

The BTO Magazine for Ringers and Nest Recorders

LIFECYCLE



SPRING 2016 ■ ISSUE 3

BREEDING SEASON RESULTS ■

WHEATEAR RAS ■

MONITORING STONECHATS

DABBLING WITH DIPPERS

A guide to monitoring
this charismatic bird



BTO
Looking out for birds

Editorial

ISSUE 3 SPRING 2016



Welcome to the spring edition of *Life Cycle*. In the last week of March here in Norfolk, the Chiffchaffs have begun to herald the start of spring, their relentlessly cheerful song echoing around the woodlands and commons. It won't be long before they, along with their fellow migrants, are (hopefully) being caught up and down the country in CES nets. As we write, nest recorders are already reporting the first thrush and Robin chicks of the year, while ringers are enjoying the opportunity of a few days of calm conditions

(long may that last) and some RAS projects are already off the mark for 2016.

In this edition of *Life Cycle* we take a look back at the 2015 breeding season and bring you a summary and interpretation of last year's NRS, CES and RAS results. Our feature articles offer guides to monitoring Starlings and Dippers as well as telling you all you need to know about ringing on RSPB reserves. We also discuss passerine pullus ringing and for anyone looking to expand their nest-recording repertoire, articles on finding Wood Warbler and Stonechat nests will hopefully be of interest. We hope you will find these and all the other articles interesting; as always, we welcome your feedback and ideas. Many thanks to everyone who wrote or contributed to an article in this edition – we would love to hear from anyone who would like to contribute in future. Whatever projects will be keeping you busy over the coming months, we wish you happy ringing and nesting in 2016.

Ruth Walker & Carl Barimore

IN THIS ISSUE . . .

News from ringing and nest recording.....	3
Breeding season results.....	5
Reaching for the STARLS.....	12
News from Ringing Committee	15
Finding Wood Warbler nests.....	18
Dabbling with Dippers	20
Wilde about waders	23
Pullus ringing trends	24
Demon update	25
Obituary: Henry Robb.....	26
Obituary: David Musson.....	26
Ringing on RSPB reserves.....	27
Publications	30
Stonechats in Durham	32
Understanding fault bars.....	34
Wheatear RAS.....	36
Treecreeper box update.....	38
Noticeboard.....	39
Monitoring priorities: Kestrel.....	40

LIFECYCLE

THE BTO MAGAZINE FOR RINGERS AND NEST RECORDERS

The Ringing and Nest Record schemes are funded by a partnership of the BTO and the JNCC on behalf of the statutory nature conservation bodies (Natural England, Natural Resources Wales, Scottish Natural Heritage and the Department of the Environment Northern Ireland). Ringing is also funded by The National Parks and Wildlife Service (Ireland) and the ringers themselves. The BTO supports ringing and nest recording for scientific purposes and is licensed by the statutory nature conservation bodies to permit bird ringing and some aspects of nest recording. All activities described are undertaken with appropriate licences and following codes of conduct designed to ensure the welfare of birds and their nests are not adversely affected.

CONTACT US

The British Trust for Ornithology is a charity dedicated to researching birds. For membership details please contact: membership@bto.org

British Trust for Ornithology, The Nunnery, Thetford, Norfolk IP24 2PU
Tel: (01842) 750050

Website: www.bto.org

Email: ringing@bto.org, nrs@bto.org,

ces@bto.org, ras@bto.org

Registered Charity No 216652 (England & Wales)
No SC039193 (Scotland)

LIFE CYCLE PRODUCTION

Life Cycle is the biannual magazine of the BTO Ringing and Nest Record schemes. It is freely available on the BTO website.

Articles in *Life Cycle* are written by ringers and nest recorders, so please send ideas and contributions to the editors:

Carl Barimore, NRS Organiser

Email: nrs@bto.org

Ruth Walker, Ringing Surveys Organiser

Email: ruth.walker@bto.org

Editors:

Carl Barimore, Ruth Walker, Jackie Clark and Dave Leech.

Layout, design, imagesetting and typesetting:
Jane Waters and Mike Toms.

Printing:

Swallowtail Print, Norwich.

Copy dates:

Spring edition – 31 December

Autumn edition – 30 June

Thanks to the proof readers for all their efforts.

Cover image: Dipper, by Edmund Fellowes

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.

© BTO 2016



NEWS FROM RINGING & NEST RECORDING

2015 NRS AND RINGING TOTALS

Yet again, thanks to the amazing efforts of our volunteers we can report that last year saw the highest NRS submissions total on record. The annual total of NRS submissions currently stands at 48,223, which is just under 1,500 more than were received for 2014! We're extremely grateful to everyone who contributed and to all ringers for their efforts in 2015; the current ringing total is 983,887. The final totals will be published in the 2015 Online Ringing & Nest Recording Report before long.

NEW RING SEQUENCES IN USE

When you next order B size rings you will notice that the ring number (prefix NY) is not recognised by your current version of IPMR. We will also shortly be issuing new ES (prefix EA) and A (prefix AAA) ring sequences. An updated version of IPMR (version 2.6.3) is now available to download (www.bto.org/ipmr) which will allow you to input these new sequences.

USING YOUR DONATIONS

Legacies and donations continue to play an important role in funding research using ringing data. Thanks to a legacy from Richard Ward-Smith, we are able to continue to analyse moult data collected by ringers. Our thanks go to Richard for his generosity.

NEW WEB RESOURCES

Two new pages have recently been added to the 'About ringing' pages of the website. 'Why ring birds?' (www.bto.org/why-ring) and 'Why colour mark birds?' (www.bto.org/why-colour-ring) are aimed at members of the public and are a good place to direct visitors to when explaining the scientific benefits of ringing and colour marking.

NON-PASSERINE GUIDE UPDATE

The eagerly awaited second edition of Jeff (Kevin) Baker's *Identification Guide to European Non-Passerines* will be available later this year. The new edition will combine an update of the original non-passerine guide with the addition

of common waders and will be available through the BTO and ringing shops. Order your copy early using the form included with this magazine.

YOUNG BIRD OBSERVATORY VOLUNTEER FUND

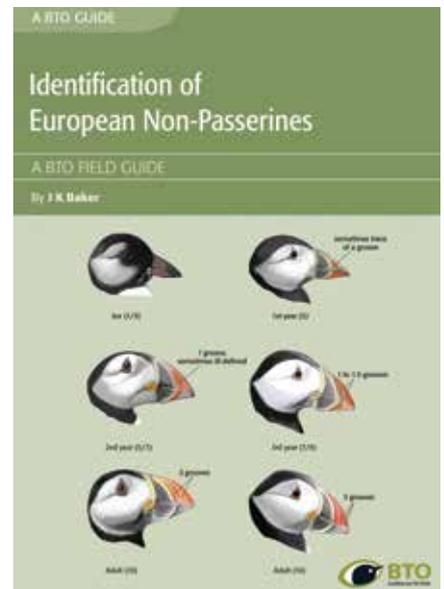
Young ornithologists (aged 21 or under) who wish to visit one of the accredited British and Irish Bird Observatories are being invited to apply for a grant of up to £200 from the Young Bird Observatory Volunteer Fund. Previous grant recipients have enjoyed fantastic opportunities to get involved with Observatory activities including undertaking ringing, sea-watching and migration counts. The closing date for applications is 31 May 2016. For details, visit www.bto.org/young-fund

LESSER SPOT FLYING SQUAD

Following the success of the Lesser Spotted Woodpecker flying squad activities in 2015, when 10 nests were found, six of which were inspected with video cameras, Ken Smith is again appealing for observations of active nests in 2016. This year, the team have two extra nest-inspection cameras that can be loaned out to observers to check their own nests. So, if you find a Lesser Spot nest this year and would like to contribute to the study, Ken would love to hear from you. More information is available at www.bto.org/volunteer-surveys/nrs/leswo-appeal

ANALYSES OF OLD NESTS

Dr Charles Deeming, University of Lincoln, is again appealing for old nests. This year, researchers are particularly interested in thrush, finch and warbler nests, although any nest with provenance will be welcomed. Samples collected in 2014 have already contributed to papers on the thermal properties of Linnet nests, the relationship between attentiveness and nest insulation in a wide variety of species and the effects of geographic location on the material used by finches and thrushes. Nests collected in 2015 are being used in analyses of thrush



nest properties. For more information, see <https://sites.google.com/site/nextconstructionfunction/home/how-to-get-involved>.

Professor Mike Hansell of the Hunterian Museum Zoological Collection at the University of Glasgow is also appealing for nests of 10 scarcer species including Nuthatch, Ring Ouzel and Lesser Whitethroat. If you are interested in helping but haven't received an appeal email/letter, please contact nrs@bto.org.

FINNISH NRS DATA ONLINE

While the majority of European countries have active ringing schemes, the number with nest record schemes is quite low. Finland is bucking the trend with an active and expanding scheme. Their website (<https://rengastus.helsinki.fi/tuloksia/Pesakortit>) contains graphs of annual mean clutch sizes (under the 'Tilasto' tab) and a list of the annual number of the nest cards received (under the 'Lajit' tab). Finnish names are accompanied by a six-letter code which is the first three letters of each part of the scientific name. Birds of prey are shown under the 'Petolintujen pesätutkimus' link whilst ringing statistics are shown under the 'Rengastus' link.

CAPERCAILLIE PROJECT TEAM UPDATE

Throughout spring and summer 2015 there were several incidents in Scotland involving what are known as ‘rogue’ male Capercaillie aggressively displaying to people and cars, and ‘tame’ hen Capercaillie soliciting attention in public places. These birds show aberrant behaviour which can quickly lead to problems including people and animals being attacked by the birds and/or the birds causing road traffic accidents, the likelihood of which increases as the bird attracts a crowd of onlookers.

Following these incidents last year, Scottish Natural Heritage (SNH) has issued Gareth Marshall, the Capercaillie Project Officer (a role jointly funded by RSPB Scotland, SNH and Forestry Commission Scotland), with a Schedule 1 licence for emergency intervention in these situations. If a Capercaillie is causing a health and safety risk to itself or to anyone nearby, this licence allows Gareth to intervene by capturing the

problem bird and moving it to a safer area, often a nearby forest known to hold a population of Capercaillie.

Whilst this licence allows the Capercaillie Project Officer to capture and relocate these aberrant birds, it does not give permission to bird ringers or members of the public to capture or move Capercaillie. A Schedule 1 licence for ringing or nest recording, issued by the BTO, does not cover moving or relocating Capercaillie.

As bird ringers are often known to be the local ‘birdy person’, it is likely that you will be contacted first if a Capercaillie is found in an unexpected place. If you are made aware of a Capercaillie coming out of the forest and into gardens, towns or villages, and/or acting in an aberrant way as described above, please contact the Capercaillie Project Team who will give advice to prevent harm coming to the bird or anyone else, and who will capture the bird and relocate it



Capercaillie, by Roman Dugan

Capercaillie is ‘red-listed’ due to severe population declines over the past 25 years.

away from danger if necessary. If you are made aware of any ‘rogue’ male or ‘tame’ hen Capercaillie, please call Gareth Marshall directly on 07720 599424 or 01463 715000.

NRS participants who monitored over 100 active nesting attempts in 2015

National Trust Farne Islands 2,636; Bob Danson 1,042; Merseyside Ringing Group 919; Sorby Breck Ringing Group 706; Arden Ringing Group 623; Thomas Dewdney 623; Paul Roughley 606; Catrina Young 593; Thetford Forest Ringing Group 554; East Dales Ringing Group 552; South Manchester Ringing Group 522; Matt Prior 514; Noel Fenwick & Julie Fenwick 480; Manx Ringing Group 457; Kevin Briggs 452; South Devon Nesting Crew 451; David Warden 430; Ron Louch & Dave Thompson 425; Stephen Carter 418; David Myers 414; Short, Williams & Scott 401; South Derbyshire Ringing Group 400; Neil Lawton 390; John Hyde 387; Rye Meads Ringing Group 378; Peter Roe 372; Jonathan Lingard 354; Northumbria Ringing Group 335; Nagshead RSPB Reserve 332; John Lloyd 321; Bob Swann & Rob Swann 319; Geoff Myers 314; Gwent Wildlife Trust 313; David Oliver 311; Paul Robinson 308; John Bell 283; Keith Seaton 278; John Lawton Roberts 270; Lancaster & District Birdwatching Society 264; David Coker 261; Rutland Water Ringing Group 257; Chew Valley Ringing Station 254; Birklands Ringing Group 251; Ronald Turkington 240; Newbury Ringing Group 240; Colin Davison 233; Frank Mawby 232; Batty & Bateman 228; Peter Rose 217; Shropshire Ringing Group 217; Bowden, Ball & Sheppard 217; Bardsey Bird Observatory 215; John Brook 210; Hugh Insley 202; Nunnery Ringing Group 201; Allan Hale 194; Mervyn Greening 185; Jim Hodson & M Hodson 185; Barrie Roberts 181; Simon Cox 180; Mid Lincolnshire Ringing Group 180; Berkshire Downs Ringing Group 178; North-west Norfolk Ringing Group 178; Jeremy Gates 177; Wicken Fen Ringing Group 177; Derek Spooner 174; Dave Hazard 173; Gerald Murphy 171; David Keates & Melvyn Preston 170; Edward Cowley 170; Nigel Lewis 169; Simon Taylor 169; Paul Fenwick 167; Jerry Lewis 167; Lyndon Jeffery 165; Shetland Ringing Group 164; Paul Slater 164; Derek Holman, Karl Ivens & Andy Glover 158; Colin Gibson 158; Waveney Ringing Group 157; Mike Russell 157; Jan Pritchard 155; Allan Dawes 153; Hubble & Tracey 150; Suffolk Community Barn Owl Project 148; Phillip Deacon 147; South Nottinghamshire Ringing Group 146; Barry Caudwell 146; Keith Herber 144; Philip May 142; RSPB Geltsdale Nature Reserve 141; Stanford Ringing Group 140; Cwm Clydach RSPB Reserve 140; Pitsford Reservoir 138; Sara Bone & Philip Bone 137; Jonathan Groom 134; Tay Ringing Group 133; Andy Leach 133; Nicholas Watts 131; Mark Lucas 129; Geoff Pearce 126; Garry Barker 126; Robin Husbands 123; Richard Winship 121; West Midland Bird Club Boddendam 120; Southern England Kite Group 118; Charnwood Ringing Group 116; Denise Wawman 115; Daniel Eva 114; Nidderdale Birdwatchers 113; Robert Daw 113; Garth Lowe 112; Robert Griffin 109; John Walshe 109; Coquet Island RSPB Reserve 108; William Haines 108; Neil Brown 107; Dave Garner 107; Paul Holness 106; Paul Cammack 105; Treswell Wood IPM Group 104; Andrew Ramsay 104; Jim Rushforth 103; Carstramon Wood 100; Gary Pitt 100.



Linnets nest, by Mike Toms

2015: a north–south divide

After a good breeding season in 2014 and a mild winter, you could have been forgiven for having high hopes going into 2015. The winter sunshine encouraged some very early breeding attempts but, as Ruth Walker, Carl Barimore and Dave Leech explain, the early breeding successes weren't reflective of the season as a whole.

RECORD-BREAKING YEAR

For the second year in a row, the annual submissions total for NRS reached an all-time high, with more than 48,000 records submitted for the first time since the scheme began in 1939. Last year was also a record-breaking year for RAS, with at least 192 projects running, while the number of active CE sites continues to rise slowly, with 134 projects submitting data in 2015. This article couldn't be written without the army of dedicated ringers and nest recorders who spend so much of their time collecting the data and we are extremely grateful for your efforts.

Most of the country experienced a sunny winter and a relatively benign start to 2015, including dry conditions at the beginning of the breeding season. By May, things had taken a turn for the worse, however, with unsettled, cool weather resulting in wetter-than-average conditions, particularly in northern parts of Britain. Although June was mostly dry and calm, the warm summers of the previous two years were a distant memory by July and August, which also witnessed spells of heavy rain.

MIGRANT PASSERINES

Migrant survival and abundance

CES results indicate that our summer visitors experienced mixed fortunes. Chiffchaff and Blackcap, both short-distance migrants that typically winter around the Mediterranean Basin and into North Africa, were the only



Blue Tit, by Jill Palenham

Reduced clutch sizes suggest that wet weather prior to the start of laying may have driven down the condition of female Blue Tits and Great Tits.

migratory warblers to demonstrate significant increases in abundance in 2015 over the five-year mean (2010–14) (Table 1), with numbers of the latter potentially inflated by the high number of young produced in 2014. Blackcap exhibited significant increases in the north and east of the country whereas Chiffchaff recorded a significant increase only in the north.

