MERSEYSIDE
RINGING
GROUP

Annual Report
2013

MERSEYSIDE RINGING GROUP

Registered Charity No 700044

www.merseysiderg.org.uk

Report Editor: Peter Coffey

Cover: Hobby chicks ringed on 9 August 2013 by Steve Binney at a nest in Cheshire (with the appropriate Schedule 1 Licence). They are the first Hobby chicks ringed by Merseyside Ringing Group. (Photo: S Binney)

Acknowledgements

Merseyside Ringing Group receives vital co-operation from many landowners, farmers and gamekeepers in Merseyside, Cheshire and north Wales. They permit group members to work on their property and without their generous help, much of the work of the group would be impossible. The Group also receives considerable support from local authority countryside and ranger teams, local Wildlife Trusts and private individuals. Thank you all for your support.

Maps showing the distribution of controls and recoveries have been produced using DMAP.

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Editor's note

This year's report contains a wide range of subjects including a detailed account of our 200th species, a long-term study of Sand Martins evaluating the drivers for population change, the continued monitoring of Common Terns in the Dee estuary and at Shotton, and an account of the irruption of one of our common species.

The point of ringing is to study wild birds in their natural state, the vast majority of which are fit and healthy. Occasionally we come across a diseased bird and we can contribute to national projects and scientific knowledge by reporting them. One article investigates the incidence of avian pox; a second investigates Knemidocoptic mange and Fringilla papilloma virus affecting Chaffinches.

RECORDS SECRETARY'S REPORT

Bob Harris

It only took 59 years and c767,000 new bird captures for MRG to acquire another record. On the 17 November 2013 the group added its 200th species to its list of birds caught in the form of a **Coues' Arctic Redpoll *Carduelis hornemanni exilipes***. Although not fully realised at the time with bird in hand, sufficient photographic record and biometric data was taken to have the identity confirmed a couple of days later. The event is reported in full on pages 27-32.

There was an influx of this species nationally and many places recorded definitive sightings; indeed birds were still being reported nationally into March 2014, with sightings for Cheshire concentrated around Macclesfield.

Following the unseasonably warm spring weather in 2012 - which resulted in an advanced breeding season - 2013 suffered the converse. March temperatures were 3.3 °C below average with mean spring temperatures 1.7 °C below the long-term mean. For much of the month temperatures hovered around only 6.0 °C. Persistent easterly and north-easterly winds served to keep temperatures below average right into June. As such the breeding season was delayed; late April checking of nest-boxes in Wales was undertaken walking through snow.

Early-nesting species like Blackbird, Song Thrush, Robin, Dunnock and Dipper, all laid 8-12 days later than the five-year average first egg dates; for both of the thrushes dates were the latest since NRS trends began in 1966. Blue and Great Tit both delayed egg production by c12 days and Pied Flycatcher, on average, seven days. For some species, mean first egg dates in 2013 were comparable with those exhibited in the 1960s. As a consequence clutches tended to be smaller and fledging rates reduced with caterpillar specialists particularly affected.

The year was a particularly terrible year for Barn Owls – the record 584 ringed in 2007 a much distant memory. At the end of the season Cheshire site occupancy rates were down 83% compared to 2012 with only 52 pulli and 30 adults ringed by the group. How so? There is an expected winter mortality of Barn Owls but in March, as temperatures rise and small mammal activity increases, the rate of death decreases. This year March temperatures remained low, eventually recording the lowest March temperatures since 1962. Reported death rates to the BTO at this time were 280% above expected. Many of the survivors did not attempt to breed, abandoned eggs, or started much later than normal.

In contrast to the challenging conditions experienced during the spring, summer temperatures were well above the mean and rainfall totals were well below it.

Often ringing totals from the group reflect 'effort' rather than indicating national trends of increases or declines. Exceptions prove the rule and our Barn Owl numbers, even with (probably) more effort, reflect the national decline. Also our increase in Hobby ringed reflects a national increase in breeding – to which our three pulli added.

For species making a small but welcome return to annual totals we have Ring Ouzel, the first since 1996, Yellow Wagtail, since 2001 and Sanderling, since 2002. For Marsh Harrier five ringed this year doubles the Group's totals for this bird, while the three Hobby ringed increases their total by 150%. By comparison the one Tufted Duck caught and ringed doesn't seem that important - but it still added 50% to the numbers caught for this duck. Increased effort or fortuitous luck increased counts for both House Martin and Meadow Pipit. For the former only thirteen were caught last year compared to 210 this year, all but one at Hapsford, and for the latter the figures were 32 and 177 with all but two captures made at either Woolston Eyes or Oxmoor Wood – sites less than 11km apart. Spotted Flycatcher had a good year with 17 ringed from four broods ringed in Wales. Only one bird was ringed last year.

This striking male Ring Ouzel dropped into David Norman's back garden on 9 April 2013 and stayed for four and half days. (Photos: David Norman)

Species reaching ringing total thresholds this year were Treecreeper over 2000, Meadow Pipit over 2500, Goldcrest 8000 and Robin at 15,000. At the other end of the scale Blackbird breached 30,000, Great Tit 45,000 and Blue Tit 85,000.

There were no major surprises within the Top Ten species ringed. The top three remained exactly the same, Blackbird dropped off the list and Siskin came in at number four. The rest of the places were fought by the usual species with just their rank order changing. Their contribution to the full ringing totals was slightly up, making up 60% of all birds caught. Put another way, it means the other 40% of the ringing total was made up of 81 species.

The year proved to be very good for controls and recoveries – particularly of Siskin and Lesser Redpoll for which forty records of the former and twenty of the latter are presented. In all 161 records from 36 species are reported. In brief seventeen MRG-ringed birds were recorded from recoveries in seven European countries, with additional records from Morocco and Mauritania, and eight birds from abroad (Sweden, Finland, Portugal, France and Norway) were recorded or controlled here.

Besides the interesting information pertaining to distances covered there are other snippets of interest from this year's birds. Little Tern NV38314 becomes the new BTO-ringed longevity record for this species (18y 11m 3d), NOS 5H64798 is the Group's first Norwegian-ringed Siskin and Woodpigeon FP41687 the Group's first foreign recovery for this species.

GRAND TOTALS 2013

Species	Adult	Pullus	Total
91	15501	2959	18460

GRAND TOTALS SINCE 1954

Species	*Total*
200	767008

NEW SPECIES IN 2013

Coues' Arctic Redpoll

TOP TEN SPECIES RINGED IN 2013

Species	Number ringed	% of yearly total
Blue Tit	2804	15.2
Great Tit	1642	8.9
Greenfinch	1155	6.3
Siskin	1068	5.8
Swallow	810	4.4
Reed Warbler	797	4.3
Chiffchaff	779	4.2
Blackcap	684	3.7
Goldfinch	668	3.6
Chaffinch	664	3.6
Totals	**11071**	**60.0**

Ringing Totals 2013

Nomenclature based on BTO Ringing reports

Species	Adult	Pullus	Total	Total since 1954
Mute Swan				762
Whooper Swan				1
Greylag Goose				1
Canada Goose	2		2	164
Shelduck				75
Mandarin Duck				10
Gadwall				7
Teal				1627
Mallard				1182
Pintail				40
Garganey				6
Shoveler				8
Tufted Duck	1		1	3
Red-legged Partridge				1
Grey Partridge				13
Common Pheasant				1
Fulmar				2
Manx Shearwater				1
Storm Petrel				21
Cormorant				228
Shag				109
Grey Heron				1693
Little Grebe				17
Great Crested Grebe				3
Marsh Harrier		5	5	10
Hen Harrier				1
Goshawk				3
Sparrowhawk	14	10	24	1537
Buzzard		17	17	243
Rough-legged Buzzard				1
Kestrel	3	41	44	1452
Merlin				12
Hobby		3	3	5
Peregrine		3	3	78
Quail				1
Water Rail				156
Spotted Crake				4
Corncrake				1
Moorhen	14		14	952
Coot				64
Oystercatcher	3		3	2687
Avocet				6
Little Ringed Plover				175
Ringed Plover	1	5	6	1313
Golden Plover				186
Grey Plover				31
Lapwing	1	22	23	2880
Knot	130		130	5490

