copies of all recoveries, and a report containing (at the very least) an annual ringing totals list, to the Conservation Group Team.

Nest recorders are not issued with a permit, but are subject to the same rules as ringers and so also need to obtain access permission centrally; a nest-recording report is also requested to help the MOD identify trends or influence future management on site.

CASE STUDY – STONE-CURLEWS ON SALISBURY PLAIN

Focusing on a single species is a rewarding aspect of a ringing portfolio. I am involved with the RSPB Wessex Stone-curlew Project which is centred on the MOD Salisbury Plain Training Area, Wiltshire. In simple terms, it means training RSPB staff and volunteers to handle and colour-ring Stone-curlew chicks as part of a long-term project monitoring site fidelity and dispersal, all in the context of a busy military programme of exercises involving large numbers of men and their machines practising live-firing scenarios. Access requires permission for each session and location, which has rarely been a problem, and the MOD deserve credit for this co-operation.

Just as intriguing is the opportunity to intensively monitor breeding behaviour on the 1–2-hectare plots of bare chalky soil created by military contractors or local farmers who rent military land. A major challenge is to encourage appropriate management of the plots to prepare for spring arrival of the birds, and then a second brood by mid-season management of regrowth of vegetation. In practice this means advising management of half the plot away from where the birds are sitting on eggs, or lifting chicks if they have hatched. Taking biometrics of eggs to accurately predict hatch dates means that land management and ringing intervention can be planned within the breeding cycle to minimise disturbance within a safe environment. **Ian Grier**

CASE STUDY – MOD BICESTER GARRISON

I have been monitoring breeding birds at the MOD Bicester Garrison since 2011 and this has consisted of a mixture of bird ringing, bird surveys and nest monitoring. The site is situated on the Oxfordshire/Buckinghamshire border, and consists of scrub, areas of grassland and hard standing. It is of greatest value for its healthy populations of breeding warblers, as well as some of the last remaining breeding Nightingales and Turtle Doves in Buckinghamshire. The site is particularly excellent for Lesser Whitethroats, and whilst ringing I have captured two foreign controls from Israel; a significant contribution to

our understanding of their movement considering there have only ever been ten recoveries of Israeli-ringed Lesser Whitethroats in the UK.

The MOD site is dominated by blackthorn scrub of a similar age and height, so I have been working with a local conservation group to undertake winter sessions to clear away areas of scrub and allow regeneration. This management has been based on the BTO Conservation Advice Note on Managing Scrub for Nightingales. It is a large site, and our clearance efforts are modest, but over the years we expect to enhance the heterogeneity of the scrub and benefit the breeding bird assemblage.

The ringing effort on this site has monitored the breeding birds, helping to understand how the warblers are faring, and gathering breeding evidence for certain species. I have confirmed breeding records for eight species of warbler on site (Blackcap, Chiffchaff, Garden Warbler, Grasshopper Warbler, Lesser Whitethroat, Sedge Warbler, Whitethroat and Willow Warbler). In addition, I have proven breeding of Nightingales through the breeding condition of adults and the ringing of juveniles, and this year I even managed to locate an active nest.

I will continue working with the MOD to retain and improve the high-quality habitats on site, and through ringing and nest recording, I shall continue to monitor the populations of birds on site. **Paul Watts**

SALISBURY PLAIN

The Salisbury Plain Training Area also supports nationally important breeding populations of Whinchat, Corn Bunting and Quail, as well as unique chalk downland flora and butterflies, so visits are always special. It's also an environment where a squadron of Challenger tanks on the horizon is more common than a dog walker!



Stone-curlews, by Ian Grier



Potter traps, by Richard Barnes

Placing Potter traps close together in an arc, or side by side, prevents birds moving between the traps.

No net – no problem!

Although mist netting is the most frequently used method for catching birds, it is not the most appropriate or practical option for every situation. Following on from the article about garden whoosh netting in last autumn's magazine, this feature explores other trapping techniques for catching without mist nets. Here, Richard Barnes, Richard Broughton and Graham Austin share their knowledge of Potter traps, feeder traps and large walk-in traps respectively.

TRAPPING GUIDE

More information and detailed specifications for both the feeder trap and the walk-in trap can be found in the *Trapping Guide* on the ringers-only pages of the BTO website.

POTTER TRAPS

Potter traps can be used to catch almost any garden-visiting species and can be particularly effective for targeting House Sparrow and Woodpigeon, which tend to avoid and escape from mist nets respectively. They are also a great deal easier to extract passerines from than nets, especially Starlings, and are therefore a suitable option for 'early career' ringers to hone their ageing and sexing skills. Jackdaws are more wary, but can be easy to catch during May and June when males are provisioning females and are less risk averse.

Unlike mist nets, Potter traps can be used when it is windy or raining; like mist nets, they can be most effective during the early- to mid-morning period, although they can catch all day, particularly in frosty or snowy spells. One downside is that, being bird-triggered, they are prone to 'trap-happy' individuals weighing up the pros and cons of being caught and deciding that the food reward is worth it every time.

Placement and bait

Traps should be placed approximately three feet from the edge of the lawn, and

away from cover that could hide cats or other predators; corvids prefer traps to be further out in the open. Birds will need to acclimatise to the presence of the traps before they will feel familiar and confident enough to enter them; leaving them baited but tied open for a couple of weeks should be sufficient. If the grass below the traps is long, placing the bait on something solid, such as slate or tile, will ensure the birds can see it. Small amounts of bait placed in front of the traps will entice the birds to them, but too much will result in them not needing to enter the traps to reach food.