For Willow Warbler and Whitethroat, both long-distance migrants that winter south of the Sahara, 2015 proved more challenging, with significant decreases in abundance recorded across the country (Table 1). Whitethroat was particularly badly affected, with numbers at their lowest since CES began in 1983, despite a productive breeding season in 2014. Adult survival was reduced in 2015 but not significantly so, suggesting that first-year survival may also have contributed to this drop in abundance; individuals of all ages may well have struggled over winter or on passage as a result of another dry growing season in the Sahel, the second in succession.

The long-term trends (1983–2015) continue to show declines in abundance for all six long-distance migrants monitored through CES (Table 1).

Numbers of Willow Warbler, Lesser Whitethroat and Sedge Warbler have all decreased by more than 50%; in contrast, Chiffchaff and Blackcap have increased by 385% and 125% respectively over the same period. It is likely that migrants that winter on the near Continent encounter fewer challenges during passage than longer-distance migrants and are in a better position to alter the timing of their journey in relation to weather conditions on the breeding grounds, and this may influence on both survival and productivity.

House Martin, which for the past few seasons has seen survival rates decline to their lowest rates since the start of the index in 1994, demonstrated a small increase in survival in 2015 according to RAS participants (Fig 1). The RAS data set also indicates that, for the second consecutive year, Pied Flycatcher exhibited an increase in survival and the estimate is now as high as it has ever been. Sand Martin and Swallow didn't fare so well in 2015, though, with the survival rate for both species decreasing. These results reflect anecdotal evidence from RAS ringers who reported reduced numbers of Sand Martins, House

Table 1. National and regional¹ CES results for 2015. For long-term trends, ↑ indicates an increase of <25%, ↑↑ of 25–50% and ↑↑↑ of >50%, while ↓ indicates a decrease of <25%, ↓↓ of 25–50% and ↓↓↓ of >50%. Percentage changes from the five-year means (2010–14) are also reported for 2015, with significant decreases shown in red and significant increases in blue. *' denotes a small sample size. Sample sizes are currently not large enough to allow regional survival trends to be produced. See CES website for map of regions.

	ADULT ABUNDANCE				ADULT SURVIVAL		PRODUCTIVITY					
	1983–2015	2015 vs 2010–14			1984–2015	2015 vs 2010–14	1984–2015	2015 vs 2010–14				
		National	North	East	West			National	North	East	West	
Migrants												
Chiffchaff	↑↑↑	17	43	11	9	↑	-6	↓	-10	-42	7	-5
Willow Warbler	↓↓↓	-16	-14	-18	-23	↑	12	↓↓	-24	-33	-15	-11
Blackcap	↑↑↑	16	19	17	8	↑↑	7	↓	4	-46	16	29
Garden Warbler	↓	-1	-6	-1	0	↓	9	↓↓↓	1	-39	12	0
Lesser Whitethroat*	↓↓↓	14	-14	17	17	↓↓	-11	↓	-13	15	-12	-23
Whitethroat	↓↓	-35	-30	-35	-37	↓	-16	↓↓	20	7	20	37
Sedge Warbler	↓↓↓	1	-11	-11	19	↑	-1	↓↓	-32	-59	-1	-36
Reed Warbler	↓↓	-5	16	-9	-1	↓	-7	↑↑	11	-28	27	-5
Tits												
Blue Tit	↑	12	31	10	-10	↑	22	↓↓↓	-12	-67	21	30
Great Tit	↑↑↑	16	29	17	-4	↑	11	↓↓	-38	-64	-22	-29
Willow Tit*	↓↓↓	37	29	56	-100	-	-	↓↓↓	-39	-40	-34	0
Long-tailed Tit	↑	19	37	10	25	↑	-7	↓	-5	-38	18	-9
Other residents												
Cetti's Warbler*	↑↑↑	34	-	41	27	-	-	↓	16	-	23	8
Treecreeper*	↑↑	13	9	12	77	↓↓	3	↓	1	23	-25	63
Wren	↑↑	36	53	32	29	↑	4	↓	-7	-41	10	6
Blackbird	↓	3	7	3	5	↓	-2	↓	-27	-53	-21	-13
Song Thrush	↓↓	31	18	29	60	↓	62	↓	-16	-3	-6	-39
Robin	↑↑	38	41	34	35	↑	27	↓	-19	-43	-3	-6
Dunnock	↓	12	14	6	18	↑	8	↓	-14	-39	-2	-12
Chaffinch	↓	-8	-7	-1	-21	↑	-4	↑↑	-27	-39	37	-46
Greenfinch	↓	-27	-44	-2	-32	↓	-58	↓↓↓	-17	-31	-40	70
Goldfinch	↑↑	20	31	6	25	-	-	↓↓	30	45	7	24
Bullfinch	↓	13	3	23	13	↓	3	↑↑	-5	-26	19	6
Reed Bunting	↓↓↓	5	10	17	-18	↑	14	↓↓↓	-27	-53	0	-22

Martins and Swifts last year (see box, p8). CES survival results indicated no significant differences in survival for migrant species in 2015 relative to the previous five years.

Migrant productivity

Results from NRS indicate that laying dates for most migrants were about average in 2015 (Table 2). Although Reed Warbler laying dates appear to be earlier than normal when compared to the five-year mean, this figure is likely to reflect the truncated season reported by some volunteers, with late

nesting thinner on the ground than in previous seasons; the reasons for this are currently unclear.

Sand Martin, Pied Flycatcher and Redstart all demonstrated statistically significant delays in laying dates in 2015. For Sand Martin, this delay was a result of a late start to laying rather than an extended season. BirdTrack data suggest Sand Martins were late arriving in 2015, but Pied Flycatcher and Redstart arrival dates were fairly typical so it is possible that their delayed laying was a result of heavy rainfall in May. NRS results indicate that the

mean number of fledglings produced per breeding attempt (FPBA) for Sand Martin was significantly higher in 2015 than the five-year mean (Table 2) despite the late start. FPBA was significantly lower than average for Pied Flycatcher, however, suggesting that the delay may have caused them to miss the caterpillar peak.

CES results indicate that only two migrant species, Whitethroat and Reed Warbler, experienced a significant increase in productivity in 2015 (Table 1), though the positive impact on the latter was limited to the east of

Britain and offset to some degree by a poor performance in the wetter north. For Whitethroat, numbers of which were significantly reduced in 2015, it is possible that this is an example of density dependence, with competition between individuals decreasing as numbers fell. In contrast, numbers of juvenile Chiffchaff, Willow and Sedge Warbler recorded on CE sites dropped significantly in 2015; for Willow Warbler, it was the least productive CES season on record.

PASSERINES AND NEAR-PASSERINES

Resident abundance and survival

The mild conditions over the 2014/15 winter appear to have helped many resident species to survive. CES ringers recorded significantly increased numbers of 10 resident species in 2015 including Wren and Cetti's Warbler, both of which are particularly susceptible to cold weather mortality, and ground-feeders such as Song Thrush, Robin and Dunnock, which can struggle when there is too much snow cover. Goldfinch abundance was at its highest since CES began (Table 1).

Although the weather conditions might generally have been expected to reduce mortality rates, CES results did not show any significant changes in adult survival rates for resident species in 2015. This suggests the increases in abundance may be the result of higher levels of juvenile recruitment, with a large number of young produced during 2014's bumper breeding season surviving the clement winter. There is some suggestion that the combined impacts of productivity and overwinter survival were greatest in the north of Britain, particularly for Blue Tit, Great Tit and Long-tailed Tit. Interestingly however, Blackbird, which exhibited huge increases in productivity across the country in 2014, did not display a significant increase in abundance in any region in 2015.

The sole resident species to demonstrate a significant decline in abundance in 2015 was Greenfinch, which fared particularly poorly in the



Whitethroat, by Paul Hillion

Whitethroat numbers were at their lowest since CES began, but productivity significantly increased in 2015.

north; it is possible that this relates to continuing outbreaks of trichomonosis. Great Tit was the only species to demonstrate a long-term (1983–2015) increase in abundance of greater than 50%, while numbers of Willow Tit and Reed Bunting declined by more than 50%, in line with Breeding Bird Survey trends.

Survival rates generated by RAS declined for a number of resident species in 2015, including Jackdaw, Starling, Stonechat, Bullfinch and Siskin, but increased for others including Dipper and House Sparrow (Fig 1). The Dipper trend exhibited annual fluctuations prior to last year but increased for the second consecutive year in 2015. Despite small increases or decreases in 2015, the long-term trends for Starling, Dipper, Stonechat and Bullfinch are all relatively stable. House Sparrow continues to exhibit a long-term decline, as does Jackdaw (albeit small) and Siskin which has undergone a continuous decline since 2010. BBS data for Siskin also show a decline for this species over the same period, though whether these declines are genuine or reflect the transient nature of this species is difficult to say.

Resident productivity

Few residents advanced their laying dates, suggesting that the spring sunshine came too early to influence

Some comments that accompanied CES submissions illustrate how the season differed across the country:

"Things seemed to be going quite well until we got to August, but then numbers dropped off significantly. So although adult numbers were generally up on last year, and not far off average for the site, juvenile numbers were down. It comes to something when you catch more adult Cetti's Warbler than Blue Tit!" **Maurice Durham**, Gloucestershire

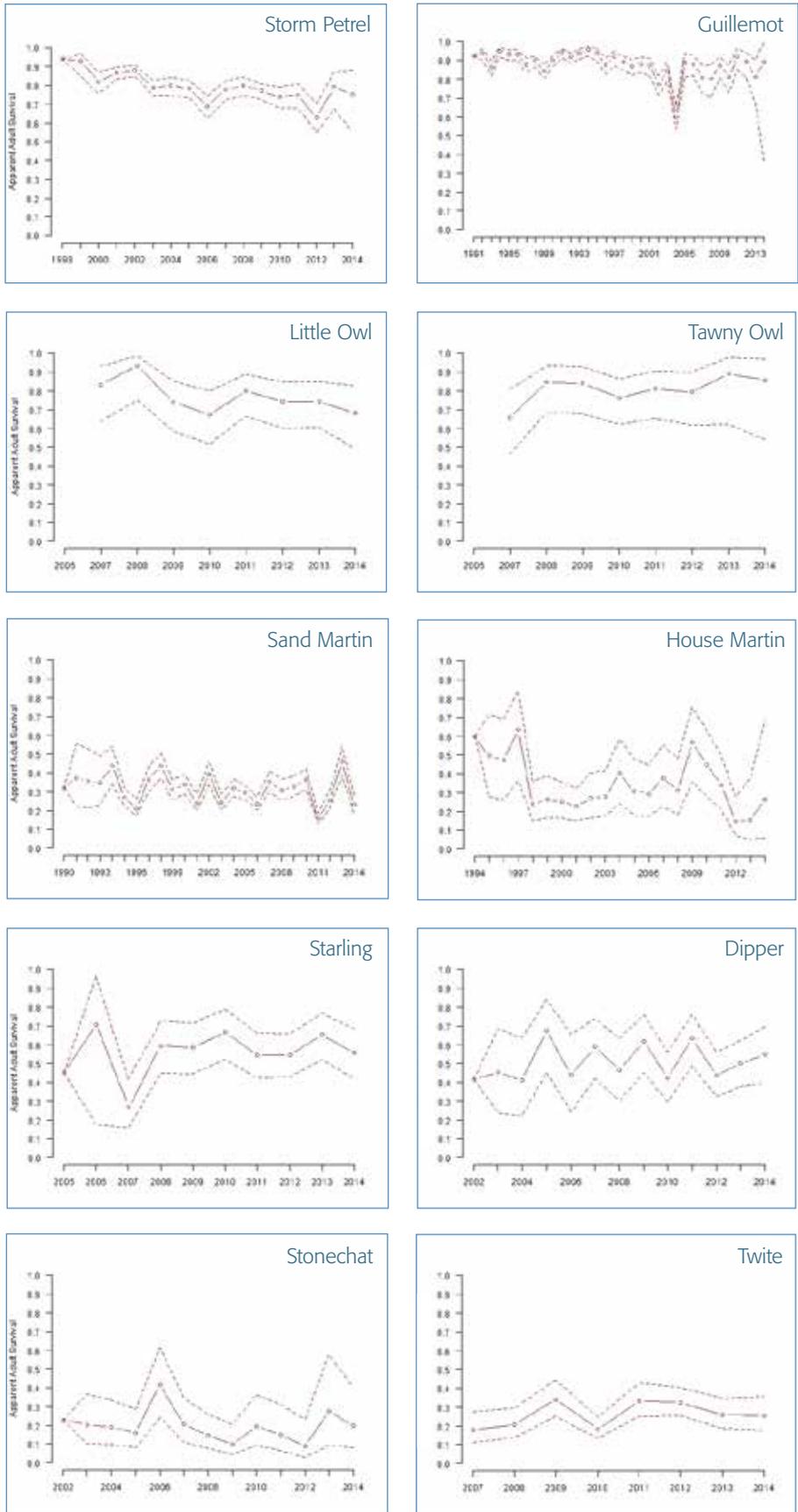
"Numbers are about 50% down on last year due to a combination of really low temperatures and a lack of insects. I normally get bitten to pieces on the site but this year I was not affected. Though that was a blessing, it led to poor results." **John Hawes**, Durham

"Worst year ever. Not only did the weather affect the visits but you could see by the feather growth on the young birds I did catch that they had a hard time; also plenty of fault bars." **Alan Kerr**, Scottish Borders

"We had an excellent year (though far, far too many Wrens for my liking!)" **Katie Fuller**, Cambridgeshire

"A great season in the soft south. The best since 1998, I think." **Ian Grier**, Wiltshire

Fig 1. RAS survival trends. Survival is measured from the year indicated on the graph to the following year. The dotted lines show the upper and lower 95% confidence limits about the modelled estimate.



RAS ringers also reported mixed fortunes in 2015:

“A very poor season. There were nowhere near the number of birds about and catching was restricted by the weather. Locally to where I live there was little evidence of Swifts at traditional breeding sites.” **Pete Fearon**, Swift RAS, Lancashire

“It was a strange year – joint highest number of nests since the 90s but a lot of failures. One [bird] was evicted by a dormouse, [another] sat for over three weeks and at final check the box was occupied by eight long-eared bats(!).” **John High**, Pied Flycatcher RAS, Devon

“Got off to a good start after mid-June and first session in July looked promising but the birds just disappeared. I think those that bred just left immediately and others failed. I did find a couple of dead juveniles in holes. We had dreadfully cold and wet weather here.” **Brian Bates**, Sand Martin RAS, Highland

“A bumper year: 29 successful Pied Fly nests, my best ever.” **Dave Coker**, Pied Flycatcher RAS, Powys



Some Sand Martin RAS colonies were completely empty in 2015, whilst others contained far fewer birds than average.

Table 2. Laying dates and breeding success calculated from 2015 NRS data. Laying dates are given as the number of days **earlier** or **later** than the five-year mean (2010–14); productivity figures represent a percentage change relative to the five-year mean. Statistically significant 'positive' and 'negative' changes are highlighted in **blue** and **red** respectively. ^{*} denotes small sample size (<50 records).