Species	Adult	Pullus	Total	Total since 1954
Sanderling	7		7	3974
Little Stint				111
Pectoral Sandpiper				4
Curlew Sandpiper				44
Purple Sandpiper				1
Dunlin	96		96	22618
Buff-breasted Sandpiper				1
Ruff				77
Jack Snipe				108
Snipe	1		1	636
Woodcock				11
Black-tailed Godwit				19
Bar-tailed Godwit				193
Whimbrel				6
Curlew				351
Common Sandpiper	1		1	127
Green Sandpiper				9
Spotted Redshank				1
Greenshank				13
Wood Sandpiper				7
Redshank	5		5	4128
Turnstone	2		2	1127
Kittiwake				276
Black-headed Gull				6179
Little Gull				1
Common Gull				79
Lesser Black-backed Gull				1619
Herring Gull				5911
Yellow-legged Gull				2
Iceland Gull				1
Great Black-backed Gull				287
Little Tern		55	55	1130
Black Tern				3
Sandwich Tern				37
Common Tern		2	2	17474
Roseate Tern				1376
Arctic Tern				1583
Guillemot				242
Razorbill				57
Puffin				42
Stock Dove	8	25	33	376
Woodpigeon	37	104	141	2996
Collared Dove	16	4	20	977
Turtle Dove				13
Cuckoo				37
Barn Owl	30	52	82	3094
Little Owl	1	10	11	215
Tawny Owl	2	9	11	418
Long-eared Owl				53
Short-eared Owl				8
Nightjar				5
Swift	11		11	7757
Kingfisher	12		12	251

Species	Adult	Pullus	Total	Total since 1954
Hoopoe				1
Green Woodpecker				44
Great Spotted Woodpecker	67		67	1252
Lesser Spotted Woodpecker				21
Woodchat Shrike				1
Magpie	27		27	1152
Jay	41	1	42	929
Jackdaw	17	28	45	414
Rook	1		1	614
Carrion Crow		8	8	435
Raven				31
Goldcrest	419	1	420	8025
Firecrest	1		1	84
Blue Tit	1958	846	2804	85721
Great Tit	1008	634	1642	45919
Coal Tit	195		195	6610
Willow Tit	40	1	41	1386
Marsh Tit				174
Bearded Tit				42
Woodlark				1
Skylark				831
Shore /Horned Lark				1
Sand Martin	32		32	18925
Swallow	561	249	810	77193
House Martin	210		210	2941
Cetti’s Warbler	4		4	35
Long-tailed Tit	478	7	485	11939
Arctic Warbler				1
Pallas’s Leaf Warbler				2
Yellow-browed Warbler				7
Bonelli’s Warbler				1
Wood Warbler				460
Chiffchaff	778	1	779	11056
Willow Warbler	380		380	18360
Blackcap	684		684	14342
Garden Warbler	67		67	1485
Barred Warbler				1
Lesser Whitethroat	4		4	708
Whitethroat	302	7	309	8665
Grasshopper Warbler	4		4	573
Icterine Warbler				1
Aquatic Warbler				3
Sedge Warbler	258	2	260	13630
Blyth’s Reed Warbler				1
Marsh Warbler				5
Reed Warbler	786	11	797	18437
Waxwing	33		33	86
Nuthatch	42	26	68	2027
Treecreeper	35		35	1106
Wren	354	2	356	12319
Starling	142		142	17663
Dipper	1	6	7	518
Ring Ouzel	1		1	54

Species	Adult	Pullus	Total	Total since 1954
Blackbird	347	55	402	30368
Fieldfare	1		1	1522
Song Thrush	77	6	83	6854
Redwing	117		117	5833
Mistle Thrush	2	5	7	867
Spotted Flycatcher	4	13	17	571
Robin	498	37	535	15321
Nightingale				2
Bluethroat				3
Red-breasted Flycatcher				2
Pied Flycatcher	77	449	526	23147
Black Redstart				1
Redstart	7	67	74	1298
Whinchat				1695
Stonechat				293
Wheatear				1696
Dunnock	354	8	362	13333
House Sparrow	83	41	124	3422
Tree Sparrow	8	43	51	6235
Yellow Wagtail		4	4	1881
Grey Wagtail	3	5	8	958
Pied/White Wagtail		11	11	2563
Tree Pipit				121
Meadow Pipit	177		177	2577
Rock Pipit				116
Water Pipit				1
Chaffinch	651	13	664	27932
Brambling	115		115	7803
Greenfinch	1150	5	1155	49879
Serin				1
Goldfinch	668		668	11520
Siskin	1068		1068	9412
Linnet	2		2	11933
Twite				86
Lesser Redpoll	295		295	1805
Common Redpoll	4		4	6
Redpoll sp.	4		4	3410
Arctic Redpoll	1		1	1
Common Crossbill				36
Bullfinch	229		229	5829
Hawfinch				1
Snow Bunting				37
Yellowhammer	1		1	1257
Little Bunting				1
Reed Bunting	230		230	19515
Corn Bunting				304
Totals	**15501**	**2959**	**18460**	**767008**

SELECTED CONTROLS AND RECOVERIES 2013

Peter Coffey

2013 proved to be a bumper year for controls and recoveries – a selection of 161 records from 36 species is shown below. Seventeen MRG-ringed birds were recorded from nine foreign countries: one each from Mauritania, Norway and Spain; two each from Denmark, Eire, Germany and The Netherlands; and three each from France and Morocco. Eight foreign-ringed birds (one each from Sweden, Finland, and Portugal, three from France and two from Norway) were recorded or controlled here. Four old records notified to the Group in the last twelve months have been included: a Black-headed Gull record dating back to 1995, a Goldfinch recovered in Eire in 2011, a Little Tern controlled in Spain in 2012 and a Grey Heron found dead locally in 2012.

The symbols and conventions used are given below:
Sex: M = Male F = Female

Age when ringed (Euring Code):

1	Pullus (nestling or chick)
2	Fully grown – year of hatching unknown
3	Definitely hatched during the calendar year of ringing
3J	Definitely hatched during the calendar year of ringing and still completely or partially in juvenile body plumage
4	Hatched before current calendar year – exact year unknown
5	Definitely hatched during the previous calendar year
6	Hatched before last calendar year – exact year unknown
7	Definitely hatched two years before year of ringing
8	Hatched more than two calendar years before year of ringing

Condition at recovery:

X	found dead
XF	found freshly dead or dying
XL	found dead – not recent
+	shot or intentionally killed by man
+F	shot or intentionally killed by man – fresh
SR	sick or injured – released with ring
V	alive and probably healthy, caught and released but not by a ringer
VV	alive and probably healthy, ring or colour marks read in the field but not by ringer
R	caught and released by ringer
B	caught and released by ringer – nesting
RR	alive and probably healthy, ring or colour marks read in the field by ringer
//	condition on finding totally unknown
©	bird caught at breeding colony
®	bird caught at roost

Abbreviations used for foreign ringing schemes:

FRP	France, Paris	NOS	Norway, Stavanger	POL	Portugal, Lisbon
SFH	Finland, Helsinki	SVS	Sweden, Stockholm		

Mute Swan

W35531	5M	03.04.2013	Cheswardine Hall, Market Drayton, Shropshire
	RR	24.10.2013	Marbury Country Park, Marston, Cheshire 45km 352°

ZZ5356	3	03.12.2011	Taylor Park, near Toll Bar, Merseyside	
	X	12.09.2013	Cavendish Dock, Barrow-in-F's, Cumbria	80km 339°

Grey Heron

1287312	1(4/4)	09.04.2000	Keckwick, Runcorn, Cheshire	
	XF	20.09.2012	Sankey Valley CP, St Helens, Merseyside	14km 351°
1284496	1(3/4)	04.05.1995	Keckwick, Runcorn, Cheshire	
	XF	29.03.2013	Glossop, Derbyshire	48km 77°

Two long-lived birds: 1284496 survived 17 years 10 months and 25 days, still a long way short of the BTO longevity record of 23 years 9 months and 2 days.