Different species prefer different bait; whole slices or small pieces of bread, grated cheese, apple and grapes are wonderful for Starlings for example, whereas grain and seeds are better for Woodpigeons. Corvids, Blackbirds and Woodpigeons become adept at pulling larger pieces of bait out of the trap without triggering it, so placing bait at the back will encourage the birds into it.

Extraction

Traps should always be watched carefully and birds extracted as quickly as possible; covering traps with a cloth before extraction

can be helpful to reduce movement. As birds are likely to move to the rear of the trap when approached, it can be easier to extract while lying flat on the ground, although, unfortunately, this doesn't help to reduce the risk of birds darting past your arm and escaping; a hatch in the roof provides an alternative option!

FEEDER TRAPS

Feeder traps are easy and cheap to make, very simple to use and are particularly successful in catching all tit species, Nuthatch, Robin, House Sparrow, Greenfinch and even wintering Blackcap. Use of feeder traps requires little training, and they can be set up in seconds, used in virtually any weather conditions and are very discreet if placed amongst vegetation. As the traps only catch one bird at a time, they can be quite a time-consuming method to deploy, but because they are triggered by the ringer, are ideal for targeting specific birds, or a particular species, without attracting unwanted by-catch. Trapping for tits is most successful between August and March, as tits generally show little interest in seeds at other times.

Trap design

The trap is built around a conventional two-port sunflower-seed feeder with a drop door at one end. The feeder should sit with its base resting on the bottom of the cage and the lid and upper section outside. The trap is activated by pulling a monofilament fishing line (e.g. 20 lb thickness), fed off a spool. The line is attached to a 'pin', a piece of wire or a straightened paper clip, which can be braced through the mesh roof to secure the bottom edge of the door against it, pinning it open. Pulling the line releases the door when the bird is in the trap.

Placement and bait

For tits, the trap is best sited at chest height, wedged among branches of a bush, or secured to a trunk and tilted very slightly downwards toward the front. Birds should be able to approach the trap from cover and convenient perches. A relatively clear line of sight and a distance of 7–12 metres between the trap and the ringer is necessary, both to observe birds entering the trap

and to ensure that the line does not snag. Minimising slack in the line is important if birds are not to escape before the door drops. Waiting until the bird has its head at the feeder before pulling the line, ensures that its attention is distracted and the door has the maximum time to fall before the bird escapes.

To catch tits, traps will need to be pre-baited with sunflower seeds for at least a week, possibly longer in sites where birds are unaccustomed to being fed. Lining the floor with a thin layer of moss or strip of bark between the feeder and the door, and placing on it a small handful of bait, will encourage birds to use the trap more quickly. To encourage the birds to enter as far as the feeder, the loose seeds should be removed from the floor when trapping. If birds are tending to feed beneath the trap on fallen seeds, the trap can be pegged to the floor to catch ground-feeders. When not trapping, the door should be tied open with two short lengths of strong wire (in case a squirrel gnaws through one). An unsecured door should be avoided at all costs; birds can still push their way in and become trapped.

Extraction

Birds can be extracted by reaching in through the door of the trap with one hand; standing to the side and near the rear

TOPTIPS

Squirrels or other rodents can sometimes deplete seed feeders – lacing the seed with cayenne pepper discourages rodents, but not the birds.



Feeder trap, by Richard Broughton

Securing a twig or two to the trap front will help birds find the entrance more quickly by providing a perch from which they can peer through the door.

Walk-in trap, inset: catching box and curtain mechanism, by Graham Austin



The key features that make this cage trap so efficient are the curtain roof and the simple design of the catching boxes.

CATCHING BOXES

A catching box is located in each back corner. The boxes are made of one-mm transparent PVC which is highly flexible and easily bent into a 30mm semicircle, about one metre tall. A flat piece of PVC forms a front to the bottom third of the box. Standing patiently by the door at the other end of the cage will generally see all the birds pocketed in the catching box from which they can be very quickly extracted.

flushes birds to the front of the trap which makes extraction easier. Be careful to block the area around your hand, either with the other hand, or with a bird bag, as you reach in to extract, otherwise the occupant may slip out past your wrist. An easier method of extraction is to use a large (30 cm deep) clear polythene bag, with the open end held fully over the front of the trap. Using a finger to hold open the door, the bird sees an apparent escape route through the clear plastic and can easily be ushered into the bag with the other hand. The bird will then hit the end of the loose bag and safely drop into it, where it can be taken out and transferred to a bird bag.

WALK-IN TRAP

A large, 2x2x4-m, garden walk-in trap is good for catching finches, thrushes and pigeons or anything else readily attracted to artificial bait. Typically, 20 to 30 small finches can be captured at one time. The trap is best sited under an overhanging tree from which the birds can drop down onto the feeders hanging inside. All the normal artificial baits you would use in other situations can be employed, including fruit and seed on the ground; a water-drip can also be effective in hot and dry weather.

The trap can be used in virtually any weather conditions including wind, rain or snow as the birds are free to come and

go until the instant you catch them when they fly into the protection of the catching box. Before use, the only thing that needs checking is that no twigs or ice are fouling the netting. As the trap is in position permanently, and the roof is open until a catch is made, birds rarely become trap shy. This simple design enables a catch to be taken at a moment's notice, without any preparation.