Species	Laying date days	Clutch size (%)	Brood size (%)	Egg stage survival (%)	Chick stage survival (%)	Fledglings produced (%)
Migrants						
Sand Martin	10.6	-5.3	8.4	-2.0	0.6	7.0
Swallow	0.2	0.6	0.6	-1.7	-2.1	-3.1
Chiffchaff	3.0	-0.2	2.1	-18.4	-11.5	-26.3
Willow Warbler	1.6	0.3	-2.9	-10.9	-9.0	-21.2
Blackcap	3.4	-0.6	3.3	2.8	2.0	8.3
Reed Warbler	-3.2	-0.7	1.8	-9.0	-1.2	-8.4
Spotted Flycatcher	3.1	-2.3	2.1	-7.9	-4.1	-9.8
Pied Flycatcher	1.2	0.4	-2.7	-3.9	-2.7	-9.0
Redstart	2.5	-2.5	1.1	-8.9	-6.4	-13.8
Tits						
Blue Tit	1.7	-7.5	-11.3	-1.3	-3.5	-15.5
Great Tit	2.6	-9.1	-11.1	-0.9	-2.8	-14.4
Long-tailed Tit	2.5	-0.3	5.0	-7.1	-1.5	-3.8
Other resident passerines						
Jackdaw	-0.1	3.5	2.2	-2.7	10.1	9.5
Nuthatch	0.3	2.1	3.0	-0.3	2.3	5.0
Wren	2.6	-5.8	0.9	2.8	-3.0	0.5
Starling	0.5	1.7	11.4	2.5	-1.6	12.3
Dipper	-1.2	1.0	1.0	6.1	-4.7	2.2
Blackbird	-0.3	-2.1	-0.7	-5.2	-7.7	-13.0
Song Thrush	-0.4	-1.8	-2.8	-5.8	-2.2	-10.4
Robin	1.9	2.1	4.0	-5.1	-5.0	-6.2
Stonechat	-3.8	-3.9	-3.6	-19.3	-5.9	-26.8
Dunnock	-0.6	1.3	1.5	-2.3	-0.1	-1.0
House Sparrow	4.0	-3.5	5.7	-0.6	-5.3	-0.5
Tree Sparrow	0.7	-0.8	-2.0	-2.5	-0.4	-4.8
Grey Wagtail	3.4	-1.9	-2.6	-5.8	-5.5	-13.3
Pied Wagtail	6.0	-1.9	-0.7	-0.9	-1.8	-3.4
Meadow Pipit	3.5	-1.5	-2.7	-24.3	-16.1	-38.2
Chaffinch	3.4	-7.0	-2.5	-4.5	-10.4	-16.6
Linnet	0.8	-2.2	0.9	-1.4	7.4	6.9
Resident non-passerines						
Stock Dove	-7.5	1.1	0.3	-4.2	-3.3	-7.0
Woodpigeon	0.4	-1.1	-4.4	-23.4	-30.8	-49.3
Owls and raptors						
Barn Owl	-20.5	-8.5	-18.1	2.3	-0.1	-16.3
Little Owl	8.3*	-2.0	-6.0	5.5	8.8	7.9
Tawny Owl	-5.5*	1.2	-0.4	-7.3	-2.1	-9.5
Kestrel	0.8	-2.3	-5.2	0.2	-0.9	-5.9
Waterbirds						
Moorhen	-1.2	1.4	9.6	-20.5	-39.1	-47.0
Coot	-4.4	-0.4	5.0	-14.8	-4.4	-14.5



Goldfinch, by Jill Pakenham



Pied Flycatcher, by John Harding



Redstart, by Edmund Fellowes

Table 3. Summary of active and historical RAS projects. Target species in red. The number of projects contributing to the annual trends includes both historical and active projects. C = number of projects contributing to the trend. A = active projects. N = new projects in 2015. TQ = trend quality.

Species	C	A	N	TQ	Species	C	A	N	TQ
Mute Swan	0	3	2	-	Swallow	7	5	0	Good
Greylag Goose	1	1	0	Uncertain	House Martin	5	3	1	Good
Eider	4	1	0	Uncertain	Wood Warbler	2	2	0	Uncertain
Manx Shearwater	2	1	0	Good	Willow Warbler	2	1	0	Good
Storm Petrel	5	3	0	Good	Blackcap	0	1	0	-
Shag	3	2	1	Uncertain	Whitethroat	2	0	0	Moderate
Sparrowhawk	0	0	0	-	Sedge Warbler	2	2	0	Moderate
Moorhen	0	1	0	-	Reed Warbler	7	8	0	Good
Little Ringed Plover	1	1	0	Uncertain	Starling	6	11	2	Good
Ringed Plover	1	0	0	Good	Dipper	7	8	1	Good
Dunlin	1	0	0	Uncertain	Blackbird	3	2	0	Good
Common Sandpiper	2	2	0	Moderate	Spotted Flycatcher	0	0	0	-
Puffin	2	2	0	Moderate	Robin	2	2	0	Moderate
Razorbill	4	3	0	Good	Nightingale	0	2	0	-
Guillemot	3	2	0	Good	Pied Flycatcher	25	23	2	Good
Arctic Tern	0	1	0	-	Redstart	0	2	1	-
Kittiwake	3	3	0	Moderate	Whinchat	1	1	0	Moderate
Black-headed Gull	2	2	0	Moderate	Stonechat	2	1	0	Good
Lesser Black-backed Gull	2	2	0	Good	Wheatear	2	3	0	Moderate
Woodpigeon	0	1	0	-	Dunnock	2	1	0	Uncertain
Collared Dove	0	2	1	-	House Sparrow	12	20	4	Good
Barn Owl	2	4	1	Good	Tree Sparrow	1	6	2	Uncertain
Little Owl	1	1	0	Good	Tree Pipit	0	3	0	-
Tawny Owl	1	1	0	Moderate	Chaffinch	3	2	0	Good
Swift	2	2	0	Moderate	Hawfinch	1	2	0	Uncertain
Kestrel	0	0	0	-	Bullfinch	5	4	0	Good
Chough	0	0	0	-	Greenfinch	1	0	0	Moderate
Jackdaw	3	4	1	Good	Linnet	1	2	1	Moderate
Blue Tit	1	2	0	Moderate	Twite	1	2	1	Good
Great Tit	4	3	0	Good	Siskin	6	6	1	Uncertain
Willow Tit	0	0	0	-	Yellowhammer	2	2	0	Uncertain
Marsh Tit	1	1	0	Uncertain	Reed Bunting	0	1	0	-
Bearded Tit	3	3	0	Moderate					
Sand Martin	20	15	2	Good	Total	184	197	24	

Most NRS participants reported a poor season:

"Many nests seemed to be suffering from apparent difficulty in foraging for invertebrates with partial failure at the nestling stage" **Simon Roberts** on Pied Flycatcher and Marsh Tit nests in Worcestershire

"Strange season. Seemed to be a lack of males. At least three nests were built during the end of May/early June but birds never laid and disappeared shortly after." **Dave Fulton** on Wheatears in Shropshire

"This has been a shocking season with very low productivity across all regularly monitored species (Barn Owl, Lapwing, Swallow). I put this down to the extremely low temperatures having direct and indirect effects on Barn Owl and Swallow. For Lapwing – why so few pairs? More adults than ever turned up at my 'best' site for habitat, all left, none nested." **Mike McDowall**, East Lothian

"In the Western Isles it was a very cold, wet and late spring/summer with generally very poor breeding success. Locally, Starling numbers were very low and no accessible nests were found. My theory is that, as the local resident population roosts in sea-caves, they were devastated by the hurricane in January. The only successful species was Red-throated Diver which nested early, perhaps due to good sandeel numbers again." **Chris Reynolds**, Western Isles

breeding phenology. NRS data indicate that no resident passerines laid significantly earlier than average when compared to the five-year mean (2010–14), but Blue Tit, Great Tit, Long-tailed Tit and Pied Wagtail all laid significantly later.

In complete contrast to 2014, CES results indicate that 2015 was a very unproductive year for residents, with seven species demonstrating significant declines in 2015 (Table 1). NRS results show that, of these species, Blue Tit and Great Tit produced significantly fewer fledglings per breeding attempt in 2015; brood sizes were the lowest on record for both Blue Tit and Great Tit and clutch sizes were also the lowest recorded for Blue Tit. It is likely that the wet weather during May and July was the primary reason for the disappointing breeding season, with reduced brood sizes as well as poor egg- and chick-stage survival observed across a range of species (Table 2).

Yet again, Woodpigeon had a terrible year with a near 50% decline in productivity rates relative to the average. NRS results suggest reduced brood sizes and poor egg-stage survival were to blame (Table 2).

The northern part of England and Scotland, where conditions were wettest and windiest, were by far the least productive areas of the country in 2015, with significant declines apparent for all but two of the resident species monitored through CES. Results further south were largely unremarkable; Blue Tit and Great Tit exhibited contrasting trends, with Blue Tit breeding success increasing significantly and that of Great Tit decreasing significantly at lower latitudes (Table 1). The only species to exhibit a significant increase in productivity on CE sites was Goldfinch.

OWLS AND RAPTORS

After the incredible breeding success of owls and raptors in 2014, last year proved to be a disappointment, with Barn Owl in particular appearing to struggle despite an increase in site



Black-headed Gull, by Edmund Fellowes

RAS results indicate that Black-headed Gull declined in 2015.

occupancy rates, presumably the result of increased recruitment. Nest recorders reported significantly reduced clutch and brood sizes for Barn Owl, whilst RAS results demonstrated a sharp drop in survival. Experienced observers such as Colin Shawyer felt that a crash in vole populations was largely to blame, although the prolonged spells of heavy rain in spring and summer 2015 may also have had an impact and density-dependent competition may have been particularly strong where the food supply was most limited.

Although NRS figures show that Barn Owl laying dates were significantly early in 2015, as with Reed Warbler this is actually a reflection of a truncated season rather than a genuine shift in laying dates. A survival-rate trend for Tawny Owl, dating back to 2007, thanks to a valuable submission of historical data, was generated through RAS for the first time in 2015 and demonstrated a small increase over time (Fig 1).

SEABIRDS

The number of RAS projects on seabirds continues to increase, with results indicating a mixed year in 2015. Survival rates for Storm Petrel, Puffin, Kittiwake, Black-headed Gull and Lesser Black-backed Gull all declined in 2015 whilst those for Manx Shearwater, Shag, Razorbill and Guillemot increased (Fig 1). Despite this, long-term trends for most species are relatively stable; only Storm Petrel and Lesser Black-backed Gull are currently exhibiting long-term declines in survival.

Further results from the 2015 season can be viewed on the BirdTrends website: www.bto.org/birdtrends

The full suite of 2015 RAS results can be found at: www.bto.org/ras-results



Adult and juvenile Starlings, by Peter Alker

Starling resightings can be supplemented by the use of a remote camera watching your bait and allowing the videos to be reviewed later. Beware of where you locate your bait in relation to washing lines though!

Reaching for the STARLs

Sadly, the Starling has undergone a massive population decline in the UK since the 1980s and the species is now included on the Birds of Conservation Concern Red List. In this article, Peter Alker, Richard Barnes, Denise Cooper-Kiddle, Derek Gruar and Martin Hughes share their knowledge of ringing and nest recording this charismatic species.

Starlings readily take to nest boxes, and in some cases prefer them to previously used natural sites. The standard BTO box design for Starlings (see www.bto.org/about-birds/nbw/nesting-birds/starling), placed between 2.5 m and 4 m high with the hole facing away from the prevailing wind, is ideal. Boxes placed on lone trees, hedgerow lines or on the exterior walls of barns (near or adjacent to grazed pastures) will all be used, although ivy-covered trees are less favoured, and areas within 100 m of foraging areas (pasture, garden, orchard for instance) appear to be occupied first. It may take two or three years for a colony to become established.

NEST BUILDING

Starlings are very wary and will drop nest material if they think they are being observed, so assessing when nests are being built can be tricky. Nesting appears to be initiated by the male placing a few pieces of greenery in a box, although very often nothing else happens. If the box is taken up, the nest is made using coarse straw or dead grass and is lined with finer material and feathers. Occasionally, a House Sparrow

will use the box and then it will be filled completely with (similar) nesting material creating a dome. A few (<10%) boxes that have a nest made will not go on to be used. The presence of singing birds nearby is a good sign the nest is active and frequent foraging flights to the nest and noisy pulls make the nest status easy to determine.

NESTING BEHAVIOUR

Breeding is relatively synchronous within individual sites, the overwhelming majority nesting within a day or two of each other. Late breeders, from 1–4 weeks later than the rest, account for just 5% of ‘first’ broods and these may represent failed birds trying again. Egg laying commences early to mid-April with hatching occurring 12–16 days after completion.

Time from hatching to fledging can be quite variable; in the best years (and with the best parents) fledging time can be as short as 17 days but (particularly for second broods) it can be quite extended, certainly beyond 24 days and perhaps as much as four weeks. Finding clutches at the pre-incubation stage enables accurate prediction of hatching and therefore ringing dates.

Brood size can vary considerably, ranging from one to nine chicks. Although there is frequently a single infertile egg, there are rarely more; this egg is often removed by an adult. Incubation normally commences when the penultimate egg is laid, so the last chick is smaller than its siblings. In good years, and with good parents, it will catch up with the others well before fledging, but in poor years it often dies early on; better parents remove the corpse but it often decomposes beneath its siblings. Nest hygiene varies enormously; some adults ensure the nest and chicks are kept clean but other nests are quite disgusting. The chicks are filthy with encrusted muck on feathers and legs, so much so that the legs may need to have several millimetres of encased grime removed from them before a ring can be used. Indeed, one of the first actions a chick undertakes on fledging is usually to bathe!

Failure rates of nests in boxes are normally very low, below 5%, and failure seems to occur evenly throughout the nesting period, probably as a consequence of the death of an adult. Second broods occur in all years, so checking throughout the season is critical, but numbers vary; occasionally they can approach the number of first broods. Second broods tend to be smaller and chick mortality seems higher but the majority usually succeed. In good weather conditions, second broods can begin soon after the initial brood fledges.

NEST RECORDING AND PULLUS RINGING

Around 300 records are currently submitted to the Nest Record Scheme each year; unlike for most box nesters, submissions have actually decreased over time, with totals in the 1980s and 1990s typically in the 400–500 range. More records would be welcome, particularly from sites that routinely check boxes through the potential breeding season so that our understanding of the contribution of second broods to total annual productivity can be improved. Food shortages during the nestling period have been identified as a potential driver of declines and these are likely to be expressed as brood reduction post-ringing, so returning to boxes to get a head count of big chicks and look for rings left after fledging really adds value to the data.



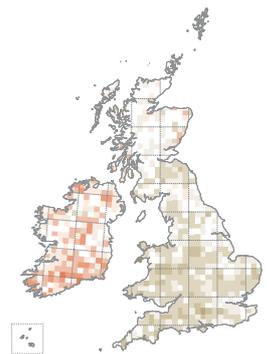
Nest boxes, by Martin Hughes

It is helpful to place boxes low enough to use a short, folding ladder that will fit inside your car.

Pulli can be ringed safely from day five until day 12, or 'feathers small' (FS) to 'feathers medium' (FM) (indicating primaries up to $\frac{1}{3}$ or $\frac{2}{3}$ emerged from sheath respectively); birds at FM stage are easy to handle and eager to return to the nest post-ringing, whereas chicks at 'feathers large' (FL) stage are difficult to control and likely to try to explode from the nest. Female Starlings can be prone to desertion if disturbed whilst on eggs, so if the adult does not fly off on approach leave it alone and return later. Once the chicks have hatched, adults are less likely to remain on the nest but may stay nearby, alarming loudly.

MIST-NETTING FREE-FLYING BIRDS

Mist-netting Starlings in number is a challenging occupation. Good mist-netting skills are essential and, if sizeable numbers are caught, a team of excellent extractors is advisable. Starlings are adept at climbing out of standard mesh (32 mm stretched) passerine nets, often quickly, but equally can become firmly secured by the carpal joint, requiring experience to extract efficiently. They have long feet and claws with a powerful grip that are not easy to release; it is easier to extract the rest of the bird first if possible, then allow it to move and free its own feet. Starlings are much more likely to remain in the net if a larger mesh is employed (38 mm stretched) and are also much easier to extract from these nets. As with other aggressive birds, Starlings can be very vocal during extraction so, if in a public place, it is important to reassure observers that no harm is being done.



The breeding abundance change (1988–91 to 2008–11) maps for Starling show declines throughout much of England and Wales, increases in Ireland and mixed fortunes across Scotland (www.bto.org/mapstore).

REFERENCES

- Smith, E.L., Cuthill, I.C., Griffiths, R., Greenwood, V.J., Goldsmith, A.R. & Evans, J.E. (2005) Sexing Starlings *Sturnus vulgaris* using iris colour. *Ringing & Migration* **22**, 193–197.
- Svensson, L. (1992) *Identification Guide to European Passerines*. 4th edn. Svensson, Sweden.
- Williams, T.D. (1991) Ageing criteria in the Starling *Sturnus vulgaris*. *Ringing & Migration* **12**, 113–117.

NETS AND TRAPS

Catching Starlings in whoosh nets (with appropriate endorsement), Potter traps or cage traps in a garden can be more effective and straightforward than mist-netting, and also allows targeting of birds during the breeding season. A large garden isn't required, just patience and well-placed bait. It is easier to catch adults during the nesting period as they are seeking quick and easy food. After juveniles fledge, they are fed by the adults for at least a week, offering additional catching opportunities. Any time of day can be effective but early to mid-morning often works best. Covering trapped or netted birds with a cloth or sheet can help quieten them and reduce the number of escape attempts, thus reducing the extent of tangling in small-mesh whoosh nets.