Buzzard

MA17098	1(2/2)	27.06.2012	Waverton, Cheshire	
(blue 14)	VV	25.06.2013	Elton, near Matlock, Derbyshire	76km 93°

Kestrel

EX51158	1(3/3)	04.06.2012	Halewood, Merseyside	
	XF	01.02.2013	Foxhole Farm, Kinsham, Worcestershire	157km 162°

Oystercatcher

FV08988	6	02.03.1980	Point of Ayr, Flintshire	
	XF	18.05.2013	Quendale, Shetland	738km 10°

MRG doesn't catch many waders these days but the old birds still keep providing interesting recoveries. FV08988 was ringed as an adult and survived for 33 years 2 months and 16 days after ringing, an MRG longevity record. (The BTO-ringed longevity record is 40y 1m 2d)

Knot

SV24622	5	21.02.2004	Heysham, near Lancaster, Lancashire	
	R	13.01.2013	Hoylake, Wirral, Merseyside	75km 195°

This bird was caught as part of an epic cannon-net catch of 1996 Knot at Heysham at which a strong contingent from MRG were present. Check www.merseysiderg.org.uk "The bird in the hand" section for a detailed account of this day at Heysham.

Dunlin

SVS	3	06.08.2005	Ottenby, 56°12'N 16°24'E Öland, SWEDEN	
3524052	R	03.12.2013	Hoylake, Wirral, Merseyside	1294km 256°

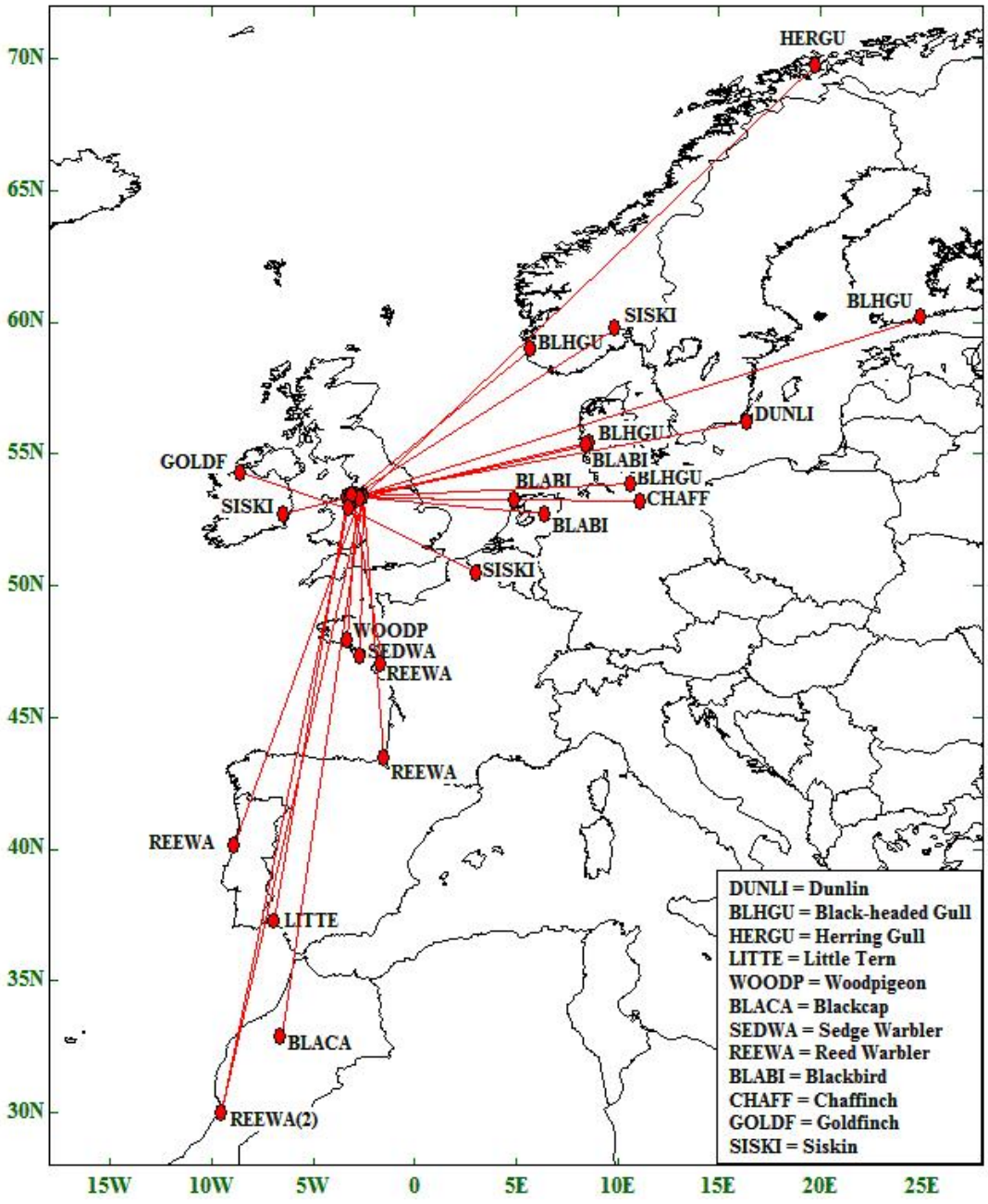
Black-headed Gull

SFH	4	16.04.1993	Helsinki, 60°11'N 24°59'E Uusimaa, FINLAND	
ST158873	XF	03.09.1995	Heswall, Wirral, Merseyside	1868km 246°

A record only received by the Group in 2013.

ES29520	7	27.01.1996	Moss Side Farm, Risley, Warrington	
	VV	17.03.2013	Wakenitz, Lubeck, 53°52'N 10°42'E Schleswig-Holstein, GERMANY	872km 87°
ES29883	6	09.11.1996	Moss Side Farm, Risley, Warrington, Cheshire	
	XF (M)	16.05.2013	Sneum Engso, Esbjerg 55°26'N 8°36'E Ribe, DENMARK	752km 73°
NOS 6227790	8M	10.07.2012	Breiavatnet, Stavanger, 58°58'N 5°44'E Rogaland, NORWAY	
	RR	17.09.2013	West Kirby Marine Lake, Merseyside	
	RR	18.10.2013	Ashton Park, West Kirby, Merseyside	831km 222°

Foreign controls/recoveries 2013



This map does not show the Common Tern to Mauritania

Herring Gull

GF03559	5	08.02.1992	Rixton, Warrington (21y 8m 14d)	
	XF	22.10.2013	Norwegian Sea, near Tromsø, 69°45'N 19°45'E	
			Troms, NORWAY	2147km 33°

This bird died after being caught in a fishing net.

Lesser Black-backed Gull

FA60823	10	09.11.1996	Moss Side Farm, Risley, Warrington	
	X	30.12.2013	Silverdale Country Park, Staffordshire	49km 162°

Little Tern

NW11108	1 (2/2)	30.06.2010	near Gronant, Denbighshire	
	R	18.08.2012	Parque National Marismas del Odiel,	
			37°16'N 6°55'W Huelva, SPAIN	1808km 189°

NV38314	1	26.06.1994	near Gronant, Denbighshire (18y 11m 3d)	
	XF	29.05.2013	Gronant, Denbighshire	2km 270°

NV38314 becomes the new BTO-ringed longevity record-holder, replacing one at 17y 9m 28d, although there is a German-ringed bird at 23y 11m and a Danish-ringed one at 23y 3m.