Audio playback lures (with the appropriate permit endorsements in place!) can be useful for attracting the attention of some species but generally, once there is a nucleus of birds regularly feeding, it doesn't take long for others to follow.

Construction

The trap is simple to make, featuring a wooden frame with side panels of coated wire mesh, an access door, and two simple catching boxes. The roof of the trap is a horizontal curtain made out of small whoosh-net mesh, with a length of 2-mm steel rope, chosen for its lack of stretch, woven along the front edge to hold it flat.

Along each side, the roof mesh is looped over steel washers which act like curtain rings. Two lengths of steel rope are then threaded through the washers, stretched taut, and fixed to the back and the front of the cage to act as runners, and the back edge of the netting is fixed to the framework of the trap. The leading front corner washers are each attached to a further length of steel-rope which link to a single pull cord which runs to a convenient 'firing' position. To set the trap, the roof netting is pulled along the runners and bunched at one end; with a quick tug of the pull-cord, the roof of the trap is closed.

In my trap, the whole roof is a curtain but a smaller opening could be used on a partially wired roof. A couple of extra lengths of steel rope running down the centre help support the loose netting, preventing it sagging too much in the middle. Using this design, birds rarely beat the trap and escape capture. The benefit of a manual pull cord over a powered release mechanism is that, providing the location is secure, the trap can be left set at all times as there is no risk of the roof accidentally closing and trapping birds inside.



Reed Bunting, by Liz Cutting/BTO

Reed Buntings become more difficult to age as autumn progresses and they moult their striking breeding plumage.

The challenge of ageing Reed Buntings

Ageing birds correctly is one of the key skills that ringers need to master; and, while guidance on ageing continues to improve, some species still prove tricky. One of the more challenging passerines is Reed Bunting; a range of features are proposed as helpful, but how reliable are they? Experienced ringers, Jed Andrews, Alan Ball, Adrian Blackburn, Simon Evans, Vivien Hartwell, David Hodkinson, Michael Holdsworth and John Walshe give their assessment here.

As anyone who has handled a Reed Bunting will know, they are not the easiest species to age at any time of year, becoming increasingly difficult in late winter and spring as plumage wears. Issues can be compounded by the fact that the species is double brooded, creating a significant amount of variation in the age of feathers possessed by juveniles. So, what are the key features that can be helpful in determining the age of a Reed Bunting and how dependable are they?

TAIL AND TERTIALS

Tail shape is the first criterion that many ringers will look at. As with most species, juveniles generally have more pointed, abraded and narrower tails, those of adults being broader and more rounded. While assessing tail-feather shape is relatively straightforward, there are three issues with using it as an ageing characteristic:

- Many individuals of this species appear to drop part or all of their tail during the post-juvenile moult, so adult-type feathers frequently provide a false signal; it is important to look carefully for contrast in either shape or the

degree of wear, with juvenile feathers being generally more abraded, but...

- ... reeds are a pretty unforgiving habitat to operate in and even freshly replaced tails can become battered very quickly, so the difference between 'fresh' and 'worn' can quickly become difficult to distinguish.
- To make matters even more complicated, there is a significant degree of individual variation in tail-feather shape.

The upshot of this is that, unless there is clear contrast in the tail, it is best used as a supporting feature.

Moult limits may be present within the tertials or between the tertials and secondaries but are not always easy to spot. Adult tertials tend to be broader and rounder, with darker centres and richer brown margins, while those of juveniles are more pointed and possess paler centres with a less distinct separation from the margin. The longest tertial is most commonly retained but, beware, the centre is naturally a shade paler than that of the two smaller feathers and adult plumage bleaches and wears quickly from mid-autumn onwards.

Top: Reed Bunting wing, very worn, by Ruth Walker, Middle: Reed Bunting tail, by Vivien Hartwell



Top: adult female wing that has almost completed its moult (photograph taken mid-August) – note the fresh-looking feathers, the crisp demarcation between colours in the tertials, the dark chocolate-brown sheen on the tertials and greater coverts and the rounded tips to the primary coverts. Middle: very worn adult female wing, with frayed primaries, tertials and greater coverts (photograph taken mid-August). Bottom: tail showing adult-type central tail feathers and juvenile-type outer tail feathers.

WING FEATHERS

While some individuals in the south of Europe undertake a complete post-juvenile moult, there is currently no evidence that this occurs in Britain & Ireland, and wing feathers therefore generally provide a better focus for ageing than tails. Adult primaries are broader, with squarer tips. They are also thicker and less translucent, so exhibit less wear in early autumn but, as with tails, the nature of the habitat quickly reduces the reliability of this feature and, unlike tails, there will be no contrast to guide the eye. Colour can also be helpful, with the rich-chocolate fringing on the outer web generally pale or absent in juveniles.

Primary coverts can be equally revealing, particularly for males. Those of adults are neater with broader, more rounded grey or silvery tips, darker centres and richer-brown margins. These contrast with the more pointed, paler juvenile coverts, which can have pale but never silvery tips. The alula feathers provide another useful feature: in adult birds, the middle alula feather (A2) will have a broad fringe to it and the outer feather (A3) will have a dark centre.