Before attempting to catch birds in traps, leave them in place, baited, open and unset for at least a week so that birds get used to entering the trap. Catches can then be taken on a regular basis but reduce the frequency if the birds start to become trap shy. Fat cakes will attract Starlings into a cage trap whereas, for ground-based traps, birds will come down to suet, mealworms, grated cheese and fruit. Placing small amounts of white bread in the catching area will often act as a visual stimulus to Starlings and sprinkling sultanas or other fruit away from ground traps will help to keep unwanted species, such as Blackbirds, out of the catching area.

RETRAPPING ADULTS FOR SURVIVAL (RAS)

Breeding Starlings show a high degree of site fidelity, making them an ideal RAS species in farmland or in gardens. Wintering migrants can stay into early spring and Starlings start to disperse from breeding sites soon after the juveniles have fledged in early summer, so it is advisable to restrict the RAS period appropriately to ensure only locally breeding adults, likely to be re-encountered in subsequent years, are targeted. A good RAS can be undertaken in as little as five or six weeks, the exact timing dependent on the region and habitat.

There are currently 12 active Starling RAS projects registered, the majority of which use colour rings which give good results thanks to the species' long tarsi,

acrobatic behaviour and bold nature. Colour ringing overcomes the problem of trap shyness, and also enables non-ringers to get involved. Publicity to encourage members of the public to report resightings used by existing RAS ringers include a website with dedicated email address, articles in local newspapers and leaflets sent out in local free papers, pushed through doors and put in shop windows. All rings used on Starlings during the breeding season are eligible for rebates (currently 9p per bird ringed between 1 April and 31 August) and one ringer per RAS project will also receive a reduction of up to £25 off the annual fee.

AGEING AND SEXING

Ageing Starlings after their (full) post-juvenile moult can be challenging for the inexperienced. A variety of features can be used (Williams 1991, Svensson 1992), but these can be indeterminate and sometimes conflicting, particularly outside the breeding season. Ageing is much easier if the sex is known. In the breeding season this is relatively straightforward, the base of male bills having a blue hue and that of females a pink colouration; during the winter, when bills darken, the best character is the pale iris ring, possessed only by females, though eye colour per se can also be helpful (Smith et al. 2005). A combination of throat-feather length, flank markings and tail pattern distinguishes first years from adults.



Cage trap, by Peter Alker

Peter Alker's cage trap, fixed to a bird table, can be closed via a pull cord that goes through a window into his house, allowing Peter to be highly selective about which birds he traps.

News from the Ringling Committee

The Ringling Committee last met in October 2015 and the minutes and non-confidential papers for the meeting have been up on the ringers' pages of the BTO website for some time. There were many positive things to report at the meeting, such as the work on the ringing database leading to rapid turn round of recoveries, progress on the Demon online system and the revamping of the communications on ringing and nest recording.



Cairngorms, Scotland, by Rob Robinson

Tracking down a landowner or manager to obtain permission to ring can be tricky in large parts of Scotland.

Ewan Weston presented an excellent paper on 'Access and permission to ring'. It is a rule of the Ringling Scheme that you should have landowner permission to ring. However, in Scotland, the law on access to land and the requirements of the 'Scottish Access Code' mean that it is less clear what is needed and is probably still open to interpretation. After a good discussion we agreed that we needed to amend the wording of our guidance to ringers and nest recorders; Ewan and Jacquie will be doing this over the next few months.

I wrote to all ringers immediately after the October meeting to provide some of the background to the

discussions on the increase in ring prices. You may recall that I raised concerns about the future level of funding from central government (JNCC). The support from Government for the Ringling Scheme has been substantially reduced for the coming year. The review into the future of JNCC will report in the summer and future support for the Ringling Scheme remains to be negotiated.

The October meeting was the last for RIN members Colin Wearn and Barnaby Briggs, who have completed their four-year term on RIN, and for 'T' and 'C' representatives, Richard Anderton and Rosie Walton, who

have completed their two-year terms. Our thanks go to all of them for their support and contributions to RIN. Richard Broughton (elected) and Ian Bainbridge (appointed) replace Colin and Barnaby (see p16) and Kate Clarke and Ellen Marshall are your new 'T' and 'C' permit representatives (see p17). We look forward to welcoming them all to the next meeting in April.

As always, your questions or comments on anything to do with the Committee or the administration of ringing and nest recording are welcome.

Ken Smith, on behalf of Ringling Committee

Ringling Committee 2016

The Ringling Committee (RIN) supervises the operation and development of the Ringling and Nest Record schemes. RIN meets twice a year, in April and October, and the Agenda and non-confidential papers for each meeting are available to view in advance on the ringers-only pages on the BTO website. Minutes relating to non-confidential matters are also available on the ringers-only pages after each meeting. Members would be happy to receive any ideas or comments prior to the meetings, or at any other time throughout the year. Members' contact details are available on the ringers-only pages of the website or by contacting: ringing@bto.org

RIN comprises a Chair who is appointed by Council from amongst its members, four ordinary members who are elected by ringers (denoted by (E) below), two ordinary members

appointed by Council from amongst its members (Ac) and two ordinary members appointed by Council on recommendation of RIN (Ar).

Ken Smith (Chair - Ac) – Hertfordshire

Stu Bearhop (Ac) – Cornwall

Dave Fletcher (Ar) – Liverpool

Mike Hounsome (E) – Devon

David Norman (E) – Cheshire

Jen Smart (Ar) – Norfolk

Ewan Weston (E) – Aberdeenshire

Richard Broughton (E) – Oxfordshire

Ian Bainbridge (Ac) – Dumfries & Galloway

Kate Clarke ('C' permit representative) – Inverness

Ellen Marshall ('T' permit representative) – Lincolnshire

INTRODUCING YOUR NEW RIN MEMBERS



DR RICHARD BROUGHTON

I have been an ornithologist all of my life, starting out with an amateur passion and ending up as a research scientist with the Centre for Ecology & Hydrology in Oxfordshire. As a child, the first 300 birds that I ringed were Zebra Finches, but that was great practice for tits and pulli when I later joined the Ringing Scheme!

I began ringing so that I could study wild birds more closely, and from the beginning I've had help from many professional and volunteer ringers, from one-to-one coaching to residential courses, and I've learnt something from all of them. What I really like about the Ringing Scheme is how much experience and commitment there is across such a broad community. My own ringing ranges from raptor nests to garden nets, but my main interest is woodland birds. I run a long-term study of Marsh Tits in Cambridgeshire, involving colour-ringing, nest-recording, radio-tracking and habitat analysis. This

has helped to develop basic techniques such as catching, ageing and sexing, but also methods of ringing pulli in natural nest holes. I've followed the lives of over 1,300 Marsh Tits so far, and ringed this species in Cumbrian woods at one end of Europe to the primeval forests of Poland at the other. Answering those intriguing questions such as 'how much woodland does a Marsh Tit want?' is what really drives me.

Integrating nesting and ringing in detailed population studies can tell us a lot, such as how and why species like Marsh Tit might be declining. But my studies also use the BTO ringing database and results from RAS and CES, so I appreciate the importance of ringing in all of its forms. Keeping volunteer ringing viable seems increasingly essential for our national capability in ornithology, but data quality and welfare are also important. I look forward to representing the views of all ringers and to helping the Scheme to deliver the science that we need.



DR IAN BAINBRIDGE

I find it hard to believe that I have been a ringer for 46 years; I can't be that old! Trained at Attenborough by Norman Lewis, I soon became a regular on Wash Wader RG weekends, and held a cannon-net licence for much of the 1970s and 80s. A PhD at Liverpool studying waders on the Ribble meant substantial involvement with the South-West Lancs RG. This was followed by a short spell on the German Wattenmeer advising on cannon-netting there.

A career in conservation followed, first with the Northumberland Wildlife Trust and then RSPB, where I worked on forest policy through the Flow Country debate, was the first Reserves Ecologist in Scotland, and later Head of Research in Scotland for seven years. This involved me chairing both the Red Kite and Sea Eagle reintroductions, representing RSPB on the first Langholm Project and managing a wide range of staff and projects on species as diverse as Golden Eagles, Scottish Crossbills, Uist waders and Black-throated Divers.

In 2001 I took a step-change, and was appointed as Chief Ecological Adviser to the Scottish Government, followed in 2009

by a move to Scottish Natural Heritage as their Head of Science. Both roles involved advising on the science behind issues from windfarms to geese, non-native species and beavers to bryophytes, usually where science meets politics. Highlights of this period include negotiating the Island Biodiversity Work programme of the Convention on Biological Diversity on behalf of the EU. Since 2001 I have chaired the UK SPA and Ramsar Scientific Working Group, which provides the science advice behind the SPA network, and it never fails to impress me how invaluable ringing data are in many of the assessments we make.

Having recently retired after 15 years in public service, I now have more time for ringing again. I have just become secretary of the North Solway RG and am looking at a number of projects in south-west Scotland. Joining BTO Council and Ringing Committee is another way to 'put something back' into an NGO I have supported proudly for many years, and I am looking forward to doing my bit to ensure the Ringing Scheme remains useful, relevant and exciting in the years to come.

INTRODUCING YOUR NEW 'C' AND 'T' REPRESENTATIVES**KATE CLARKE**

I am a biology graduate, working as a RSPB warden on a suite of reserves in north Scotland. I trained with Hugh Insley and got my 'C' permit in 2013. I am passionate about ringing and its use to increase our knowledge and to aid the conservation of species. My ringing experience includes: coastal cannon netting, Sand Martin RAS, Swallow roost netting, night tern and wader netting, CES and pulli ringing. I also help to run the mark-recapture scheme on the Storm Petrel population on Priest Island.

I am a member of the Highland RG and recently, on secondment in northern England, I joined the Tees RG. While there my enthusiasm for ringing reached a new level, fuelled by the diversity of projects and co-ordinated ringing with other groups in the area. Once home, my Teesside experience made me determined to start a mixed-habitat ringing site and to consider possible projects. Having just obtained permission to ring on local coastal MoD

land, I am currently planning the location of rides, hoping to use it as a CES shortly.

Attending the Scottish Ringers' conference left me truly inspired and buzzing with ideas, especially after hearing the need for increased co-ordination of projects and collaborations between different groups in Britain & Ireland and those further afield. My ultimate aim with ringing is to become a trainer, giving others an opportunity to learn by sharing my knowledge, whilst making a contribution to species conservation.

I am driven to attend RIN to enable me to assist and input into both the development of young ringers and the scientific side of the scheme through ideas such as co-operative project work and training ideas. I firmly believe that the future of the ringing scheme lies in that direction, with ringers focusing on designed projects and co-operative schemes. To represent 'C' permit ringers and their issues is a fantastic opportunity and privilege.

**ELLEN MARSHALL**

I have always been interested in wildlife, ecology and conservation but it was only following a placement with the RSPB in 2012 that I became more interested in ornithology. I spent three months completing a project while staying on the Abernethy National Nature Reserve. The reserve was full of fascinating species and I returned keen to observe and understand more about birds. As my interest grew, I wanted to gain knowledge and skills and ringing seemed like an excellent opportunity to do this and to meet some very knowledgeable and experienced people. I began ringing in July 2015 and was immediately hooked.

I ring at Treswell Wood, Notts. This is a CES and RAS long-term study site, and is home to a good variety of woodland species for me to begin my ringing journey. In the coming season I am looking forward to assisting the group with nest recording and pulli ringing in the wood. I also occasionally ring at RSPB Langford Lowfields, a restored quarry site, which allows me to experience ringing in different environments such as reedbeds, to use new equipment and

encounter new species.

I studied ecology at the University of Durham and completed a Masters degree at the University of York. I currently work as a field ecologist and in my free time I volunteer for the Lincolnshire Bat Group and the RSPB at Langford Lowfields. Through my work, I communicate with a wide variety of people and I hope that these communication skills will enable me to be a productive member of the Committee.

I am an active member of the youth conservation group, 'A Focus on Nature'. Additionally, I am a member of the Young Ringers Facebook group. I think these are excellent platforms to gather opinions and interests from young ringers. I hope that my connections to these communities will prove beneficial to the Committee and allow me to listen and contribute to meetings from a wider perspective.

I am keen to meet new people, and share information and ideas. I look forward to being a member of RIN and welcome the opportunity to represent my fellow trainee ringers through such an important aspect of the Ringing Scheme.



Wood Warbler, by Allan Drewitt

Wood Warblers are usually single brooded and lay 5–6 eggs (clutches of 4–8 have been observed). Incubation (from penultimate or last egg) and fledging periods are both typically 12–14 days.

When it all goes quiet: the art of finding Wood Warbler nests

The Wood Warbler is in trouble, numbers having declined by more than 50% over the last two decades, and more data are urgently needed to identify the cause. In this article, Dave Holloway shares what he describes as the ‘privilege and extremely rewarding experience’ of finding nests of this enchanting species.

BINOCULARS

My advice would be not to use binoculars (they get steamed up under a midge net anyway) and rely on ears and unassisted vision. In other areas of the country they might work better but, locally, young birch trees and uneven ground obstruct vision. Often, I have seen a rapid drop only out of the corner of my eye and would have missed this if using binoculars. They can be very helpful to check whether a bird is carrying food but I still prefer to track them with the naked eye.

Many people will tell you that finding Wood Warbler nests is about as easy as it gets. Indeed there are days when you can enter a suitable wood and within minutes are greeted by the call of an off-nest female. You cast your eye in the direction of the bird and seconds later she appears just a few metres away, dropping to the ground as if you do not exist. Walking to the spot is easy and a glance down reveals the beauty of six eggs in a neatly formed dome of grass on the ground. Nothing could be easier!

This *does* happen, but in reality it is often a little more involved. Good fortune relies on knowing suitable habitat, the right time of year and being able to identify Wood Warbler calls. There are other days when both birds of a known Wood Warbler pair are silent and hours are spent before they are found. During this period the world’s worst midges congregate around any gap in your clothing, attempts to use binoculars through protective netting result in steamed up optics and foolish attempts to sit and rest attract ticks to delicate parts. When the female appears she refuses to focus on one spot so you decide you are too close to a nest and move. As you do so (slipping on rocks

hidden under last year’s dead vegetation) she drops to the nest, out of sight, and you know it will be a very long time before she reappears. Then it starts to rain. This also *does* happen!

In Highland, the Wood Warblers I watch breed in birch woodlands on hillsides. There are more trees (albeit with skinnier trunks) than the Wood Warbler areas I knew in Cumbria. This affects an observer’s ability to see a long way and to follow birds through the canopy. As a result, the emphasis of this advice may differ in other habitats. Wood Warblers are canopy birds and spending time low down, at, or near, the ground may be alien for them.

LOCATING MALES

The critical period is from the end of April through the first two weeks of May, when males return from their wintering grounds and are particularly vocal. Typically, unmated males sing using the full song whilst mated birds will only trill. Many males are poly-territorial, however, so can trill in one territory and sing in another several hundred metres away at different times of the day. Some males will sing for

many weeks in the same territory without appearing to attract a mate while others will move and suddenly 'appear' somewhere else later in the season as though they were newly arrived. Males losing a mate to predation will start to sing the full song again, but invariably in an adjacent piece of ground rather than their original territory.

It is important to make note of the locations of singing males; really keen observers will also note which song perches are favoured as this can give an indication of the approximate area the bird is interested in. Some song perches are directly above the nest and later in the season some males will even sing from a low perch a few metres above a nest, enabling incomplete clutches to be found.

LOCATING FEMALES

I invariably find nests with eggs by knowing the call of the off-nest female. This has to be learnt either from another observer or from recordings. Chances are greatly increased by visiting territories known to be held by mated males. Success can also be had simply by being in suitable woodland. Females incubate the eggs and most (but not all!) call incessantly when off eggs; this call can be used to track her movements. She is back on the nest when either you have seen her drop to the ground or when she goes quiet (in which case, note the approximate area and watch again about 30 minutes later). She may drop to the nest from several metres at great speed, although this usually happens from a perch 2–3 metres above the nest, and she will approach gradually along the same or a similar route each time. This drop is critical for nest finding.

Once the bird has dropped, finding the nest is relatively easy. I always try to allow 10–15 minutes for a recently returned bird to warm the eggs before I visit the nest. I then approach very slowly and indirectly from below, which makes the point that the bird flies from much easier to see. It also warns the bird, which prefers to skulk off from a casual observer rather than being displaced by a direct approach that could be interpreted as a predation attempt. Most nests are easy to see from a few metres away but some are ingeniously hidden amongst mosses, grasses or dead bracken and,



Nests are dome shaped, made of grass, leaves and bracken fibres, and lined with fine grass, hair, but no feathers.