Common Tern

SV82048	1	01.07.2001	Shotton Steel Works, Flintshire	
	X	21.11.2013	Zira, Iwik, 19°52'N 16°18'W	
			Banc d'Arguin, MAURITANIA	3879km 198°
SV40872	1	01.08.1999	Shotton Steel Works, Flintshire	
	VV	30.08.1999	Seaforth, Merseyside	23km 0°
	VV	29.06.2013	Preston Dock, Preston, Lancashire	63km 19°
SR42710	1	25.06.2006	Shotton Steel Works, Flintshire	
	VV	13.07.2009	Seaforth, Merseyside	23km 0°
	VV	21.07.2013	Preston Dock, Preston, Lancashire	63km 19°
SR42844	1	25.06.2006	Shotton Steel Works, Flintshire	
	VV	15.07.2013	Preston Dock, Preston, Lancashire	63km 19°
SR65103	1	08.07.2007	Shotton Steel Works, Flintshire	
	VV	23.07.2009	Seaforth, Merseyside	23km 0°
	VV	21.07.2013	Preston Dock, Preston, Lancashire	63km 19°
SR65786	1	13.07.2008	Shotton Steel Works, Flintshire	
	VV	21.07.2013	Preston Dock, Preston, Lancashire	63km 19°

Stock Dove

EY00015	1 (2/2)	03.07.2013	Budworth Mere, Cheshire	
	XF	18.08.2013	Wigan, Greater Manchester	31km 346°

(Taken by an owl or raptor)

Woodpigeon

FP41803	4	09.02.2008	No.1 bed Woolston Eyes, Warrington	
	X	17.08.2013	Goyt Hall Farm, Romiley, G Manchester	30km 87°
FH57160	1 (1/1)	31.08.2012	Sefton Park, Liverpool, Merseyside	
	XF	17.04.2013	Rotherham, South Yorkshire	107km 88°
FP41687	1 (2/2)	08.05.2009	Childwall, Liverpool, Merseyside	
	+F	30.01.2013	Plouay, 47°54'N 3°20'W	
			Morbihan, FRANCE	612km 183°

These recoveries demonstrate the dispersal of Woodpigeons. Paul Slater's study (Initial findings from recoveries of Woodpigeons ringed as nestlings in suburban Liverpool: MRG Annual Report 2011 pp 36-44) showed that less than 6% of birds moved more than 100km so two examples in 2013 are a welcome surprise. FP41687 is the Group's first foreign recovery for this species.

Barn Owl

GN58515	1 (1/1)	13.07.2004	Pickmere, Cheshire	
	R=M	07.08.2013	Hall Lane, near Comberbach, Cheshire	7km 270°
GC53657	1 (3/3)	01.07.2007	Near Malltraeth, Anglesey (±10km)	
	R (=F)	19.09.2013	near Whitley Reeds, Cheshire	127km 83°

This bird was also caught on 30.10.2013.

GR25755	1M(4/4)	04.06.2012	Bridgehouse Farm, Cheshire	
	XF	20.05.2013	Broughton, Flintshire	44km 278°

GR25670	4F	04.06.2012	Bank Farm, Tilston, Cheshire	
	XF	23.04.2013	Lushcott, Easthopewood, Shropshire	57km 171°

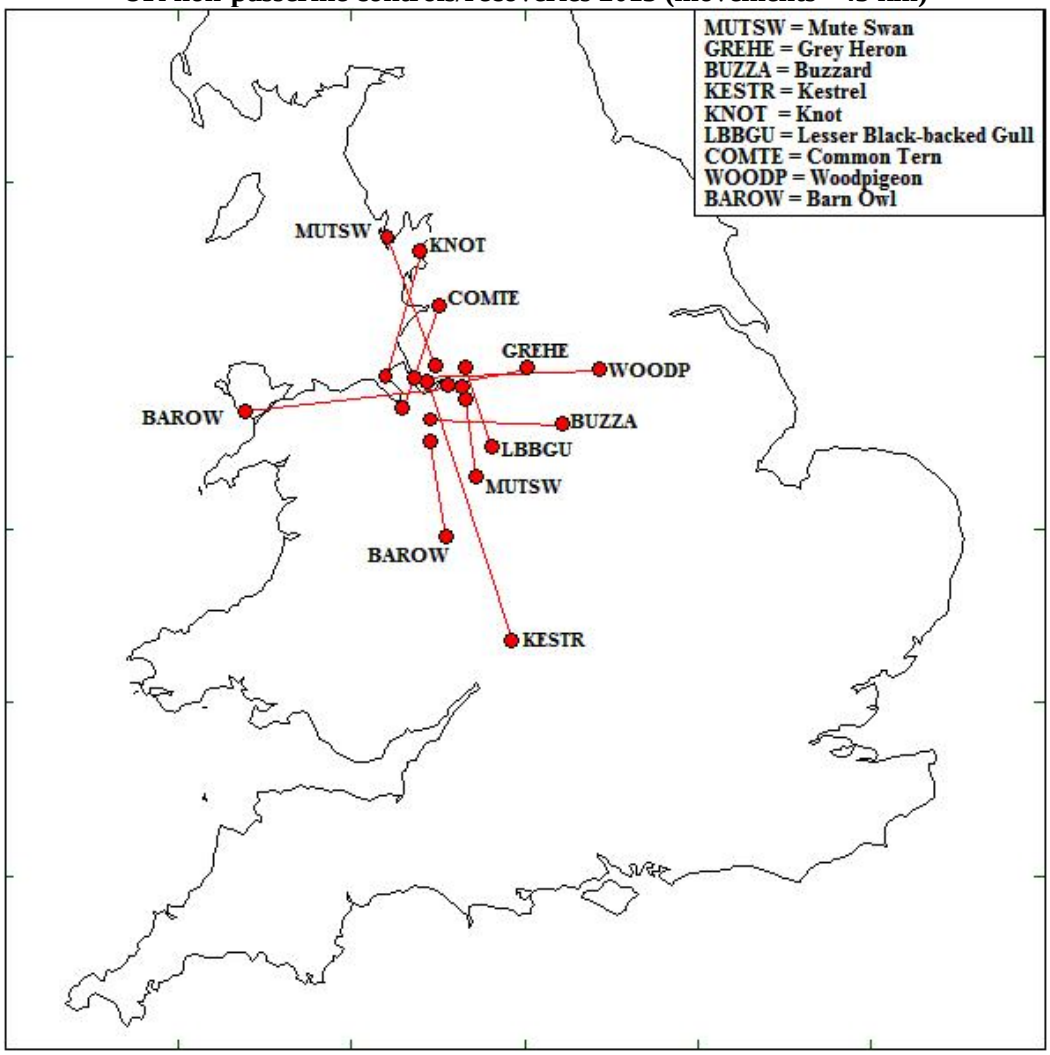
Long-distance movements of adult Barn Owls have to be treated with suspicion. This female's weight at the time of ringing, 430g, suggested she was ready to lay but on 12.06.2012 she and her mate (GC78876) moved 550m to a new box. No brood was found on later inspection and neither bird has been seen alive again. She probably involuntarily hitched a lift to Shropshire on the grille of a lorry!

GR54535	1M(1/1)	03.07.2012	Pinfold Stables, Cheshire	
	XF	12.04.2013	Kingswood, Trentham, Staffordshire	38km 170°

GR54676	1M(3/3)	22.08.2012	Rookery Farm, Manley, Cheshire	
	XF	02.07.2013	Brook Farm, Rixton, Warrington	27km 46°

A total of 38 controls/recoveries/retraps of Barn Owl were received in 2013; twenty-five (66%) related to birds that had died/been killed, ten to retrapped/controlled birds and three to sick birds later released.

UK non-passerine controls/recoveries 2013 (movements >45 km)



This map does not show the Oystercatcher to Shetland.