HEAD AND EYES

Adult males tend to have blacker heads in autumn and winter than first-years. The head plumage of females seems to get progressively darker with age, possibly due to hormonal changes reducing testosterone suppression, and extreme birds, sometimes almost indistinguishable from males, are likely to be several years old at least. Although quite difficult to detect, adults have brown eyes and a slight contrast with the darker pupil, whereas juvenile eyes are dark grey; as with other features, the distinction fades over time and this feature ceases to be informative after the end of the calendar year.

In the autumn, juveniles can be identified by using skull ossification, which is 100% reliable when done by someone who has been properly trained.

HOW WE CAN IMPROVE

As with any such assessment, this article undoubtedly raises more questions than it answers. While examination of the shape and colour of wing feathers is likely to prove



Reed Bunting by Ruth Walker

Sexing Reed Buntings can also be tricky at times. This adult female, caught in mid-August, displays some male traits (white neck band, dark head) but also had a brood patch...

most helpful, Reed Buntings remain a tricky species, becoming increasingly so after the end of September.

Known-age birds are obviously a great educational tool and Reed Bunting nests are amongst the easiest of the ground nesters to find. Incubating females exit the nest very energetically when on eggs, so cold-searching areas of suitable habitat using a tapping stick can be very productive. They are also relatively easy to watch back when provisioning, being much more tolerant

of observers than other ground-nesting passerines such as larks and pipits.

One useful future development would be to quantify the feature reliability discussed here. If ringers catching large numbers of Reed Buntings assessed the evidence provided by each feature independently, cases of correct/incorrect ageing on this basis could be systematically identified and used to produce a reliability score. We would like to hear from anyone who might be interested in trialing this idea.

Obituary

DR IAIN MAIN (1932–2017)

We are sad to report that Dr Iain Main, Honorary Member of Merseyside Ringing Group (MRG), died in December 2017.

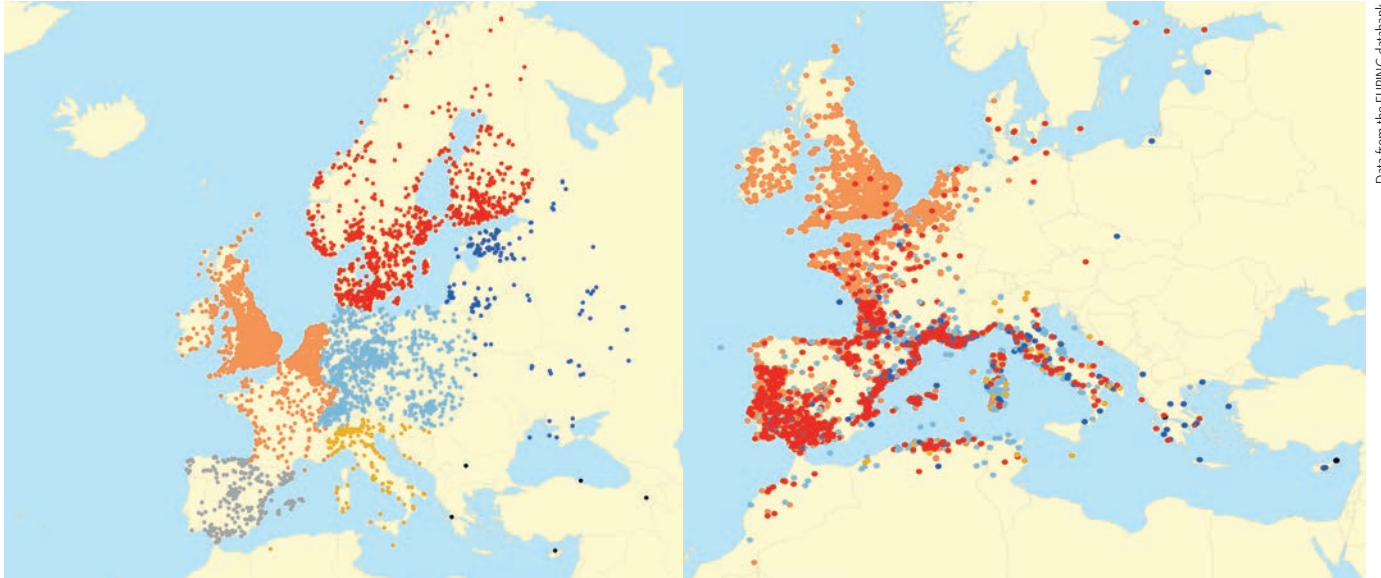
Iain was a physics lecturer at Liverpool University who started ringing in 1980, mostly targeting birds feeding in his garden. His biggest impacts on the Ringing Scheme came behind the scenes – during his time as Group Secretary, 30 years ago, he came up with the idea of, and steered MRG through, becoming a Registered Charity, the first ringing group to achieve that status.

When the effects of Iain's polio, contracted in childhood, got so bad that he could not continue ringing, he found another interest, applying his analytical brain to ringing data, especially movements of Greenfinches and Blackbirds. He published at least six papers, gave talks at a BTO *Ringing & Migration* conference and at the international conference held on Heligoland to celebrate a century of ringing, then wrote the *Migration Atlas* texts for Greenfinch and Blackbird. Iain also served on the Editorial Board of *Ringing & Migration* between 2001 and 2006.