Wood Warbler nests, by Hugh Insley

unless the spot is pinpointed within a few centimetres, the entrance may be invisible.

REVISITING NESTS

Never rely on memory alone to re-find a nest! Memory fades and woodland is always changing. I take a 10-figure GPS grid reference (even though only accurate to about 3 m) and make a line drawing in a notebook (photographs would also serve well). I would not advocate leaving an artificial marker but an oddly shaped twig or distinctive stone will do the job just as well.

It is much easier to find nests with young than with eggs, as visits by adult birds are more frequent. Listening for calling adults is also helpful; calls often increase in volume and intensity as the young get older. Young are best ringed at 'feathers small' stage (primary up to 1/3 out of sheath), remembering that 'A' rings are being used on a species that takes 'AA' as an adult, so avoid ringing the pulli too soon. Birds are generally safe to ring at stage 'feathers medium', but always take into account the local circumstances and conditions. I would be very cautious about ringing large young. Although they can be returned to the nest safely by skilled ringers, they are at much greater risk than some other species as once out of the nest they are exposed on areas with relatively light ground cover and they may make little or no effort to conceal themselves in vegetation.

HIGHLAND

Between 2013 and 2015, the vast majority of Wood Warbler pulli in Highland were ringed in a two-week period from approximately 12 June.

THANKS TO

Hugh Insley, for current support with ringing; John Callion, who passed on his enthusiasm for nests and for Wood Warblers; John Webber, Tony Davis and Malcolm Burgess for sharing their thoughts and ideas about Wood Warblers over recent years.



Dipper, by Edmund Fellowes

The easiest time to find nests is when birds are carrying clumps of moss to build the nest dome or oak leaves to line it; they will normally stop near the nest to saturate the leaves just before entry.

Dabbling with Dippers

Good Dipper sites can be used time and time again, sometimes for decades. For those lucky enough to live near suitable habitat, this can provide a fantastic opportunity for long-term population monitoring. In this article, Neil Anderson, Dario Fernandez-Bellon, Alex Copland, Tom Dougall, Jerry Lewis, Neville Powell, John Richardson, Stuart Sharp and Steph Tyler share their considerable expertise.

Dipper nests are normally located in the centre of their territories, which are about half a kilometre in length on fast-flowing sections of river. A territory boundary can be found by slowly walking a bird forward until it turns and flies back; be aware that males can breed with two females in adjacent territories and will commute between the two. If a pair fails early in the season, the pairs on either side may also extend their territory to fill the gap.

NEST SITES AND BUILDING

Nests are usually located directly above water, even in low flow conditions, from a few centimetres to 10 metres high. Pairs sometimes hold a territory on the main river but build a nest on a side stream, or even a ditch. Rarely, if there are no suitable nesting sites but there is ideal feeding in riffles, they can nest away from the river. Birds prefer to build in man-made objects, such as culverts, on ledges or under suitable bridges, but they can also be found in vertical rock faces with overhanging vegetation, in overhanging tree roots, behind collapsed banks, on a rock in the river, in or under drain pipes, on flood debris, in a bush or behind small waterfalls.

Dippers normally start to build nests between early January and the end of February but this is weather dependent; during poor weather they can take a break for days or weeks, especially if the river is in spate. If there is no nest-building activity in a territory by the first week of April, it is unlikely that it will be used. Peak nest building occurs from first light until c. 10.30 am, after which birds tend to feed for the rest of the day. If the nest is lined with wet/damp oak leaves then laying is usually imminent. As laying approaches it is best to check nests in the afternoon as most birds lay early in the morning.

ARTIFICIAL NEST STRUCTURES

Dippers will readily take to artificial nest sites, particularly where bridges have concrete walls, no ledges on the roof and no recesses. Almost anything will suffice, including drainpipe, rectangular boxes with an entrance at one end, traditional open-fronted nest boxes, large Robin-type nest boxes or even a plastic seed tray with drainage holes, on which Dippers build their dome nest. Nest structures should be placed over water but above the flood line.

DECLINES

Dipper has recently been included on the Birds of Conservation Concern Amber list due to a moderate decline (-27%) in the breeding population over 25 years.

LAYING AND INCUBATION

Egg laying can occur from late February until June, although mid-March to May is more common. One egg is laid per day, with typical clutches containing 4–5 eggs, and the incubation period lasts 16–17 days after the penultimate egg is laid. Even a small difference in altitude (200m) can affect laying date, with nests at lowest altitudes usually first to get going. Egg colouration can be used to age the clutch. During the first 3–4 days after laying, eggs have a rosy tone and are slightly translucent when held up to light. After a few days of incubation they turn a solid white, with a greyish tinge; infertile eggs stay pinkish.

Females normally leave the nest every 40 minutes to feed. In cold weather, males may take over incubation but more typically feed close by and stand sentry near the nest to fend off opportunistic males looking to take over the territory. Rogue males that usurp the territorial male will eject eggs or small young from the nest to encourage the resident female to re-lay. Pairs that fail or successfully fledge young early in the season often go on to lay again. Second broods usually start a week to 10 days after the first brood fledges but if the nest lining is completely removed it is highly unlikely that the pair will breed again that season.

PULLUS RINGING AND NEST RECORDING

Nestlings normally leave the nest 17–20 days after hatching. Pulli are (just) able to take a ring at day five and are not too big to ring with care at day 12; seeing chicks retract their heads into the nest on approach indicates they are getting too big to ring. A gentle touch will reveal the degree of feathering without disturbing chicks unnecessarily but a visual check of the nest before reaching inside is advisable to check for rats. In the early chick stages it is possible to gauge age by the size of food and the frequency of feeding visits; in both instances this increases exponentially with pullus growth. The female takes a more active role in feeding the young from day five onwards and older nestlings are very vocal during feeding visits.

When ringing larger chicks, fit the ring near the foot to avoid pinching the top of the tarsus. When leaving a nest, try to walk



Typical Dipper dome nest, on a fallen tree over water.

Dipper nest, by Steph Tyler

away unseen or cover the nest hole with a bird bag on a string and uncover from a distance, letting light in slowly. If the river is too fast flowing due to rain, or is over a water chute, older young should not be disturbed as it can be dangerous for both the birds and the ringer.

CATCHING ADULTS AT THE NEST

Dippers are very tolerant of being handled and with great care they can be lifted off nests during the late incubation or early brooding period; this requires a very precise knowledge of the age of the nest, however, as birds should not be taken off eggs before day 10 of incubation. If there is any doubt as to the nest stage, it is advisable to use a hand net placed over the entrance hole instead. Females can be placed back on the nest after ringing, covering the hole with a bird bag for a few minutes to let them settle down, or released over the river close to the nest. Setting a net nearby before approaching the nest provides a chance of catching the sitting bird should it flush.

CATCHING ADULTS ON THE RIVER

The easiest time to catch adult Dippers away from the nest is when they are carrying nest material or feeding large young. July and August can be a productive time for catching juveniles but moulting adults are often reluctant to fly and may duck under banks. The net will typically need to be set from bank to bank across a river or stream. It is relatively easy to catch birds about 40–50 m from the nest but, if set too close

NEST BOX DESIGN

A cutting diagram which makes 16 Dipper boxes from a single sheet of 8' x 4' plywood is available at: www.bto.org/volunteer-surveys/ringing/taking-part/resources-ringers/other-ringing-resources

This design is mostly for roof-mounting (under the arch) but, with a small tweak, can be back-mounted to a pillar or concrete wall of a bridge (useful for very high bridges).

REFERENCE

Davenport, J., O'Halloran, J. & Smiddy, P. (2004) Plumage temperatures of Dippers *Cinclus cinclus* on the roost and in the hand: implications for handling small passerines. *Ringling & Migration* 22, 65–69.

to their landing area, birds may see and avoid the net; males can also be more wary near a nest site.

Dippers are strong flyers and therefore notorious for bouncing out of nets, so the net should be set un-taut and with plenty of pocket. As they also fly very fast, placing nets on a bend in the river where they are likely to slow down may help. If a bird bounces from a net it is likely to take evasive action on any future flights made that day. Dippers tend to bounce less from wader nets (38 mm, stretched) but can be harder to extract; these also have the advantage over standard nets (32 mm, stretched) of enabling Common Sandpipers to be caught at the same time!

The net should either be set very low over the water to prevent birds ducking under it, ensuring the current doesn't reduce the pocket, or with a highly visible branch a metre in front of it so the birds fly up and into the middle pockets. This second method will prevent Dippers from swimming out of the bottom shelf of the net if it becomes submerged and should always be used if there is any chance of catching other species in the bottom shelf. If the river is fast flowing and a branch can't be anchored, a length of cord with tassels that flutter in the breeze can have the same effect. Most birds caught in low-set nets will end up in the water; while the plumage is obviously used to wetting, at least one person must be close to the net to ensure rapid extraction.

CATCHING AT ROOST

Dippers form winter roosts from September to mid-February, usually under bridges but occasionally on trees overhanging water, often using the same site night after night and possibly year after year. Silence at roost sites is an absolute must; if birds are asleep they are much easier to catch, so try to approach sites from upstream to reduce noise. The higher the river, the noisier it will be, increasing the likelihood of catching, but strong moonlight can hinder catching.



Juvenile Dipper, by Jill Pakenham

Colour ringing juveniles may waste colour combinations because they disperse from the natal territory and experience high mortality.

Never go roost catching if it is frosty; this is a welfare issue for Dipper (Davenport et al. 2004) and perhaps more so for species like Wren, which regularly roost under bridges and quite readily bale out of communal roosts if disturbed.

Dippers can be dazzled and caught by hand or with hand nets. Two people are needed, one with a hand torch and net to stalk and catch the bird, the second with bird bags and head torch to extract it and place it in a bag; additional catchers with nets can be placed at the end of the bridge to try to catch any missed birds. To avoid being seen or reducing the dazzling effect, only one torch should be used whilst catching. When dazzling, hold the centre of the torch on the bird's eye and approach slowly; 'stalking' is much more successful than 'pouncing', even if the bird is awake.

RAS AND COLOUR RINGING

Dippers make a good RAS subject as they are faithful to their territory between years. All of the nine active Dipper RAS projects use colour marks; their long legs and perching habits are a great help to ring reading in the field. Dippers breed either at or close to the winter roost site, so colour ringing and resighting can be undertaken throughout the year. Juveniles almost always disperse from the natal territory and have a high mortality rate during their first few months, so waiting until they have finished dispersal to fit marks will result in fewer wasted combinations.

Wilde about waders

Frustrating is a word that has been used a lot by ringers young and old at the start of 2016, as UK weather conditions have been less than kind. Around his school studies, Findlay Wilde does his best to ring every weekend. As a keen trainee and volunteer, he believes that continuity is the key to learning, understanding and of course adding to valuable data; 'you've got to be in it to er... learn about it', as he says!



Ringed Plover, by Findlay Wilde

I'm always on the lookout for opportunities to learn and get involved, so I was thrilled when I was successful in gaining a very sought-after place on one of SCAN wader ringing group's trips in stunning North Wales. I was so looking forward to the weekend as I had not worked with any wading species before and it was going to be a full-on weekend with ringing on both days. I think a lot of people have a connection with wading birds and the sadness that a lot of them are in serious decline makes them even more special. As soon as school finished on Friday evening, I packed my kit bag with the Holarctic guide (my homework from the previous week) plenty of snacks and of course my pliers! I'd checked the time and the weather forecast that many times I'd drained my phone battery.

Saturday morning soon came around and I got kitted up for the coastal weather. The target species (Dunlin and Sanderling) had been seen and counted the previous day, but were they around today? Some of the more experienced team members had set the cannon nets a bit earlier, so I had to wait until Sunday to have my turn. This was really important to me as I wanted to understand the whole process; not only the ringing and processing, but also the planning, setting the nets and positions of the cannons, jump ropes,

The majority of birds caught were Dunlin and Sanderling, but a few Ringed Plover that had been roosting with them were also caught.

safety zone etc. One thing is for sure, it's tricky setting cannon nets on a very pebbly beach.

Next it was straight into a briefing for the day's events, for us and the fascinated members of the public who were also kept informed and engaged at all times. There was mixed experience within the ringing team and all of us were designated specific duties for the catch, with special focus on being disciplined and organised.

It was now a waiting game – waiting for the tide to slowly nudge the shorebirds closer to the catch area. As I lay hunkered down next to the shingly beach watching and waiting, all I could think about was how resilient these little birds are compared to us as humans, all wrapped up in clothing made of super fibres attempting to keep warm.

3...2...1... BOOM!

The net was fired and the team shot off like it was the Olympic 100 m finals. Being my first time I was slower to react, but after an initial split-second panic I remembered; focus on what my given task was. With so much going on I realised how vital the briefing had been a few hours earlier. After extraction, the

birds were placed into keeping cages and then the ringing and processing could begin.

I was in the ringing crew and got to work straight away. I was amazed how warm the birds were, like little mini radiators, and it was fantastic to be able to compare plumage and moult with fellow ringers; if any of us were unsure the experienced ringers really helped to patiently explain and pass on their knowledge.

The catch over the weekend was good, with over 450 birds caught. There were also a really good number of retraps, including birds from Poland, Norway, Sweden, Finland and other parts of the UK, and it was interesting to see on some of the older retrap birds how worn the rings can get. In fact some birds needed to be re-ringed as the letter/number sequence had been completely worn away.

Once the birds were safely released, the day's equipment was methodically and efficiently put away for next time. My special thanks go to all of the team at SCAN for the experience and the patience and welcome they showed me. If you get the chance, get out there and experience the 3...2...1... BOOM.

Nest is best? Pullus ringing trends

Hopefully, you'll have noticed that several of the articles in this edition of *Life Cycle* contain detailed information about pullus ringing. Re-encounters of birds ringed as nestlings are particularly valuable as they definitively associate the individual with a specific breeding population, enable its exact age to be determined and provide data on post-fledging dispersal (or lack thereof) and recruitment, so we're very keen to encourage more ringers to focus on the nest as well as the net.

The table shows a comparison of NRS submissions and number of pulli ringed between two periods, 2002–04 and 2012–14, for 20 relatively widespread songbirds. The first thing to note is that the changes are, almost without exception, positive, showing that nest-based demographic monitoring is on the up, a fantastic achievement by all contributors. For approximately 50% of species, the increases are similar. Where there are differences, the NRS figures show a greater proportional increase than the pullus ringing figures, suggesting that either new nest recorders are not ringers or that an increasing proportion of ringers are now nest recording.

It is difficult to extract exact figures to distinguish between these scenarios, but we can make an estimate of the pulli available for ringing in nests monitored for NRS, taking account of brood sizes and pre-ringing failure rates. These calculations suggest that more ringers are submitting nest records for their Redstart, Tree Sparrow and Willow Warbler nests, but that an increasing proportion of tit and thrush broods monitored for NRS are fledging unringed, possibly because these species are most accessible to inexperienced recruits. It is also clear that a significant proportion of Swallow, Pied Flycatcher and Dipper broods ringed are not submitted as nest records.

Overall these results paint an extremely positive picture, but if you contribute to one set of figures and not the other, please consider taking up nest recording or teaming up with a ringer.



Whitethroat pulli, by Elspeth Rowe

Combining nest recording and ringing pulli helps us get the most value from your hard work in the field (although these Whitethroat chicks would be too big to ring at this age).

PULLUS RINGING WEB RESOURCE

A new pullus ringing resource is currently being developed for the website. Massive thanks to the c. 40 ringers who responded to the initial, targeted request for information on passerine and near-passerine pullus ringing. We still have lots of gaps to fill though and would love to hear from anyone who would like to contribute knowledge or photos of known-age pulli to the project. Non-passerines will be covered at a later date. Please contact ruth.walker@bto.org for more information.