Tawny Owl

GC27736	6	23.06.2007	Lower Moss Wood, near Over Peover, Cheshire	
	XF	08.04.2013	Ollerton, Knutsford, Cheshire	0km

Jay

DE51527	4	31.08.2013	No.3 Bed Woolston Eyes, Warrington	
	+F	21.12.2013	Nr Hatton, Warrington	8km 225°

Recoveries of Jays are not common; sadly this bird was shot only 8km from where it was ringed.

Swallow

D555182	1(3/3)	26.06.2013	Kirkby Overblow, nr Harrogate, N Yorks	
	R	09.08.2013	No.3 bed Woolston Eyes, Warrington®	91km 228°
D026202	3J	31.07.2013	No.1 bed Woolston Eyes, Warrington® (1 day)	
	R	01.08.2013	Fleetwood Marsh, Lancashire ®	68km 332°
Y672152	1(5/5)	14.06.2013	Pandy, near Glyn Ceiriog, Wrexham	
	R	27.08.2013	Wintersett Res, Wakefield, West Yorks ®	142km 56°
Y579462	3	08.08.2012	Cors Ddyga, Llangefni, Isle of Anglesey	
	R (=M)	24.06.2013	Oxmoor Wood, near Runcorn, Cheshire	110km 83°
Y385196	3J	09.08.2012	Oxmoor Wood, near Runcorn, Cheshire ®	
	XF	09.06.2013	Radway, Warwickshire	160km 150°

Cetti's Warbler

Y157354	2F	29.10.2011	No.3 bed Woolston Eyes, Warrington	
	R	01.05.2013	Wanlip, Leicestershire	123km 130°

Between 2006 and 2011 ten Cetti's Warblers were ringed at Woolston and this is the third of them to be retrapped elsewhere, following one in Norfolk and one in Hertfordshire (below).

L408874	2F	20.11.2010	No.3 bed Woolston Eyes, Warrington	
	R	09.11.2013	Rye Meads, Hertfordshire	249km 137°

This bird had previously been caught at Rye Meads on 21.10 and 03.11.2012.

Chiffchaff

DJV283	3	17.09.2011	No.3 bed Woolston Eyes, Warrington	
	R	09.04.2013	South Milton Ley, Devon	358km 195°
EBV694	3	01.09.2012	Hatfield Moors, near Doncaster, South Yorkshire	
	R	04.05.2013	No.3 bed Woolston Eyes, Warrington	107km 260°
	(Also caught on 05.10.2013)			

Willow Warbler

EDB461	4	15.04.2013	Lancing College, Lancing, West Sussex	
	R (=F)	26.04.2013	Meols, Wirral, Merseyside	343km 326°

Blackcap

X928987	3J	17.07.2010	No.3 bed Woolston Eyes, Warrington	
	XF =M	17.04.2013	Alwoodley, Leeds, West Yorkshire	83km 52°
D327258	3JM	07.09.2013	No.3 bed Woolston Eyes, Warrington	
	X	04.10.2013	Worksop, Nottinghamshire	95km 96°
V978415	3M	14.09.2011	Hilltop, Sandwell Valley, West Midlands	
	R	30.04.2013	Meols, Wirral, Merseyside	126km 321°
	(Also caught on 25.05.2013)			
L407167	3JF	13.08.2010	No.1 bed Woolston Eyes, Warrington	
	R	23.09.2013	Portland Bill, Dorset	319km 179°
Y934044	3M	30.09.2012	Icklesham, East Sussex	
	R	21.04.2013	Sutton Weaver, Runcorn, Cheshire	353km 320°
D327550	3M	22.09.2013	No.3 bed Woolston Eyes, Warrington	
	R	30.09.2013	Icklesham, East Sussex	352km 142°

L114792	3J	22.08.2010	No.3 bed Woolston Eyes, Warrington	
	X	02.03.2013	Oued Zem 32°52'N 6°34'W	
			MOROCCO	2303km 189°

Whitethroat

D577608	3	07.08.2013	Hauxley Reserve, Northumberland	
	R	30.08.2013	Oxmoor Wood, near Runcorn, Cheshire	231km 199°
	(Also caught on 05.09.2013)			

Sedge Warbler

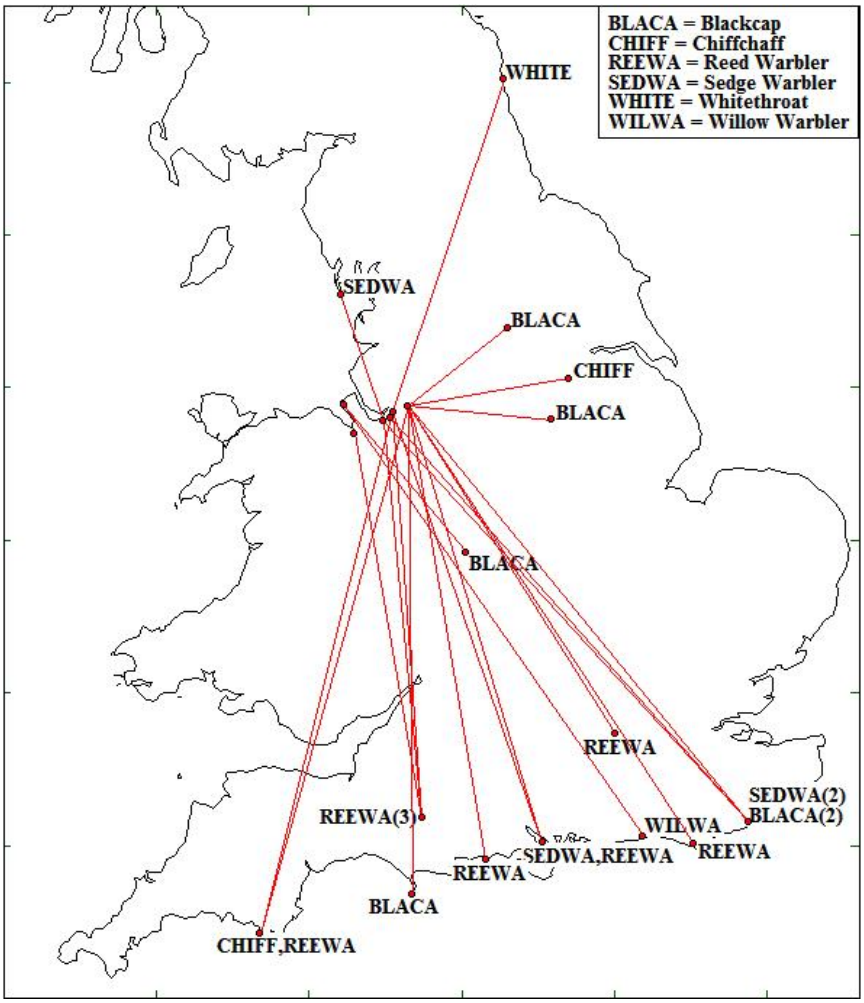
Y863888	3J	24.07.2013	South Walney, Barrow-in-Furness, Cumbria (3days)	
	R	27.07.2013	Frodsham Marsh, Cheshire	87km 161°
Y380974	3J	15.07.2012	Oxmoor Wood, near Runcorn, Cheshire	
	R	10.08.2013	Titchfield Haven, Fareham, Hampshire	298km 161°
Y916562	3	08.09.2012	Icklesham, East Sussex	
	R	19.05.2013	No.3 bed Woolston Eyes, Warrington	352km 322°
D028338	4	14.07.2013	Frodsham Marsh, Cheshire	
	R(=F)	02.08.2013	Icklesham, East Sussex	355km 139°
FRP	3	19.08.2011	Tour aux Moutons, Donges, 47°19'N 2°04'W	
6787430			Loire-Atlantique, FRANCE	
	R	25.05.2013	No.3 bed Woolston Eyes, Warrington	675km 358°
FRP	3	24.08.2011	Tour aux Moutons, Donges, 47°19'N 2°04'W	
6789590			Loire-Atlantique, FRANCE	
	R(M)	04.05.2013	No.3 bed Woolston Eyes, Warrington	675km 358°

This bird was also caught on 25.05 and 07.07.2013.