When Iain and his wife moved to Cheltenham in 2000, it was no surprise that before long the North Cotswold Ornithological Society became a Registered Charity. He led their local tetrad atlas project, becoming first author on the nice *Birds of the Cotswolds* book, much easier to read and prettier than what was Iain's best-known contribution to physics, a widely used Cambridge University Press textbook *Vibrations and Waves*.

Iain was a modest man, great company and very thoughtful. He was a real asset to the Ringing Scheme.

David Norman



Data from the EURING databank

Ringing locations (left) of Song Thrushes in different regions of Europe and their finding locations (right) in January and February.

A continental-scale Migration Atlas

In September, work started on the development of a Eurasian African Bird Migration Atlas. This is the first component of the Convention on Migratory Species (CMS) Global Animal Migration Atlas. The Eurasian African Bird Migration Atlas is being developed and compiled by EURING. Stephen Baillie, Franz Bairlein, Wolfgang Fiedler, Fernando Spina and Kasper Thorup outline the aims of this exciting project.

The Convention on Migratory Species, often referred to as the Bonn Convention, is an environmental treaty that operates under the aegis of the UN Environment Programme. Migration is at the heart of what CMS does, so a Eurasian African Bird Migration Atlas will provide crucial information to underpin its work. The development of the Atlas has been funded with the contribution granted by the Government of Italy under the Migratory Species Champion Programme. To this end, Italy was recognised as Champion Plus for the period 2018–21.

EURING, the European Union for Bird Ringing, has long been keen to develop a continental-scale Migration Atlas that provides an up-to-date synthesis of the migration and movements of birds that breed or winter in Europe. In 2009 we held a workshop at the Institute of Avian Research in Wilhelmshaven, Germany, (home of the Helgoland Ringing Scheme) where we drew up our initial plans. Since then we have been looking for the substantial resources that would be needed to deliver this novel synthesis of migration patterns that will provide a crucial tool for research and conservation.

INFORMATION SOURCES

The EURING Databank (EDB) was founded in 1977 and for most of its life was hosted by the Netherlands Institute of Ecology. It moved to the BTO in 2005 and since then has been managed by two very able volunteers, first Chris du Feu and currently Dorian Moss. The EDB provides a repository for all ring-recovery data gathered by European Ringing Schemes and will be the main information source underpinning the Migration Atlas. In February 2018 it

held 4,260,211 conventional ring-recovery records and a further 8,327,054 local recaptures and resightings from 40 different ringing schemes. You can find a review of the work of the EDB and of the science that it supports in the July 2016 issue of *Ringling & Migration*.

Since the early 2000s we have seen rapid development of the use of electronic devices to track migrating birds, ranging from lightweight but relatively imprecise geolocators to high-resolution satellite transmitters. This information explosion is revolutionising our understanding of bird migration, resulting in several hundred new scientific papers every year. It is vital that as much of this tracking data as possible should be incorporated into the Migration Atlas and we are therefore delighted to be collaborating with Movebank in order to achieve this.

Movebank is hosted by the Max Planck Institute for Ornithology and is the largest global repository of tracking data, holding over a billion locations of tracked animals based on 5,083 studies of 811 taxa. It will provide both a means of accessing existing datasets (with the owner's permission) and a

mechanism through which further datasets can be added to the project.

DOCUMENTING MIGRATION ROUTES

At the core of this Migration Atlas will be some 300 accounts of the migration and movements of individual species. Each account will include a set of key maps together with standard tables and a species text. Supplementary maps and tables will also be provided and there will be options for users to select from a range of static and dynamic outputs. We are planning options to display maps that include data gathered since the main Atlas project, so that aspects of the site will continue to be updated as new data become available.

We have not yet planned exactly what the Atlas will look like but the accompanying maps illustrate the sorts of material that we will be able to include. The two maps for Song Thrush show, first, the wide coverage of different European populations based on ring recoveries and, second, how birds move into west and southwest Europe in winter.

CONSERVATION INPUTS AND SYNTHESIS

CMS will set up an advisory committee that will help to ensure that atlas outputs are useful and accessible to a wide range of conservation practitioners working at national and international levels. They will also use this project to inform the broader aim of producing a Global Animal Migration Atlas. An executive summary, produced towards the end of the project, will provide a synthesis of key findings and how they can inform the conservation of migratory birds.

This project would not be possible without the huge efforts of thousands of ringers and researchers operating across Eurasia and Africa, together with the observers and members of the public who have reported ringed birds. We also thank all those who have contributed to data management and analysis. We hope that this flyway-scale migration atlas will further demonstrate the amazing ecological processes that underpin bird migration as well as providing a vital tool for bird conservation. Visit www.euring.org/migration-atlas for further information.



Tracking data will add many new dimensions to the project. Here we see the eastern flyway of Baltic Black Storks and a migratory divide in German Black Storks. Some German birds migrate through Iberia and into western Africa while others take more easterly routes into central or eastern Africa. Data by Max Planck Institute for Ornithology, stored in www.movebank.org

APPLIED RESEARCH MODULES

In order to maximise the conservation value of the Atlas we will include four modules addressing specific applied issues. Each module will be undertaken by a different research group with specialist expertise in the area concerned.