	NRS 2002–04	NRS 2012–14	% change	Pulli 2002–04	Pulli 2012–14	% change
Blue Tit	4,071	6,736	65	27,428	35,100	28
Great Tit	3,189	4,677	47	20,030	21,247	6
Swallow	1,907	2,716	42	10,494	14,449	38
Chiffchaff	134	228	70	214	351	64
Willow Warbler	142	257	81	676	989	46
Blackcap	80	209	160	70	194	179
Reed Warbler	547	771	41	1,015	1,415	39
Dipper	177	467	164	728	1,937	166
Blackbird	1,292	1,573	22	1,794	1,847	3
Song Thrush	577	572	-1	713	491	-31
Mistle Thrush	71	77	9	148	107	-28
Robin	348	544	56	776	1,229	58
Pied Flycatcher	920	998	8	8,311	9,427	13
Redstart	103	246	139	875	1,376	57
Dunnock	267	416	56	300	377	26
House Sparrow	344	375	9	1,026	1,036	1
Tree Sparrow	1,399	2,172	55	6,825	7,103	4
Chaffinch	346	357	3	291	300	3
Linnet	281	364	30	418	520	24
Reed Bunting	66	125	90	143	239	67

Demon update

On 27 February a group of 10 ringers and nest recorders involved in a wide range of projects met under the tutelage of BTO's Graham Austin to test and provide feedback on the preliminary work on Demon (**Demography Online**), which will supersede IPMR. Here, James Cracknell and Simon Tucker, both present at the workshop, offer their take on the new system, which will be tested over the autumn and rolled out in time for the 2017 breeding season.



Demon Team, by William Skellorn

The Demon team (l - r) Dave Leech, Dave Turvey, Matt Baxter, Dorian Moss, Sam Marston, Bridget Griffin, Andrew Joys, Karen Wright, Carl Barimore and Graham Austin. Missing from the photo are Justin Walker and Jacquie Clark.

Demon is an online system designed to work on all modern web browsers, which ensures future-proofing and maximises developmental opportunities. Data entry is quick and easy, mirroring the functionality of IPMR, with additional elements being developed. This new system will allow us to increase the value of the data that we collect for analysis by ourselves and others.

One of the biggest changes to be implemented is 'Locations' (mapping). It will now be possible to add precision to data by accurately locating where a bird is caught. Within 'Locations'

you can plot net lanes and sites on a map and have it pre-populate the place information. Any location can be cloned, and then edited to make it unique; those with hundreds or thousands of nest-boxes to manage will find this a huge help. 'Locations' can then be aggregated into custom groups, so that you can report on your data in any combination that is useful to you. If it is this simple to add value to our data and make things easier for ourselves, what else could be developed in the future?

We talked about concerns that we have, e.g. over confidential data.

This seems to have been well thought through, with confidential locations and sensitive species managed in the same way as they have been for the Atlas, whilst enabling the owner of the data to retain the detail needed for analysis. As many of us that were present have supported IPMR users, we were able to give the benefit of our experience with respect to provision of online support and training sessions.

With any online system there is clearly a concern about how it would work in those areas with poor internet connectivity. This had already been identified and there will be an option to download and enter data into a spreadsheet and then load and validate this directly into Demon.

All of us left the meeting amazed at what had been achieved so far and what the future holds. Thanks need to go to the IS team of Sam Marston, Matt Baxter and Dave Turvey, who were on hand to answer questions and take on suggestions, plus Andrew Joys and Justin Walker, who work on the database behind it all, and finally to Graham Austin, Jacquie Clark, Bridget Griffin and Carl Barimore for running the event.



Goldfinch being ringed, by David Tipling

There will be opportunities for more testers to get involved later in the year.

HENRY ROBB (1933–2016)

Henry Robb, by Shirley Miller



Henry Robb, who died in January, aged 82, epitomised BTO members. With no formal training in science he made a substantial contribution to British ornithology through enthusiastic participation as an amateur for almost 50 years. He was drawn in by the first breeding bird atlas: he was the Regional Organiser for the Stirling area, led teams of surveyors, did much fieldwork himself, often in remote areas, and found the first Osprey nest in the Forth Valley. He took part in all the subsequent atlases.

Around 1970, he fell in with ringers. In 1972 he acted on a few sightings of Pied Flycatchers in the oak

woodlands around Loch Katrine by erecting five nest-boxes. One was used by flycatchers and Henry was hooked. In 1973 he got his 'A' permit and 17 more boxes. He carried on the study until he died. At the peak, he had over 190 boxes and up to 80 nesting pairs. He ringed all the chicks, caught as many of the adults as possible and filled in nest record cards. Almost every fine evening in the season he spent several hours at Loch Katrine and he also visited before the flycatchers arrived in spring, once to 'cork' the boxes to keep tits out and later to remove the corks just before the flycatchers' expected arrival.

The boxes also attracted Redstarts, which he ringed and recorded. In some years he ringed almost 300 Redstart chicks, more than anyone else in Britain, earning him the soubriquet 'The Redstart King'. He also tried to find as many Wood Warbler and Tree Pipit nests as he could and had boxes for Tawny Owls.

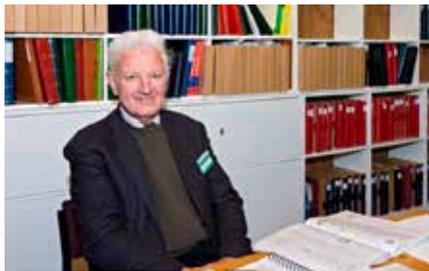
From 1971 Henry was an active member of the Tay RG, participating in swan round-ups, cannon- and mist-netting of waders and wildfowl and other Group activities. He drew up its constitution, was Chairman and Secretary (1976–83, continuing as Chairman for another two years) and negotiated the lifting of restrictions placed on its early cannon-netting.

Henry also served on the Councils of both BTO and the Scottish Ornithologists' Club (for two sessions in each case). He was chairman of the SOC Stirling Branch, and for 10 years the Isle of May Trust. He received the BTO Jubilee Medal in 2002. He was much loved, good company, modest, good-humoured, generous, considerate and never critical of others. Many emails that circulated after his death were headed 'Henry Robb: gentleman and ornithologist'. It was a proper epitaph.

This obituary was prepared by many of Henry's friends.

DAVID MUSSON (1936–2015)

David Musson, by Paul Bailey-National Trust



David had a passion for birds from an early age and in his twenties was a key member of the Kent Ornithological Society. David qualified as a ringer in 1957, was a member of the Mid-Kent RG, and ringed thousands of birds over the next 20 years. He joined the BTO in 1963 and became a life fellow – the highest level of BTO supporter.

When the BTO asked volunteers to create the first breeding bird atlas, David organised the fieldwork in Devon, finding and enthusing volunteers across the county. David continued to support the BTO

alongside his work for the National Trust and used the opportunity offered by retirement to do more. After the BTO moved to Thetford in 1991, he volunteered in the Ringing Office, initially working on archive data of foreign-ringed birds found in this country, coding their fate and adding geographical coordinates so all the information was available for computerisation. It was in a large part due to this work that BTO were eventually able to complete the computerisation of these data a few years ago. He then started to translate and code current recoveries. It was a fascinating job which involved the use of dictionaries to translate letters from all over the world, and gazetteers and atlases to identify obscure place names. His attention to detail was well suited to this detective work, which he thoroughly enjoyed. He continued to help in the ringing office until 2006.

As the BTO grew and started to receive legacies of books, David took over second-hand book sales. Each December, he packed up the books and took them to our annual conference in Derbyshire, as well as selling them at bird fairs. When BTO launched Bird Atlas 2007–11, David decided to sell his large and valuable collection of natural history books; his generous support raised £25,000 to underpin the project. Here was another way for a quiet, determined man to make a direct contribution to ornithology.

David received the BTO's Jubilee Medal in 1997 in recognition of his work as a BTO volunteer. He was a brilliant supporter of BTO and will be remembered and missed.

Jacquie Clark

Joe Hardman and V Mead sadly passed away this year. Obituaries will be published in the autumn edition.



Bearded Tit, by Tim Mursey

Bearded Tits are the subject of one of the longest-running ringing studies on any RSPB reserve.

Ringing on RSPB Reserves

Nature reserves, including those owned and/or managed by RSPB often have good numbers of birds present in excellent habitats. There remains a belief by some that ringing isn't allowed on RSPB reserves, but this is far from the case, as Steve Dodd, Senior Research Assistant, and Viv Booth, Reserves Ecologist with the RSPB, explain.

As with others in the bird conservation and scientific communities, RSPB is aware of the benefits that information from bird ringing and marking can provide, particularly for long-term monitoring, and through focused studies asking key questions. For example, RSPB studies involving ringing and marking have yielded data that have been critical in guiding the correct management action to achieve population recovery: Bittern, Corncrake, Cirl Bunting, Stone-curlew, and Red Kite are all good examples. Many RSPB staff members are ringers themselves, both for work and for their own interests.

In 2015, the RSPB updated and formalised its existing policy and procedures relating to bird ringing on RSPB reserves to ensure a consistent approach. Ringing is not appropriate for all reserves, for example in areas sensitive to disturbance, or in publicly visible areas which lack opportunities to engage with people and help them interpret what is happening. Accordingly, RSPB will only give permission to ring where the information collected is of high scientific value and relevance, or where there is a clear public engagement opportunity, and, in all cases, where the activity doesn't impinge on the conservation objectives or visitors' enjoyment of the reserve.

Projects that contribute to population monitoring, such as CES & RAS, are encouraged and other targeted projects with specified aims and a scientific research approach would also be considered. Unstructured ringing e.g. non-project specific ringing, or colour ringing without a good resighting plan, is of lower conservation value and will not normally be permitted. It is important to talk to the reserve staff to understand the objectives of the reserve and therefore what additional benefits ringing can provide. By working with the reserve team, ringers can also understand what management is planned, which might influence decisions such as the location of net rides or other activities.

APPLYING TO RING ON A RESERVE

Applications to undertake ringing on RSPB reserves are considered on a case-by-case basis. There is an established process in place for assessing and authorising applications, which must be agreed by the reserves staff, regional management and the Reserves Ecology team. If a potential ringing project on a reserve is identified, ringers should think about the structure, timescale, location and conservation benefit it will bring. A conversation should be had

PERMISSIONS

Where an RSPB reserve is managed by, but not owned by RSPB, landowner permission will also be required. If ringing is to take place on designated land (SSSI, SPA etc.) the landowner must also obtain permission to ring from the relevant Country Agency.

early on with the site manager or warden who will advise whether any features of the reserve make the plans impossible (e.g. breeding Schedule 1 species). A written application should then be submitted to the reserve or regional office, allowing at least a couple of months for a decision to be made (longer if submitting a complex research proposal). Risk assessments will be needed and all data collected must be shared with the reserve.

Permission is also required to nest record on RSPB reserves. This is considered research and so, as with ringing, applications are considered by the regional reserves management team, including the Reserves Ecologist. An initial conversation should therefore be had with the site manager or warden of the reserve and an application made at least two months in advance of when needed.

BEARDED TITS AT LEIGHTON MOSS

The ringing study of Bearded Tits at Leighton Moss is probably the longest-running study on any RSPB reserve. Permission to ring was first given in 1976 when Colin Bibby started studying their diet. We were set a target of collecting 10 faecal samples per month by holding the birds for a short time in clean bags. Over the next two years we ringed 340 birds enabling us to study the build-up and productivity of the population which had only colonised the reserve in 1973. In the following winters this ringing generated six controls from well to the south of the reserve. This compares with only four reports away from the reserve in recent years, despite ringing 2,446 birds, showing a marked change in the irruptive behaviour of this isolated population. A similar change in irruptive behaviour has been recorded at other sites.

With no territorial song or behaviour, Bearded Tits are difficult to census. Their reedbed habitat also presents many access difficulties. The ringing programme was restarted in 1992 to see if ringing would provide accurate population and productivity data. Five rides were established in the main Bearded Tit areas and are worked on rotation, water levels permitting; in 2000, the study was registered as a RAS. Individual colour ringing was also started



Arctic Tern with flag, by Laura Kudelska

Adult Arctic Terns are fitted with a metal ring and orange leg flag to aid resightings.

that year as part of a study looking at usage of nest boxes which were installed in 1997.

The ringing study has provided excellent data on populations and survival; a peak of 65 pairs was recorded in 2000 only to slump to seven pairs the next spring following a prolonged period of exceptionally high water levels in autumn and early winter, followed by a cold spell. Productivity data based on the number of juveniles caught has also varied, mainly linked to the weather at the time of the first brood in March and April, although some pairs can rear three broods in a season. One other innovation was the provision of grit trays which allowed the study of their gritting behaviour in autumn as they move from a diet of invertebrates to mainly reed seeds and provided ideal opportunities for colour-ring resighting. **John Wilson**

ARCTIC TERNS ON THE SKERRIES

The Skerries is a collection of small islands off northwest Anglesey, owned by Trinity House and wardened by RSPB through the summer season. The main island has a large Arctic Tern colony (c. 3,000 pairs) which has been steadily increasing over the past decade, in contrast to dwindling fortunes of many northern Arctic Tern colonies. The island also hosts a smaller number of Common Terns (c. 250 pairs).

While visiting the island on a 'warden provisioning trip' in 2011, I was attracted to the possibility of establishing a RAS on a key seabird species. During the season, two wardens live in the lighthouse and much of

Grit tray, by Alan Gallagher



Grit trays provide visitors to the reserve with outstanding sightings of Bearded Tits, helping to generate colour-ring resightings.

the colony can easily be observed from the walled surround. After discussions with the wardens, the Reserves Ecologist and RSPB Wales management team, permission was granted for a RAS to begin. We chose to use individually engraved leg flags to remove the need to recapture birds and enable a high 'recapture' rate (e.g. resightings, mostly submitted by the resident wardens and the ringers on subsequent visits) for the RAS survival analysis.

In 2013 we captured 50 adults using walk-in traps placed over nests during late incubation/early chick stage. Four or five traps were deployed at once, with birds usually entering within 10 minutes. In 2014 we ringed an additional 50 individuals, while in 2015 we ringed 30. We take wing, bill depth, total head and tail measurements, with the hope of establishing the sex of birds using a discriminant function.

To date captures have been slightly biased to males. The long-term plan is to maintain a marked sample of c. 100 birds, which should pick up changes in survival rate with good confidence limits. Results so far show a 76% return rate between 2013 and 2014 and a 90% return rate between 2014 and 2015.

As well as being valuable to the RAS scheme this project also provides important demographic data for the RSPB, which will help to interpret any changes in the colony size in the future. **Steve Dodd**

CES RINGING AT NORTHWARD HILL

In 2012 we were asked by the RSPB Northward Hill warden if we would be interested in starting a CES on the reserve. Although neither of us had any previous experience of CES, we were immediately interested. We visited the site, talked to the warden as well as the previous ringer, and identified two dry scrub areas that would be suitable for a CES. We thought one looked more promising than the other, but decided to investigate both. We identified potential net rides and agreed a habitat clearing programme with the warden.

Never having done a CES before, we chose to do a full trial year, mimicking a CES as much as possible, although at the same time varying the net sites to see what combination worked best. We completed

12 six-hour sessions at one site and seven at the other. By the end of the year we had a pretty fair idea of which net sites worked, and which didn't. However, it was only half way through the season that we realised the year was somewhat unrepresentative, due to the appalling breeding season.

We then had a lively debate about whether to run with one or both sites! Eventually we decided to use both. We chose to work with seven nets (360 feet) at the first site and eight nets (420 feet) at the other, in a combination that would allow us to use both sites at the same time. We have now completed three full CES seasons and have managed to carry out all 12 sessions across both sites each year. We have caught almost 2,800 birds of 30 species; not surprisingly for a scrub site, Blackcap and Whitethroat are the most ringed species.

As the areas we ring in support good numbers of *Sylvia* warblers and Nightingales, the latter having been in severe decline nationally for the past 40 years, we have discussed a rolling programme of maintenance of the thorn scrub, and now both areas are being managed on a 12-year rotational basis. We are indebted to the local RSPB staff who have been incredibly supportive of us and we have found regular feedback invaluable in maintaining their interest and support.

Andrew Harris & Roger Kiddie

DEMONSTRATIONS

Our initial permission to ring on the reserve was for CES only, but we agreed to undertake monthly public ringing demonstrations from January 2013, which have been attended by up to 16 people on each session. At some of these events we have been joined by the warden or residential volunteers, several of whom have had 'T' permits, so we have been able to help with their training. At these events we discuss our use of CES to support the BTO and RSPB in their population monitoring.



Northward Hill, by Andrew Harris

One of the net rides through the scrub at Northward Hill.

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. The three papers on this page feature tracking studies whilst those on page 31 illustrate the breadth of research being undertaken using data from Britain & Ireland and across Europe.