Reed Warbler

V215858	3J	04.08.2007	No.1 bed Woolston Eyes, Warrington	
	R	10.08.2013	Titchfield Haven, Fareham, Hampshire	299km 163°
Y367075	3	17.08.2011	South Milton Ley, Devon	
	R (=F)	25.06.2013	Oxmoor Wood, near Runcorn, Cheshire	352km 14°
	(Also caught on 12.07.2013)			
Y672340	3	02.09.2012	Shotton Steel Works, Flintshire	
	R	06.08.2013	Squire's Down, Dorset	255km 170°
Y672700	3J	23.08.2012	Frodsham Marsh, Cheshire	
	R	10.08.2013	Squire's Down, Dorset	261km 174°
Y385073	3J	02.08.2012	Oxmoor Wood, near Runcorn, Cheshire	
	R	11.08.2013	Squire's Down, Dorset	266km 176°
Y675470	3J	26.07.2013	No.3 bed Woolston Eyes, Warrington	
	R	17.08.2013	Wraysbury Gravel Pits, Windsor and Maidenhead	254km 148°
Y675292	1J	07.07.2013	No.3 bed Woolston Eyes, Warrington	
	R	13.08.2013	Hengistbury Head, Bournemouth, Dorset	301km 170°

UK Warbler movements >70km



Y675226	4F	30.06.2013	No.3 bed Woolston Eyes, Warrington	
	R	10.08.2013	Titchfield Haven, Fareham, Hampshire	299km 163°
Y675893	3J	16.08.2013	No.3 bed Woolston Eyes, Warrington	
	R	28.08.2013	Litlington, East Sussex	343km 148°
D030165	3	21.07.2013	Shotton Steel Works, Flintshire	
	R	09.08.2013	Mars-Ouest, Saint-Philbert, 47°02'N 1°38'W	
			Loire-Atlantique, FRANCE	695km 172°
FRP 6706412	3	23.08.2012	Urdains, Bayonne, 43°27'N 1°29'W	
			Pyrénées-Atlantiques, FRANCE	
	R (=M)	07.07.2013	No.3 bed Woolston Eyes, Warrington	1107km 357°
POL A350324	3	09.09.2012	Estuario do Mondego, Coimbra,	
			40°09'N 8°52'W, PORTUGAL	
	R (=F)	30.07.2013	Oxmoor Wood, near Runcorn, Cheshire	1540km 18°
X928943	3J	17.07.2010	No.3 bed Woolston Eyes, Warrington	
	R	10.04.2013	Ait Lyass, 30°00'N 9°32'W Massa	
			MOROCCO	2660km 193°
Y381446	6	27.05.2012	Meols, Wirral, Merseyside	
	R	08.04.2013	Ait Lyass, 30°00'N 9°32'W Massa	
			MOROCCO	2650km 192°

Waxwing

NV64368	3F	17.11.2012	Fearnan, Loch Tay, Perth & Kinross	
	R	03.03.2013	Clockface, St Helens, Merseyside	361km 167°
NW50579	3M	04.11.2012	Finstown, Orkney	
	R	03.03.2013	Clockface, St Helens, Merseyside	621km 178°
NW23642	5	03.03.2013	Clockface, St Helens, Merseyside (49.0g)	
	R (=M)	21.04.2013	Orrell, Wigan, Greater Manchester (64.6g)	12km 0°
NW23648	5F	03.03.2013	Clockface, St Helens, Merseyside (56.0g)	
	R	20.04.2013	Orrell, Wigan, Greater Manchester (63.0g)	
	R	03.05.2013	Orrell, Wigan, Greater Manchester (65.8g)	
	R	06.05.2013	Orrell, Wigan, Greater Manchester	12km 0°
NW23646	6M	03.03.2013	Clockface, St Helens, Merseyside (55.0g)	
	R	10.04.2013	Orrell, Wigan, Greater Manchester (61.9g)	12km 0°
NW23649	5M	03.03.2013	Clockface, St Helens, Merseyside (58.0g)	
	R	10.04.2013	Orrell, Wigan, Greater Manchester (70.7g)	12km 0°
NW30001	5F	06.03.2013	Clockface, St Helens, Merseyside (61.0g)	
	R	14.03.2013	Orrell, Wigan, Greater Manchester (59.4g)	12km 0°

Blackbird

LC95107	6M	08.01.2012	Norton Priory, Runcorn, Cheshire	
	R	07.04.2013	Sonderho, Fano 55°20'N 8°27'E	
			Ribe, DENMARK	755km 73°
CT63079	4M	20.11.2010	Brimstage, Wirral, Merseyside	
	R	05.11.2013	Reddingbootpad, 53°15'N 4°57'E	
			Vlieland, NETHERLANDS	532km 91°
LC15649	3M	18.11.2012	West Kirby, Wirral, Merseyside	
	XF	24.08.2013	Hoogeveen, 52°43'N 6°28'E Drenthe,	
			NETHERLANDS	650km 97°

Pied Flycatcher

X766489	1 (6/6)	26.05.2011	Coombes Valley Nature Reserve, Leek, Staffs	
	B (= F)	09.06.2013	Fox Howl, Delamere Forest, Cheshire	52km 292°
X932409	1 (7/7)	04.06.2010	Llewesog Hall, Prion, Denbighshire	
	R (=F)	25.05.2013	Hawkstone Park, Weston-under-Redcastle,	
			Shropshire	61km 122°

Chaffinch

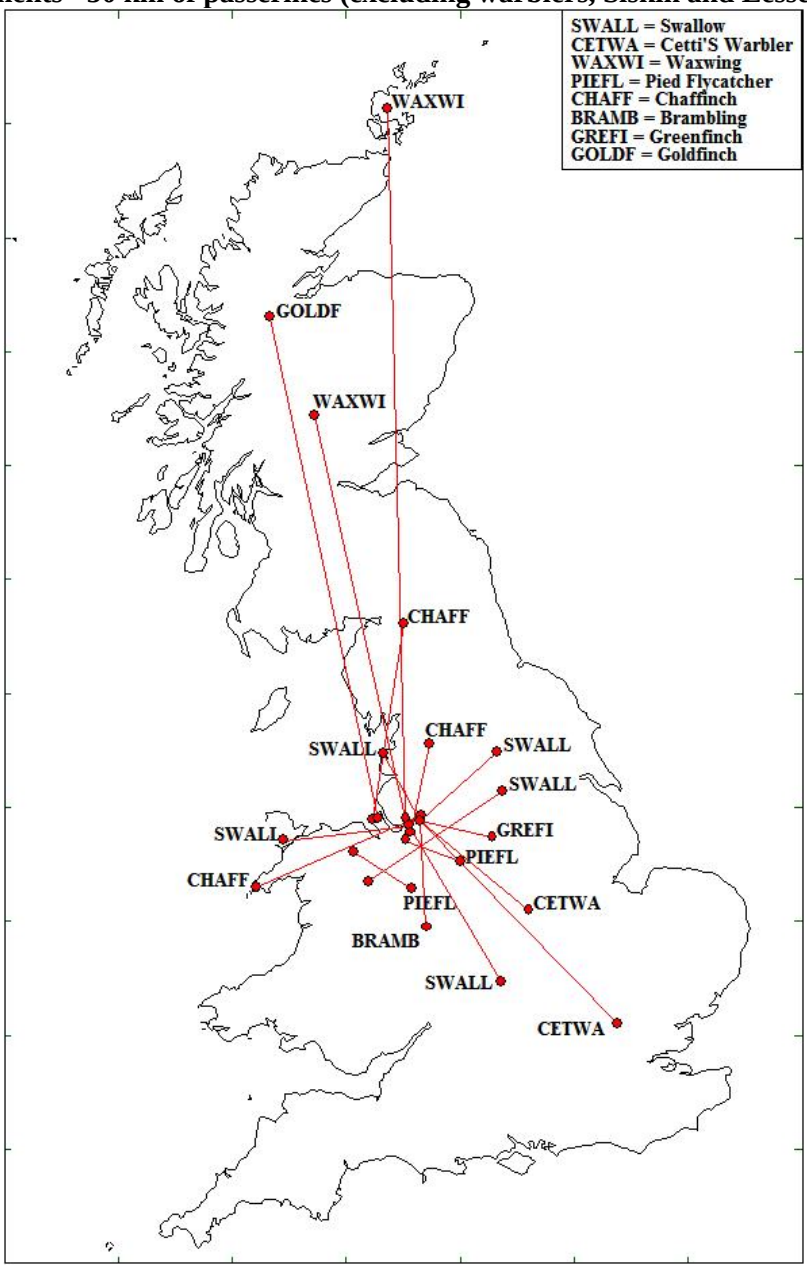
X305365	5F	21.04.2009	Birchwood, Warrington	
	R	22.11.2013	Pen-y-Groeslon, Bryncroes, Gwynedd	158km 245°
X929821	5F	12.02.2010	Aston, Frodsham, Cheshire	
	VV	08.04.2013	Gisburn Forest, Slaidburn, Lancashire	80km 12°
Y157394	3F	04.11.2011	No.3 bed Woolston Eyes, Warrington	
	XF	31.12.2013	Lytham St Annes, Lancashire	48km 325°
D030534	6F	30.03.2013	Meols, Wirral, Merseyside	
	XF	15.12.2013	Irthington, Brampton, Cumbria	174km 8°