- **An analysis of the current migration seasons of quarry species** will focus on measuring the start and end dates of return migration in European Union member states to inform the EU's Key Concepts approach for the 82 species listed on Annex II of the Birds Directive. Quantifying the start of return migration is important because it is used to determine the end of the hunting season.
- **An analysis of killing of birds by man with particular reference to illegal killing** will use data on causes of recovery to assess those species that are most affected, together with the regions and time periods where most killing takes place. We will assess which species are most likely to be seriously affected and which regions should be priorities for conservation action.
- **Connectivity analyses** will be undertaken to inform the conservation of long-distance migrants. Connectivity is considered to be high where birds from particular breeding populations also winter together and low when there is extensive mixing of birds from different breeding populations across the wintering grounds. This has important implications for the ways in which populations are affected by environmental change, and will be studied for a set of species with appropriate data.
- **Work on changes in migration patterns** will assess the extent to which long-term ring-recovery data show major changes in migration routes and migratory behaviour. This will be investigated for a set of species with suitable long-term data and aims to provide a starting point for future detailed research on this important topic.



Concrete nest boxes on La Maître Île, Les Écréhous, Jersey, by Ian Buxton

Concrete blocks were placed on top of the roof, one in each corner, so that it remained in situ during winter gales.

Shags: a new nest-box species?

In late May 2014, Ian Buxton from the Channel Islands Ringing Scheme visited La Maître Île, Les Écréhous, a reef 9 km off the north-east coast of Jersey, to start the annual nesting seabird survey. The island is home to c.145 pairs of gulls and 40 pairs each of Cormorant and Shag. The island has a limited number of natural nest sites for Shag, with the pairs also nesting in or under man-made structures, and that started Ian thinking about providing artificial Shag nest boxes.

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Beside a hut on the island, I noted two active nests with pulli, which were beneath an upturned plastic water tank and another water tank that had been raised off the ground by two small parallel walls of concrete blocks. This made me consider whether Shags would nest in some form of weatherproof nest box, even though the literature only mentions naturally occurring nesting sites, such as under large boulders, small caves and suitable ledges and crevices.

CONCRETE NEST BOXES

I came to the conclusion that it was worth attempting to convert a nearby water tank base that consisted of two parallel walls, but without any tank on top. As the area between these walls was fairly large, I divided it in half by placing c.10-cm-wide concrete blocks across the middle, level with the height (43 cm) of the wall, thereby creating two separate nesting compartments. The roof was made of marine plywood, which I treated with three additional coats of wood preservative. All this work took place in September, after the breeding season, which meant that the

Shags had the winter to acclimatise to their new accommodation. It was extremely satisfying to find that, when I returned during the 2015 breeding season, both compartments were occupied.

WOODEN NEST BOXES

Further concrete-block nest boxes have been added every year since, constructed from scratch and built on an existing concrete base which provides a good foundation. Additionally, a second design was successfully introduced for the 2017 breeding season, consisting of a single compartment with the box being made of untreated recycled pallet board. These have been placed in a separate area at the southern end of the island, away from the concrete boxes, in a derelict priory where only the walls remain.

The most suitable place to locate these wooden nest boxes has been in the corner of each room, ensuring that a suitable rock is placed on the roof, so there is no movement during the winter gales. Occupancy rates for all nests have been high to date, with only one compartment unused in one year.

A NOTE OF CAUTION

It should be noted that, just because both designs have been occupied on La Maître Île, it does not guarantee success elsewhere. Over the last few years, I've attempted to analyse why both designs have worked so well and I've come to the following conclusion; there must be an existing colony, but insufficient natural recesses and crevices for Shags to nest, leading them to quickly utilise the artificial sites.

Shags can be prone to desertion if disturbed when on eggs or small chicks, particularly where this is only one entrance or exit to a nest, as with these artificial nest sites and nest boxes. Nests should therefore be approached with care if the nest stage is unknown.

THE FUTURE

I am currently transporting blocks and more flat-packed wooden boxes out to the reef, with the intention of having another concrete nest box, consisting of the usual two compartments, and a further eleven wooden boxes up and running by late autumn. This will take the total to 10 compartments from the five concrete boxes and 20 wooden nest boxes.

It will be intriguing to see what percentage of the 30 artificial nest sites will be occupied in April 2019; let's hope



Wooden nest box, by Ian Buxton

It is not necessary to include a base to the wooden nest box.

they have a good winter and are in suitable breeding condition...it's now over to the Shags! I'll be interested to hear if anybody else attempts to build any boxes and what success, if any, you have. Good luck!

ACKNOWLEDGMENTS

I would like to thank the Department of the Environment for the States of Jersey, for providing the wooden nest boxes in flat-pack form, as this has made it a lot easier to transport them to the reef. I would also like to acknowledge the assistance that has been provided by Tony Paintin.

CONTACT IAN

If you would like to find out more about the project, or provide feedback if you trial the design, Ian can be contacted via ruth.walker@bto.org

Nest-box dimensions and materials**Concrete nest box (double compartment)**

- Nineteen concrete blocks (44 cm long, 21.3 cm wide, 10 cm deep). 15 are used for the actual double-chamber construction and four for placing on each corner of the roof.
- Marine plywood for the roof, measuring 86 cm by 132 cm.
- Cement of your choice, but I use 12 kg of Jetcem Rapid Setting Cement.

Wooden nest box (single compartment)

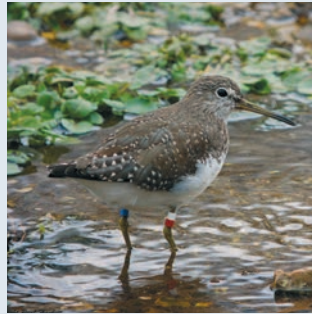
A total of four sides are made out of pallet board, of the following sizes. (Please note that these dimensions may need to be slightly adjusted depending on the depth of wood used.)