Puffin, by Mark Taylor, Shag, by Allen Drevitt, Black-tailed Godwit, by Nigel Clark

FITNESS CONSEQUENCES OF PUFFIN MIGRATORY STRATEGIES

This study recorded the dispersive migration of Puffins to examine activity budgets and energy expenditure of different migration strategies. Between 2007 and 2014, Puffins breeding at Skomer Island, Wales, were fitted with geolocators. In total, 124 geolocators were deployed and data for 105 complete and six partial migratory routes were collected from 39 individuals. Puffins covered between 1,500 km and 7,000 km in an eight-month period, with individuals visiting locations as far apart as Canada and Italy, the Moroccan coast and the Norwegian Sea; individuals often visited several areas in the same winter. Puffins showed both spatial and temporal fidelity to migration routes between years. Sex did not determine the migration route or distance from the colony at the start and end of migration but females stayed significantly closer to the colony during the period Nov–Jan. Breeding success did not affect subsequent migration routes but the type of migration had a significant effect on breeding success the following season and there were differences in foraging levels between routes. The results suggest Puffins of different quality may visit different locations.

Fayet, A.L. et al. (2016) Drivers and fitness consequences of dispersive migration in a pelagic seabird. *Behavioural Ecology*. doi: 10.1093/beheco/arnw013

INVESTIGATING SOCIAL FORAGING BEHAVIOUR IN SHAGS

Thirteen breeding Shags from three colonies in the Isles of Scilly were fitted with GPS loggers to study their social foraging behaviour and habitat use. The birds were caught during April–June 2010–12 and their movements recorded at 100-second intervals for approximately three days before being recaptured and having their tags removed. Systematic observations of Shag rafting behaviour were also carried out between 2013 and 2014 to generate a data set with which to compare the GPS tracking. A total of 38 days of behaviour were recorded by the GPS loggers and observers recorded 95 rafts, with a maximum size of approximately 500 birds. Tracked birds mostly travelled short distances to shallow waters between islands, with many foraging in large social groups that were consistent in space and time. Birds from neighbouring colonies usually foraged in the same areas, often together in rafts. The findings suggest that Shags are able to freely access social information directly from the foraging patch, leading to shared foraging grounds among colonies.

Evans, J.C. et al. (2016) Social foraging European Shags: GPS tracking reveals birds from neighbouring colonies have shared foraging grounds. *Journal of Ornithology* 157, 23–32.

GPS VS GEOLOCATOR – COMPARING DATA FROM A DOUBLE-TAGGED BIRD

A Black-tailed Godwit caught in the Netherlands in 2013 and recaptured in 2014 was fitted with both a geocator and a GPS tracker. The GPS tracker, which is accurate to within ± 5 m of the true position, showed that the bird flew non-stop from the Netherlands to southern Spain (2,035 km), wintering in the southern part of the Iberian Peninsula before returning to the Netherlands. The geocator data were analysed with two open-source software packages, one using a threshold method (GeoLight) and the other a template-fit approach (FLightR), to compare the results against the GPS tracking data. The GeoLight estimates deviated from the GPS position data by $495.5 \pm 1,031.2$ km whilst the FLightR method estimates deviated by 43.3 ± 51.5 km. The FLightR estimates of arrival and departures times were within 12 hours of the GPS data whereas the GeoLight estimates were less accurate. The researchers conclude that these new software packages enable geolocators to precisely monitor the timing of migratory movements and, with an increasing level of certainty, geographic locations of migratory animals throughout their annual cycles.

Rakhimberdiev, E. et al. (2016) Comparing inferences of solar geolocation data against high-precision GPS data: annual movements of a double-tagged Black-tailed Godwit. *Journal of Avian Biology* 47, 1–8.

ASSESSING THE TAXONOMY OF BRITISH MARSH TITS

Marsh Tits in Britain underwent a 73% decline in abundance between 1966 and 2013. Two subspecies, *Poecile palustris palustris* and *Poecile palustris dresseri*, are designated in government Biodiversity Action Plans, but it is not clear whether this distinction actually exists in British birds. A collaborative study, led by the Centre for Ecology and Hydrology, examined the question of Marsh Tit subspecies using measurements of wing and tail length collected during bird ringing at 14 sites across Europe, including eight in Britain. The results indicate that all British Marsh Tits in the study belonged to the subspecies *dresseri*, whereas those from elsewhere in Europe were from the *palustris* subspecies. This has implications for Marsh Tit conservation as this species has declined in northern England and Scotland faster than in other regions. Previously it was thought the northern populations might be from the *palustris* subspecies, but evidence from this study suggests there is no ecological or taxonomic reason why birds from southern Britain could not be used for reintroductions further north. This opens a possible new avenue for conservation of this declining species.

Broughton, R.K. et al. (2016) Morphology, geographical variation and the subspecies of Marsh Tit *Poecile palustris* in Britain and central Europe. *Bird Study*. doi: 10.1080/00063657.2015.1132187.

A CONTINENT-WIDE ANALYSIS OF ROBIN MIGRATORY BEHAVIOUR

Ring recoveries from the EURING Data Bank were used to investigate migratory behaviour of Robins. The study aimed to identify i) clusters of migrants with similar breeding and wintering ranges, ii) differences in the number of migrating individuals and migration distances between clusters, iii) the relationship between migratory behaviour and temperature in the breeding areas, iv) long-term changes in breeding and wintering grounds, and v) potential mechanisms to explain variation in individuals. Birds were assigned to two clusters: the NW cluster comprised Robins mainly from the UK and Belgium, whereas the NE cluster primarily consisted of individuals from Germany, Czech Republic and Poland. Birds from the NW cluster were partial migrants whilst birds from the NE population were almost completely migratory. Migration distances of the NE birds decreased through time due to a shift in the wintering grounds. When winter temperatures in the breeding areas were low, individuals from the NE cluster migrated longer distances, whereas those from the NW moved further. Climatic conditions therefore affect migratory behaviour of Robins.

Ambrosini, R. et al. (2016) Migratory connectivity and effects of winter temperatures on migratory behaviour of the European Robin *Erithacus rubecula*: a continent-wide analysis. *Journal of Animal Ecology*. doi: 10.1111/1365-2656.12497.

WATERFOWL CAPTURE METHODS – ASSESSING CASUALTIES

A study by the Wildfowl & Wetland Trust (WWT) looked at rates of mortality and injury in wildfowl (ducks, geese, swans, rails) related to five capture methods; swan pipes, duck decoys, cage traps, cannon netting and roundups. Data were collected at WWT nature reserves throughout Britain, primarily from catches carried out from October 2005 to December 2010, although swan pipe and cannon net captures up to December 2014 were assessed. Injuries were classified as superficial, e.g. toenail damage, moderate, e.g. wounds not requiring suture, or severe, e.g. wounds requiring suture, fractures and capture myopathy. 18,936 birds were captured and examined. Across all species 80 birds (0.42%) were injured, six of which were subsequently euthanised, and 14 birds died during capture (11 ducks and three swans). For all species, the majority of injuries and fatalities occurred during swan pipe or duck decoy captures. As birds are free to fly around the trap before being driven into holding areas, injuries and fatalities were attributed to collisions with the catching structure. There were no recorded injuries or fatalities from cannon nets or cage traps.

O'Brien, M.F. et al. (2016) Assessment of the rates of injury and mortality in waterfowl captured with five methods of capture and techniques for minimising risks. *Journal of Wildlife Diseases* 52, 86–95.

These six pieces of work use ringing and nest recording data to reveal the factors that influence our bird populations.



Marsh Tit, by Liz Cutting; Robin, by Ruth Walker; Wigeon, by John Proudlock



Durham river valley, by John Strowger

The river valley in Durham in which three Stonechat pairs bred. One pair provided John with two broods, although one of those nests took over four hours to find!

Chatting in Durham

The link between an evening out with friends and the BTO's aim to increase the diversity of its demographic data set for analysis might not be immediately apparent. However, the friends in question were John Strowger, John Callion and Stephen Westerberg and the link was their decision to target Stonechat in Durham during 2015. In this article John Strowger and John Callion explain how they got on (as told by John S).

John Callion has been studying Stonechat and Whinchat in Cumbria for over 20 years while Stephen, originally from Durham, is Site Manager for the RSPB Gelsdale Reserve in Cumbria and is also a Stonechat and Whinchat enthusiast. My experience of Stonechat was limited to field observations, mainly in the Durham uplands when following up my other target species, Ring Ouzel. A highlight for me would have been simply seeing a Stonechat in the uplands so the suggestion from John and Stephen that we should embark on a Stonechat study in Durham, similar to theirs in Cumbria, was met initially with scepticism on my part. However, with the promise of a team effort, and knowing their expertise and commitment to ringing and nest finding, I was convinced.

Few, if any, Stonechat pulli have been ringed in Durham since 2007 and there are no nest records for that period. So, quite a task lay ahead of me, with my limited personal experience of breeding Stonechat, no experience of

finding Stonechat nests (does experience of finding Ring Ouzel nests count?) and a population which is discontinuous and, to a large extent, unknown in its distribution. As John later said after experiencing Durham chatting himself, 'Stonechats in the Durham uplands are a high-tariff species'.

MENTORING

John and I visited some likely Durham sites in late March 2015. That time of year in the Durham uplands, east of the Pennines, is a little different from the climatic conditions on the comparatively mild Solway coast, John's home ground. We saw no Stonechat; however, John was constantly pointing out habitat features suitable for Stonechat and he talked me through the behaviour of adult Stonechat at the nest. I also visited John's study area and gained first-hand knowledge of Stonechat in breeding habitat. Stephen gave me all of the information and advice I needed for the colour ringing scheme operating in Cumbria.

What ambitions did we have for

our first season in Durham? Well, Stephen provided us with 40 colour-ringing combinations! I thought that was a bit ambitious as we hadn't found our first nest at that point. At best, I thought 20 colour-ringed pulli would be a magnificent achievement; indeed, finding some nests would be something special. As luck would have it, I had seen Stonechat in a stream valley with an abundance of bracken and heather the preceding winter, so where better to start! The rest, as they say, is history.

That site provided us with two pairs, each of which raised three broods. It was though, not quite that easy. I had located the nest of one pair in the upper valley, which was in dead bracken. John accompanied me on a subsequent visit and no sooner had we parked than John spotted a female Stonechat feeding on a grassy area close to the path. We quickly retreated behind the car and watched the female closely as she flew up onto the bank and disappeared into the heather, about 15 m away. John visually marked the spot and guided me to the nest, hidden under short heather and

not visible from above. I had walked past that area several times and had never seen or heard Stonechat! A lesson learned and a testament to John's skills.

RESULTS

In total, we found 14 nests, colour ringed forty eight pulli and ringed five with metal rings only. Ideally, pulli were ringed 7–8 days after hatching when the tarsus was sufficiently well developed to safely accommodate two rings on each leg. The results far exceeded our expectations! In addition, pairs with fledged broods were also found, the locations now on the list for an earlier visit in 2016. Use of a GPS, e.g. Garmin Etrex allows a return nest visit to be made with minimum disturbance in addition to accurately measuring the altitude and exact distance between successive nests of each pair.

The first clutch in the study area was started on or about 28 March and the last brood fledged on 18 August. Such a long breeding season is one of the benefits of studying Stonechat; they are the first of the upland birds to start laying and the last to finish. In addition, some are resident and others partial migrants, so potentially there is interest all year round. A study of this type is also likely to reveal something unexpected. In this case we

also located two Whinchat nests, the broods of both being ringed. Durham Bird Club records suggest that as few as 100 Whinchat pairs may now breed in the county and even that may be an optimistic claim. So, being able to provide the nest details of two pairs and prove they successfully reared chicks was both unexpected and very worthwhile.

LOOKING FORWARD

We intend to continue colour ringing pulli in future breeding seasons and to search for colour ringed birds in both winter and summer. Some Stonechat winter in the uplands if the weather is not too severe, others may migrate to the local coast or even further afield to southern Europe; as no birds have previously been colour ringed in Durham we do not know where our population winters. In addition, it will be with great anticipation that we check breeding adults for colour rings in 2016 to see if any of the pulli ringed in 2015 have occupied breeding territories locally. Indeed, there may be interchange between the Cumbrian and Durham study areas, across the Pennines. It is hoped that in some way our efforts in Durham will contribute to a greater understanding of population changes and the factors which influence them.

This agreed protocol was always followed:

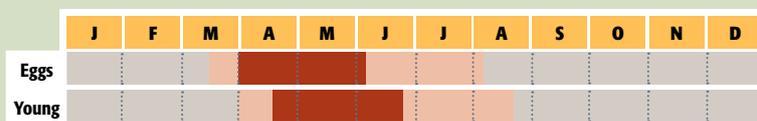
- Check equipment
- Rings, colour rings threaded onto plastic rods in the sequences required, colour combination sheet in plastic sleeve, three colour coded bird bags, pliers, circlips, note book and pencil.
- Place one bird bag close to the nest as a marker.
- Count the pulli into a bird bag.
- Retreat several metres before settling down to ring.
- One person rings while the other manages the rings, handing the correct ring, in an agreed sequence.
- Place ringed pulli into a third bag, count them in.
- Keep bag tops closed, as pulli can crawl and climb!
- Return pulli to nest, counting them in two at a time, head first into the nest if the pulli are large; both techniques help pulli to settle.
- Turn the bags inside out, to check no pulli have inadvertently been missed.
- Check equipment, count bags.
- Vacate nest site by a different route to that used on the approach .

STONECHAT: NEST RECORDING PROFILE

Resident. Open areas with scattered raised perches or other observation points. Solitary. **Site:** On ground, usually well concealed by gorse, grass tuft, heather, bracken, low brambles or young conifer, quite often on bank or slope, occasionally deeply hidden with entrance 'tunnel' up to 25 cm long through vegetation, and often adjacent to an exposed perch.

Nest: Loose cup of dry grass and moss, occasionally other pieces of local plant material or man-made fibres and wool, lined finer grasses, hair, wool, fur and feathers, the latter often incorporated into rim.

Broods: 2 (3). **Eggs:** 5–6 (2–7). **Incubation:** 13–14 days. **Hatching to fledging:** 13–14 days.



Males become agitated when the female leaves the nest and will escort her back after feeding.

Text adapted from BTO's Field Guide to Monitoring Nests. Stonechat, by Ruth Walker

Understanding fault bars

The presence of fault bars is commonly used by ringers to age birds, but while there are times when a fault bar is indicative of the bird being young, there are others when it may not be. In the first in a series of articles on moult, Stephen Menzie examines the use of fault bars as a tool for ageing birds.

Unlike British Great Tits, which moult all of their tail feathers during the post-juvenile moult, it's not unusual to catch birds in southern Sweden in late autumn that have left a number of tail feathers unmoulted. Note also that the retained juvenile feathers show apparently fewer bars than the moulted adult-type feathers; a similar pattern has been described in Wrens (Taylor 2012).

I still remember the first Cetti's Warbler I saw being ringed. It was sexed as a female and aged as a first-year (EURING 3) on account of, respectively, its size and the presence of a fault bar across the tail. It must have made quite an impression because I've thought a lot about that bird since; particularly, was that single feature enough for it to be aged correctly?

FAULT BAR OR GROWTH BAR?

Growth bars are alternating lighter and darker bands along the length of a feather, running perpendicular to the shaft. They are found in every feather, though they may be extremely subtle. The lighter and darker bands represent growth during night- and daytime respectively; thus, together, one

lighter and one darker band represents 24 hours of feather growth (Riddle 1908, Wood 1950). A practical application of these bars in Wrens is detailed by Taylor (2012).

If a bird suffers from a period of nutritional stress during development, the feather sections grown during that period will be deficient in barbules, the small 'hooks' integral to its structure. This results in a paler/more translucent area, obviously visible to the unaided eye, termed a fault bar (Newton 1968). A feather may show one or several fault bars of varying width depending on the number and duration of nutritionally stressed periods.

Fault bars can be present in any feather but are often most visible in the tail. The



The alternate lighter and darker bands, present on both the juvenile and the moulted adult-type tail feathers of this Great Tit, represent normal daily growth bars.



Photos by Stephen Menzie

Periods of extreme nutritional stress can prove lethal. Fault bars can become so extreme as to cause a weak point in the feather shaft. The juvenile primaries, secondaries and outermost tertial of this Blackcap have broken along the weak point caused by an extreme fault bar. Note that the post-juvenile moulted tertials and greater coverts are unaffected by the fault bar, as are the juvenile outermost primaries. This bird was still present at the same location some weeks later and it's highly unlikely that it was ever able to make the sea crossing to continue its migration.



A fault bar across the juvenile primaries and secondaries of a second-calendar-year Lesser Whitethroat. Note that the pre-breeding moulted tertials and innermost secondary are unaffected by the fault bar, having been grown during a different moult period.