Y380616	6F	12.02.2012	Aston, Frodsham, Cheshire	
	X	14.03.2013	Oldenburg, 53°11'N 11°08'E	
			Weser-Ems, GERMANY	725km 92°

Brambling

L408947	3F	31.12.2010	No.3 bed Woolston Eyes, Warrington	
	R	23.02.2013	Cross Lane Head, Bridgnorth, Shropshire	93km 177°
D130698	3F	24.11.2012	Haigh Hall, Wigan, Greater Manchester	
	R	16.02.2013	No.3 bed Woolston Eyes, Warrington	22km 165°

UK movements >50 km of passerines (excluding warblers, Siskin and Lesser Redpoll)



Greenfinch

TR14226	4M	13.10.2010	Ramsley Reservoir, Derbyshire	
	R	06.08.2013	No.1 bed Woolston Eyes, Warrington	65km 282°
TX03179	3M	14.09.2013	Clow Bridge, Lancashire	
	R	06.10.2013	No.1 bed Woolston Eyes, Warrington	45km 204°

Five movements of <40km were also reported for this species.

Goldfinch

Y671426	5M	10.02.2013	Bidston, Wirral, Merseyside	
	R	18.12.2013	Kerrow, Cannich, Highland	450km 347°
L407602	3M	26.12.2010	Llwynmawr, Wrexham	
	XF	28.05.2011	Cummeen Strand, Sligo Bay, 54°16'N 8°34'W Sligo, EIRE	387km 293°

Siskin

NOS 5H64798	6M	02.04.2010	Hals, Ovre Eikker, 59°45'N 9°51'W Buskerud, NORWAY	
	R (F)	31.03.2013	Bidston, Wirral, Merseyside	1059km 229°
Y673364	5M	20.02.2013	Sandiway, Cheshire	
	XF	26.04.2013	Fair Isle, Shetland	705km 5°

NOS 5H64798 is the first Norwegian-ringed Siskin controlled by MRG and follows an MRG-ringed Siskin controlled in Norway in 2010. Y673364 might have been on its way to Norway when it made a pit-stop on Fair Isle, only to be killed by one of the island's cats!

D028933	5F	04.03.2013	Sandiway, Cheshire	
	R	18.05.2013	Dallcharn, near Tongue, Highland	594km 350°
Y813900	4M	06.05.2012	Shebster, Highland	
	R	19.04.2013	Bidston, Wirral, Merseyside	574km 177°
Y382360	6M	07.04.2013	Bidston, Wirral, Merseyside	
	XF	11.05.2013	Rosehall, Lairg, Highland	516km 350°
X307787	5M	12.03.2011	Bidston, Wirral, Merseyside	
	X	08.05.2013	Wester Fearn, near Ardgay, Highland	501km 352°
D027747	6M	08.03.2013	Sutton Weaver, Runcorn, Cheshire	
	R	26.04.2013	Drummond, Inverness, Highland	470km 348°
Y673530	5M	21.04.2013	Birchwood, Warrington	
	XF	05.06.2013	Rickarton, Aberdeenshire	395km 2°
L640821	5F	19.03.2011	Sandiway, Cheshire	
	VV	27.04.2013	Lochgilphead, Argyll and Bute	363km 330°
Y158864	6M	02.02.2013	Burton, Wirral, Cheshire	
	R	05.03.2013	Tarbet, Loch Lomond, Argyll and Bute	346km 342°
Y670093	5M	30.06.2012	Llwynmawr, Wrexham	
	R	12.04.2013	Killearn, Stirling	355km 348°
D031544	5M	02.04.2013	Sandiway, Cheshire	
	XF	20.04.2013	Lochwinnoch, Renfrewshire	314km 336°
Y670338	6F	08.03.2013	Llwynmawr, Wrexham	
	R	20.04.2013	Drumla, North Ayrshire	307km 336°
Y547086	5M	07.03.2012	Torwood Lodge, Lockerbie, Dumfries & Galloway	
	R	22.02.2013	Sutton Weaver, Runcorn, Cheshire	206km 168°
Y382128	5M	03.04.2012	Bidston, Wirral, Merseyside	
	XF	30.05.2013	Corsock, Castle Douglas, Dum & G'way	194km 344°

Y552910	4M	20.09.2012	Torwood Lodge, Lockerbie, Dumfries and Galloway	
	R	16.04.2013	Bidston, Wirral, Merseyside	192km 175°
Y673459	6F	24.02.2013	Sandiway, Cheshire	
	XF	18.04.2013	Fellside, Hexham, Northumberland	198km 10°
Y382452	6F	24.04.2013	Bidston, Wirral, Merseyside	
	XF	31.05.2013	Haltwhistle, Northumberland	179km 13°
L407941	6M	27.02.2011	Llwynmawr, Wrexham	
	XF	19.05.2013	Belmont, Bolton, Lancashire	92km 30°
D027607	5F	22.02.2013	Sutton Weaver, Runcorn, Cheshire	
	R	19.04.2013	Kemple End, Lancashire	61km 14°
D031550	5M	02.04.2013	Sandiway, Cheshire	
	R	07.04.2013	Kemple End, Lancashire	71km 8°
Y079953	5F	23.03.2013	Birchwood, Warrington	
	R	09.03.2013	Kemple End, Lancashire	47km 5°
D448226	5M	30.03.2013	Kemple End, Lancashire **(**3 days**)**	
	R	02.04.2013	Sandiway, Cheshire	71km 188°

Three Siskins controlled at Kemple End were moving north, but D448226, ringed at Kemple End, decided not to follow the general migratory trend and returned south.

D028947	5M	05.03.2013	Sandiway, Cheshire (12.2g)	
	R	05.04.2013	Heald Green, Greater Manchester (16.3g)	30km 56°
	R	06.04.2013	Heald Green, Greater Manchester (17.5g)	30km 56°
L183947	5F	11.02.2013	Tee Lake, Wellington,Telford,	
	R	30.03.2013	Burton, Wirral, Cheshire	68km 332°
Y382039	6F	19.03.2012	Bidston, Wirral, Merseyside	
	S	22.06.2013	Kiltyclogher, 52°43’N 6°28’W Leitrim, EIRE	341km 289°

This bird was reported as taken by owl or raptor; presumably attempting to escape, it flew against a car and then a cottage window! It was then taken into care.