- Three of 49 cm by 59 cm, which are the two sides and the back.
- One of 61 cm by 59 cm, which is the roof.
- Ten 40-mm corner braces per box that equates to two per connecting edge (Screwfix code 11067).

Judging by the various nest sites that the Shags use on the island, there is certainly a possibility that they may utilise a box that is quite a bit smaller than these; a pair has regularly used a recess in the priory that measures only 45 cm wide, 36 cm deep and 36 cm high. The entire recess is full of nest material with the nest having a height of 9 cm. There really isn't a lot of space for the adult, let alone three pulli!

Using your data

In this feature, Richard Broughton highlights some of the scientific papers that have been produced using the data that you collect through the Ringing and Nest Record schemes.



Green Sandpiper, by Tim Hill; Wood Warbler, by Graham Clarke/BTO; Great Tit, by Jill Pakenham/BTO

HARNESSES AND GEOLOCATORS DON'T HINDER GREEN SANDPIPERS

The rapid increase in affordability and miniaturisation of new technologies is greatly expanding their accessibility for ringers, but it is essential to test methods for attaching tags and other devices to ensure they are safe for the birds concerned. The authors of this study used leg-loop harnesses to attach geolocators to Green Sandpipers, and compared their behaviour and survival against a control group of birds without such devices. The results showed that the geolocators and harnesses, which represented 1.4–1.6% of the birds' body mass, initially caused some reaction of slightly increased preening, taking up 6.3% of the birds' time compared to 4.6% for the control group. This effect lasted only a few days, however, and there was no evidence that the geolocators and harnesses affected the birds' survival or migration. This study is another valuable example of the importance of testing methods to ensure any effects of ringing and tagging activities on target birds are understood so their use is justified on scientific and welfare grounds.

Smith, K.W. et al. (2017) The effects of leg-loop harnesses and geolocators on the diurnal activity patterns of Green Sandpipers *Tringa ochropus* in winter. *Ringing & Migration* 32, 104–109.

ANTS COLONISING NESTS OF WOOD WARBLERS

Nest recorders often encounter invertebrate parasites in passerine nests, such as fleas and blowfly larvae, but researchers working in Poland's Białowieża Forest recently discovered ants (mostly small red and black species) colonising the occupied nests of Wood Warblers, and apparently breeding in the nest walls. This paper set out to discover how widespread this behaviour might be, and involved nest recorders in Scotland, Wales, England and Switzerland also checking for ants in their Wood Warbler nests. Despite being found in 29–43% of the 243 Polish nests examined in different years, ants were found in only 14% of the nests from elsewhere in Europe, including just four (16%) of the 25 nests from Britain. Interestingly, all of the British nests containing ants were in the New Forest, with none found in nests from upland Wales or Scotland. The researchers plan to investigate this unusual, and previously undescribed, association between ants and birds further, and work out whether the relationship involves parasitism, exploitation or some form of mutual benefit.

Maziarsz, M. et al. (2018) Occupation of Wood Warbler *Phylloscopus sibilatrix* nests by *Myrmica* and *Lasius* ants. *Insectes Sociaux* 65, 351–355.

TIMING MISMATCHES BETWEEN TREES, CATERpillARS AND BIRDS

This high-impact study used data from the UK Phenology Network and the BTO Nest Record Scheme to demonstrate that warm (early) springs disrupt the relative timing of oak leafing, caterpillar hatching and egg laying of Blue Tits, Great Tits and Pied Flycatchers. As temperatures rise, leaf and caterpillar emergence advance more quickly than avian egg production, resulting in reduced overlap between peaks in invertebrate availability and nestling demand. While similar relationships have been demonstrated at several individual sites by long-term intensive academic studies, this analysis explored the degree to which mismatch varied spatially, concluding that the magnitude of the difference between supply and demand peaks was similar across latitudes. This means that the potential mismatch between timing of breeding and caterpillar availability is not significantly worse in the south compared to the north, and cannot drive previously-observed variation in population trends between regions. Current climate projections predict continued selection for increasingly earlier nesting, which may place greater pressure on migrants that are constrained in the degree to which they can advance breeding by their arrival dates.

Burgess, M.D. et al. (2018) Tritrophic phenological match–mismatch in space and time. *Nature Ecology & Evolution* 2, 970–975.

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POTTER TRAPS FOR SALE

Two sizes (12" & 16") also Chardonneret and other traps on request. Please contact John Mawer on 01652 628583 or via email johnmawer@hotmail.com



NORTH OF ENGLAND RAPTOR FORUM 2018 CONFERENCE

The conference will be held on Saturday 17th November at the Askham Bryan College, Askham Bryan, York, YO23 3FR (www.askham-bryan.ac.uk) and is open to all with an interest in raptors in the uplands.

For the full one-day programme and to book, please contact nrfconference@gmail.com or check the www.raptorforum.co.uk website. The cost for the full day including lunch, refreshments and a copy of NERF Annual Review 2017 is £26.