A cautionary tail! This Lesser Whitethroat in spring has recently lost and subsequently simultaneously regrown the entire tail, which shows two aligned fault bars. The tail offers no clue to the bird's age.

Photos by Stephen Menzies

'fault bar allocation hypothesis' (Jovani & Blas 2004) suggests birds could have evolved mechanisms for avoiding a high fault-bar load on the most critical feathers; one in the tail is likely less detrimental to a bird than the one in the remiges. The tail is also large and visible, making them easier to spot.

Since they are formed during a feather's growth stage, it follows that any plumage growing during the same period of nutritional stress will be subject to the same formation process. A tract growing simultaneously, with all feathers at the same stage of growth, will thus show the same fault bar aligned at an equal distance from the tip of each one whereas when feathers are at different stages of growth the position of the fault bars within a feather tract will be staggered at differing distances from the tip.

The commonest scenario for simultaneous feather growth is a nestling acquiring its juvenile plumage. These fault bars can be rather extreme – chicks are subject to a high physiological stress as they grow their entire plumage simultaneously, as well as being at the mercy of the parents' abilities to provide continuous nourishment. However feather tracts can be lost at any point in a bird's life. Loss of the tail is encountered relatively frequently – it is the

first line of defence for a bird attacked from behind, and tails can easily become snagged on thorny branches. Loss of the entirety of other major feather tracts, on the other hand, is rarer and it seems highly unlikely that a small bird would lose all remiges at once on both wings, and inconceivable that it could subsequently survive long enough to regrow the lost feathers.

Thus, in European passerines at least, a fault bar aligned across the entire set of remiges on both wings must surely be the result of feathers grown in the nest, and the bird's remiges are therefore juvenile. The same may not be true of the tail, which is easily lost and regrown. Furthermore, a number of passerine species routinely replace all tail feathers simultaneously as part of their regular post-breeding moult (see introduction to Svensson 1992). An aligned fault bar across the tail is therefore not by itself conclusive evidence of a young bird; as with most characters, it's important to treat it as one (indicative) feature to be used in combination with as many other (ideally more reliable) criteria as possible. Ageing a bird purely on the presence of a fault bar across the tail – as was the case with that Cetti's Warbler all those years ago – is not advised.

REFERENCES

- Jovani, R. & Blas, J. (2004) Adaptive allocation of stress-induced deformities on bird feathers. *Journal of Evolutionary Biology* **17**: 294–301.
- Newton, I. (1968) The temperatures, weights, and body compositions of moulting Bullfinches. *Condor* **70**: 323–332.
- Riddle, O. (1908) The genesis of fault-bars in feathers and the cause of alternation of light and dark fundamental bars. *The Biological Bulletin* **14**: 328–370.
- Svensson, L. (1992) *Identification Guide to European Passerines*. 4th edn. Svensson, Stockholm.
- Taylor, R.C. (2012) Ageing Wrens *Troglodytes troglodytes* using the barring pattern across remiges. *Ringling & Migration* **27**: 106–108.
- Wood, H.B. (1950) Growth bars in feathers. *Auk* **67**: 486–491.



Adult male Wheatear, by Paddy Jenks

Male Wheatears can often be caught whilst the female is underground, as mate-guarding duties are temporarily suspended.

Working with Welsh Wheatears

Of all the passerine species breeding in Wales, Wheatear is a personal favourite of Paddy Jenks. They are often the first migrant to return to his local patch in the Preseli Hills, bringing with them the promise of a fine Welsh summer. Despite this promise usually being broken, the Wheatear's smart, but surprisingly cryptic plumage, their alertness and the scenic beauty of their rocky haunts all contribute to the enjoyment of studying these birds.

TRAPPING TIPS

It is best to watch traps from a suitable distance and extract birds as soon as they are caught. This reduces the chances of escape or other Wheatears spotting them; four spring traps per ringer or extractor is a manageable number. Wet weather should be avoided due to the effect of the wet netting on birds. Good catching days are warm days, especially those preceded by a couple of cool, wet days.

When Wheatear became listed as a target species for new RAS projects, I didn't need much persuading to give it a go. During 2011 and 2012 a few trial visits were made to a local population of c. 30 pairs and it was quickly discovered that the open habitat, wind and Wheatear's very sharp eyesight made them very difficult to catch in mist nets, so the use of spring traps was trialled. The best spring traps are those without a base that can be set with bait over short turf; spring traps with a mesh base are less effective due to some birds being nervous about hopping onto the mesh.

Traps worked better than mist-nets but it quickly became clear that once an individual was caught it became extremely wary of the traps, meaning that the chance of retrapping an individual was very low. The way forward was to catch adults in spring traps and colour-ring them so identification was not reliant on capture. So in 2013, a colour-ring scheme of two colours and an engraved, numbered ring was approved and away we went! With hindsight, the numbered ring is too small to be read in the field by telescope so a four-colour combination would have been better.

TEETHING PROBLEMS

Well, like all things that occur beyond the flat surface of an office desk, there turned out to be more to it than that! Although it was known that adults would become trap shy once caught, it was not predicted that they also become trap shy when they witness another individual being caught, especially if it was their mate. During the egg-laying and early incubation periods, males often mate-guard their female partners by following them about whenever they are off the nest, so opportunities to find lone birds can often be few and far between.

While females are on the nest, the males are often alone but they tend to sing and generally loaf around, spending little time feeding, so they are not that desperate to sample the trap bait. If the nest is full of hungry chicks then both adults are much more likely to be tempted by the bait and this is when many birds are caught. Very few adults are caught whilst feeding fledged young or during nest building. Regular recce visits from late April onward are very useful so that pairs can be targeted at the optimum nesting stage.

WEATHER WOES

In 2013, the first season for this RAS project, very cold weather in May meant that there were lots of nest failures, and those that were successful had small broods (e.g. brood sizes of one and two were frequent instead of the usual four to seven). The weather subsequently turned warm and dry and this left many individuals less attracted to the bait.

Once the young fledge, the adults seem to switch from feeding them soft prey to winged insects and again at this stage they tended to ignore the traps. Another problem was the bait itself; Wheatears are much more likely to spot and be tempted to eat something that wriggles, whereas standard mealworms usually just hang there limply or curl up in a ball. Wheatears were often seen feeding a few feet from the traps without taking any notice of it. Larger morio worms or wax worms, which keep moving even when it is cold, are more effective than mealworms in the cool hillside weather.

In 2014 the season was surprisingly early and about 50% of pairs had fledged young by the time of the first visit on 24 May. The problem of catching adults once

early broods have fledged is compounded by the presence of gullible, newly independent youngsters being easily caught and then attracting attention from nearby adults who become very suspicious of the traps. On one occasion a juvenile managed to summon an attendant crowd of seven other Wheatears within a minute of being caught.

RESULTS SO FAR...

All this resulted in lower catch sizes than hoped for; samples were 26 new birds in 2013, followed by 19 new birds + 11 resightings in 2014. However, not to be daunted by these minor teething problems, in 2015 the learning curve started to level out and a sample of 51 was achieved.

The chance of achieving a big enough sample is considerably increased with more visits and more people. We have now built up a team of up to six keen observers and not only has the project become a success but the banter is relentless, and even blank sessions have become a good laugh. The world land speed record was recently broken when a Red-backed Shrike made a guest appearance in one of the spring traps – if only Wheatears were so catchable!

RAS

Paddy's project is one of three active Wheatear RAS projects. The national trend is generated from one current project and one historical project. Paddy's RAS has not been running long enough to contribute to the national trend yet, but should do so in another couple of years. The full suite of national RAS trends can be viewed at: www.bto.org/ras-results



Perfect Wheatear habitat – Carn Breseb in the Preseli Hills, Wales.

Carn Breseb habitat, by Paddy Jenks

Treecreeper box update

In *NRS News 30* (May 2014), nest recorder Dave Francis shared a new Treecreeper box design that he had developed and used at Pitsford Water Nature Reserve with considerable success; six boxes had been erected in 2011 with one occupied that year, two occupied in 2012 and three in 2013. As well as sharing Dave's box design, we appealed for nest recorders and ringers to share their findings with us if they planned to give the design a go. In this article, Carl Barimore reports on the results so far.

We were very grateful to hear back from 16 people who had trialled Dave's design. Of the 121 boxes available in 2015, just one was used by Treecreepers, with another six being used by Blue Tits. Nest recorder Gary Moore, who monitored the occupied box, reports that on 5 May he found a nest with three eggs, but that this nesting attempt progressed no further and another was started in the same box, fledging six young. Chris du Feu, author of the BTO's Nest Box Guide, comments that the take-up rate is comparable to that of the conventional 'wedge' boxes erected at his study site at Treswell Wood, where only one box has been used once out of a total of 101 available 'box-years' since 1979. Chris further remarks:

'It could be that Dave's initial success resulted from particular circumstances relating to the natural sites available and the individual birds there. Of interest is that the only box used in 2015 was one of 15 boxes in mixed woodland habits – the others were in broad-leaved woodland (except for three in gardens). By chance, in 2015 I was told of several bat boxes of an experimental design that had been used by Treecreepers in Chambers Wood, Lincolnshire. Boxes had been erected in several parts of the wood, but those occupied by Treecreepers were all in conifer plantations. Treecreeper territories are very large for such a

small bird, so in most habitats natural nest sites are not difficult for them to find. I suspect that the main factor in Treecreepers selecting boxes of any design is lack of natural sites. Thus, managed conifer plantations, with their lack of old trees with peeling bark, are the places where nestboxes are most likely to be used.'

Dave himself reports that in 2015: 'None of my boxes were used this year and after a bit of thought the penny dropped! None of my boxes have been used more than once. None of the other artificial sites used at Pitsford (behind stacked fence panels, behind hide notice boards etc.) were used more than once either. I wonder if Treecreepers will not reuse a nest site? Considering the 'natural' site, a bit of peeling bark that has a short life, this might be a useful acquired habit for the species!'

Nest recorder Colin Lythgoe has trialled a slightly modified design for the past three seasons with more success: 'Watching natural nests I considered that Treecreepers like to

walk up the tree bark and directly into the nest cavity, so I developed my own simple design to mimic that. I have provided three such boxes for the past three years and two have been used in each of the years. I believe Treecreepers do not like to climb off the trunk and over an obstacle to get into the nest cavity, which is possibly why the original wedge design was never successful. I believe that the Dave Francis design could be altered by repositioning the small wooden insert, used to reduce the width of the entrance slot, to the hinged inspection hatch instead of the back of the box. This would give the birds a 19-mm obstacle to climb over rather than the 38-mm obstacle in the current design.'

Many thanks to all those who have tried the box design and reported back to us so far; the challenge continues!

More information on Dave's design can be found on the NRS website: www.bto.org/volunteer-surveys/nrs/about/treecreeper



It was mostly Blue Tits that took up residence in Dave's design of box.



Treecreeper, by John Harding

Treecreeper nest box, by Trevor Fletcher

Noticeboard

ADVERTS

RINGING OPPORTUNITY IN PORTUGAL

Experienced ringers are needed to ring in the autumn migration period with A Rocha in the Algarve. 'A' or 'C' ringers are welcome from 1 September until 15 November 2016 to ring mainly migrating passerines as well as resident species. Trainees may come if accompanied by an 'A' permit holder.

Ringers are responsible for their own travel costs and are asked to pay a reasonable charge for accommodation and full board at A Rocha Field Study Centre (www.arocha.pt/en/centre/accommodation/). The amount will depend on dates and duration of stay and whether dormitory, double or twin rooms are required. For more information contact Marcial Felgueiras. Email: portugal@arocha.org

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

LARGE SPRING TRAPS

One metre square. £80 each + £8 p&cp to most UK postcodes, or free p&cp 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.

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

2016 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 the beginners' ringing courses, along with details of the 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

6–8 May: NRS Training Course, Thetford, **Norfolk** – FULLY BOOKED

27–29 May: NRS Training Course, Horsham, **West Sussex** – FULLY BOOKED

17–19 June: **Isle of Wight** RG Ringing Course – 'T' permit holders only / Contact: Anthony Roberts

15–17 July: North West **Norfolk** Ringing Course / Contact: Aron Sapsford

27–31 July: Icklesham Ringing Course, **Sussex** / Contact: Jez Blackburn

28–30 July: Chew Valley RS Ringing Course, **Avon** / Contact: Mike Bailey

12–14 August: Ringing Course for Beginners*, **Devon** / Field Studies Council, Slapton Ley. 01548 580466 or enquiries.sl@field-studies-council.org

2–4 September: Ringing Course for Beginners*, **Suffolk** / Field Studies Council, Flatford Mill. 01206 297110 or enquiries.fm@field-studies-council.org

9–12 September: Gower Ringing Course, **Swansea** / Contact: Kelvin Jones

15–18 September: **Isle of Wight** RG Ringing Course – for all ringers (including experienced trainees) / Contact: Anthony Roberts

28 September–2 October: Icklesham Ringing Course, **Sussex** - CANCELLED

* Note: this course is for absolute beginners and is not suitable for current trainees.

CONFERENCES

18–20 November: Scottish Ringers' Conference, Carrbridge, Inverness-shire

2–4 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: Kestrel

The Kestrel, so frequently seen hunting along motorway verges, is perhaps the most recognisable of British raptors. But this amber-listed species is in decline; find out how you can help monitor this enigmatic species.



Kestrel, by Paul Hillion

CURRENT KNOWLEDGE

Kestrel populations had recovered from the effects of organochlorine pesticides by the mid-1970s, only to enter another period of decline, possibly linked to a reduction in prey availability and changes in first-year and adult survival rates. This decline has not been uniform across Britain; BBS data indicate a 67% drop in abundance in Scotland since the mid-1990s, but a lesser, albeit still worrying, fall of 27% in England. The number of fledglings produced per breeding attempt increased until 1990 but has decreased in more recent years, which may have contributed to the decline, but more information, particularly about survival rates, is urgently needed.

HOW YOU CAN HELP

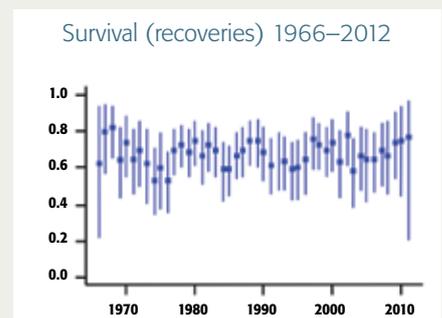
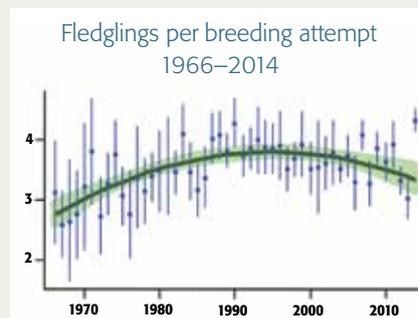
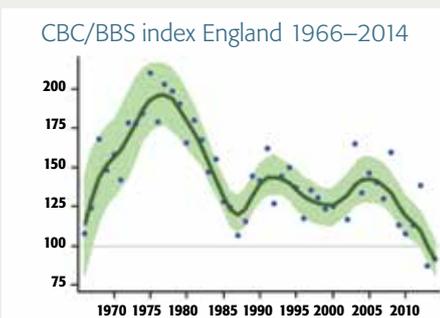
Erect boxes – Kestrels readily take to large open-fronted nest boxes located

where birds will have a clear flight path into the box. They will occupy boxes placed at 2.5 m, but those positioned higher offer a better vantage point. For highest occupancy rate, face the box to the southeast. Between 350 and 500 records are submitted to NRS from England each year, but a few recorders do submit the majority and broader coverage would be extremely useful; fewer than 20 records are received from Scotland or from Wales per annum, so more would be welcome.

Ringling pulli – In 2014, a fantastic year for birds of prey, almost 600 nest records were received and nearly 3,500 pulli were ringed, the highest single year total. Pullus ringing is particularly useful for Kestrel as, in recent years, a sufficient number of recoveries have been reported to generate survival rate

estimates, which can then be attributed to a known breeding population. It also allows tracking of post-fledging dispersal, which can play an important role in determining population trajectories at a regional scale.

Re-encounter adults during the breeding season – The number of recoveries reported by the public is continuing to decline, so we need to find other methods of monitoring survival. Catching adult Kestrels at the nest is very difficult but this is not an obstacle when PIT tagging pulli and detecting those that survive as breeding adults at boxes. Moving the receiver, the expensive bit of kit, between boxes throughout the season will help to reduce the cost involved.



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