CONTACTS

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

2019 TRAINING COURSES

Further details of ringing courses for current ringers can be found on the ringers-only pages of the BTO website. Further details of NRS courses can be found on the website at: www.bto.org/nrs-training

Further details of bird identification and survey techniques training courses run by the BTO can be found on the Events pages of the BTO website at: www.bto.org/news-events

NRS Training Courses

TBC May: BTO, Thetford, **Norfolk** / Contact: nrs@bto.org

TBC May: Knepp Estate, West Grinstead, **West Sussex** / Contact: nrs@bto.org

Ringing Courses

TBC July: Chew Valley RS Ringing Course, **Avon** / Contact: Bob Medland

TBC August: Icklesham Ringing Course, **Sussex** / Contact: Gary Clewley

TBC August: Sandwich Bay Bird Observatory Ringing Course, **Kent** / Contact Ian Hunter

TBC September: Gower Ringing Course, **Swansea** / Contact: Kelvin Jones

TBC September: Isle of Wight RG Ringing Course / Contact: Anthony Roberts

2018 CONFERENCES

16–18 November: Scottish Ringers' Conference, Carrbridge, Inverness-shire

7–9 December: BTO Annual Conference, Swanwick, Derbyshire

THE 2019 CES VISIT PERIODS

Visit	First Date		Last Date	No of Days
1	Thursday 2 May	to	Saturday 11 May	10
2	Sunday 12 May	to	Wednesday 22 May	11
3	Thursday 23 May	to	Saturday 1 June	10
4	Sunday 2 June	to	Wednesday 12 June	11
5	Thursday 13 June	to	Saturday 22 June	10
6	Sunday 23 June	to	Wednesday 3 July	11
7	Thursday 4 July	to	Saturday 13 July	10
8	Sunday 14 July	to	Wednesday 24 July	11
9	Thursday 25 July	to	Saturday 3 August	10
10	Sunday 4 August	to	Wednesday 14 August	11
11	Thursday 15 August	to	Saturday 24 August	10
12	Sunday 25 August	to	Wednesday 4 September	11

Monitoring priorities: Greenfinch

Although currently green-listed in the *Birds of Conservation Concern*, a catastrophic decline in numbers has recently seen Greenfinch rated as Endangered in an assessment of UK species which followed IUCN criteria and categories. Find out what you can do to help.



Greenfinch, by Edmund Fellowes/BTO

CURRENT KNOWLEDGE

CBC and BBS data show that Greenfinch populations increased for approximately a decade from the mid-1990s, but suffered a rapid and severe decline from the mid-2000s. The species was badly affected by an outbreak of trichomonosis, a disease that affects the upper digestive tract, which began in 2005 and impacted populations in all parts of the UK. Integrated population modelling confirms that changes in survival rates are the main factor in this species' decline.

HOW YOU CAN HELP

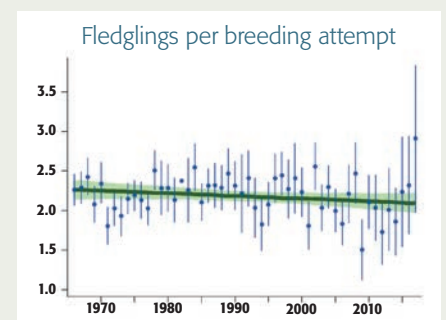
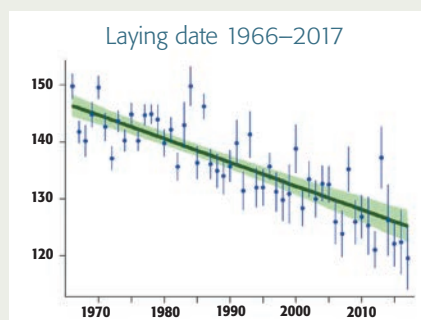
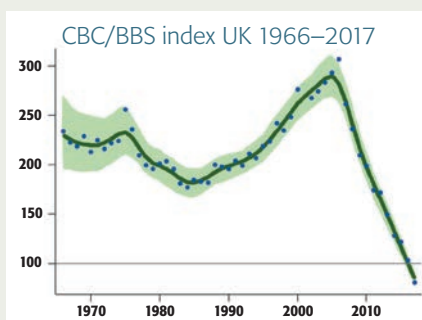
Nest recording – Greenfinch is a priority species for the NRS due to declines in the number of nests

monitored; in the late 1960s, over 500 nests were recorded annually but for the last couple of seasons the submission total hasn't exceeded 50. Greenfinch nests are typically located in the leaf canopy, 2–4 m high, either in a fork or against the trunk, in a hedge, bush or tree (indigenous or ornamental). Nests can also be found in tall brambles, against the tree trunk in ivy or against a wall in creepers. Greenfinches are double (occasionally triple) brooded; laying starts from mid-March and can end as late as early September.

Ring pulli – birds of known age and location provide vital information about recruitment and post-fledging dispersal. Since 2013, the number of Greenfinch

pulli ringed has dropped to under 100, with only 61 ringed in 2017, so additional records would be welcomed.

Start a CES – Greenfinch is one of the 24 species monitored through CES. If you have access to a predominantly scrub, woodland or reedbed site where you can undertake 12 ringing visits between May and August inclusive, catch at least 200 birds during those visits and have the ability to maintain consistency in the habitat, you might be interested in registering a CES. There are currently over 140 CE sites, but additional projects, particularly in areas with fewer existing projects, would increase our ability to provide regional results.



Graphs shown are taken from the BirdTrends report (www.bto.org/birdtrends), where results from the Ringing and Nest Record schemes are published annually.