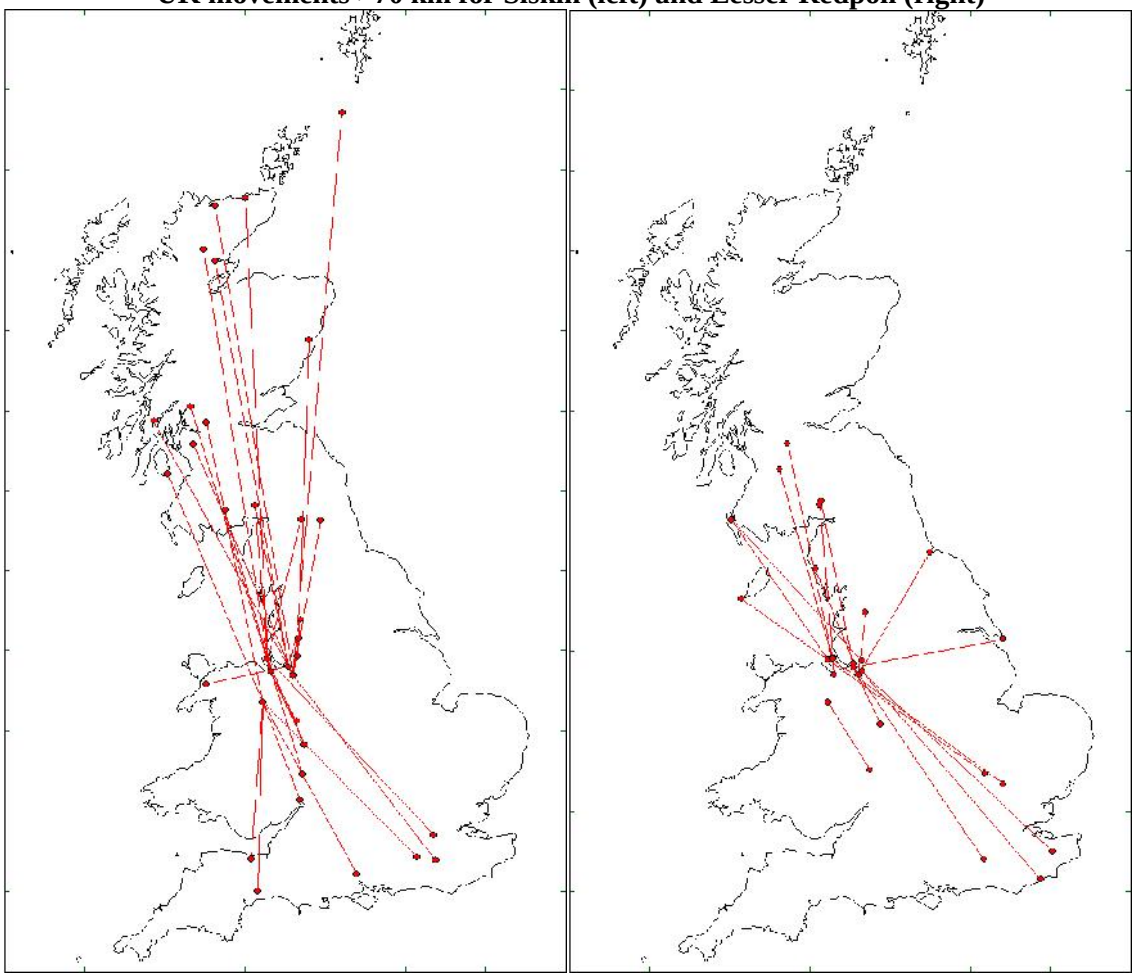
L474714	6F	12.01.2011	Waunfawr, Caernarfon, Gwynedd	
	R	27.02.2013	Sutton Weaver, Runcorn, Cheshire	105km 77°
Y670358	5F	08.03.2013	Llwynmawr, Wrexham	
	XF	07.06.2013	Aberangell, Gwynedd	48km 234°
Y980979	5M	16.03.2013	Highley, Shropshire	
	R	30.03.2013	Burton, Wirral, Cheshire	99km 335°
Y382048	5F	19.03.2012	Bidston, Wirral, Merseyside	
	R	01.03.2013	Highley, Shropshire	116km 157°
Y382172	6F	14.04.2012	Bidston, Wirral, Merseyside	
	R	06.04.2013	Cradley, Herefordshire	150km 163°
Y715371	6M	21.02.2013	Pope's Hill, Gloucestershire	
	R	09.07.2013	Llwynmawr, Wrexham	132km 339°

L869461	6M	03.07.2011	Llwynmawr, Wrexham	
	R	28.03.2013	High Bridge, Williton, Somerset	195km 184°
Y949871	6F	16.02.2013	Tandridge, Surrey	
	R	31.03.2013	Bidston, Wirral, Merseyside	318km 320°
Y159927	6F	05.06.2012	Llwynmawr, Wrexham	
	R	26.08.2013	Dukes Warren, Surrey	273km 136°
L867696	6F	13.03.2011	Llwynmawr, Wrexham	
	R	26.02.2013	Straight Mile, near Romsey, Hampshire	244km 152°
Y159517	5M	14.03.2012	Llwynmawr, Wrexham	
	R	20.01.2013	Honiton Station Area, Devon	236km 181°

This bird was also caught on 26.01 and 02.03.2013.

Y383299	3J	03.07.2012	Sandiway, Cheshire	
	R (=F)	27.03.2013	Baldwins Hill, E Grinstead, West Sussex	291km 143°
L869127	3J	05.06.2011	Llwynmawr, Wrexham	
	R (=5F)	22.03.2013	La Neuville, 50°29'N 3°02'E Nord, FRANCE	506km 123°

UK movements >70 km for Siskin (left) and Lesser Redpoll (right)



Lesser Redpoll

L586724	4M	20.01.2011	Bellshill, North Lanarkshire	
	R	02.05.2013	Bidston, Wirral, Merseyside	274km 168°
Y382500	6M	02.05.2013	Bidston, Wirral, Merseyside	
	XF	26.05.2013	Garpel, Muirkirk, East Ayrshire	246km 344°
D027908	6M	18.04.2013	Sutton Weaver, Runcorn, Cheshire	
	XF (cat)	17.05.2013	Sibbaldbie, Dumfries and Galloway	211km 349°
Y154897	3F	04.12.2011	Shotton Steel Works, Flintshire	
	R	14.05.2013	Torwood, Lockerbie, Dum & Galloway	213km 355°
X309634	4M	06.10.2012	No.3 bed Woolston Eyes, Warrington	
	R	19.05.2013	Leswalt, Dumfries and Galloway	240km 317°
D217588	5F	04.05.2013	Gosforth, Cumbria	
	R (=M)	10.12.2013	Oxmoor Wood, near Runcorn, Cheshire	129km 158°
D030607	5F	12.05.2013	Meols, Wirral, Merseyside	
	R	19.05.2013	Leswalt, Dumfries and Galloway	214km 324°
L215204	4M	19.04.2011	Calf of Man, Isle of Man	
	R	01.05.2013	Meols, Wirral, Merseyside	133km 125°
Y258382	3M	30.10.2011	Saltholme, nr Teesmouth, Stockton-on-Tees	
	R	25.02.2013	Sandiway, Cheshire	178km 210°
Y043791	3M	26.09.2011	Kilnsea, East Riding of Yorkshire	
	R	25.04.2013	Sutton Weaver, Runcorn, Cheshire	190km 260°
Y381297	5	30.01.2012	Sandiway, Cheshire	
	R (=M)	10.04.2013	New Laithe Farm, Newton, Lancashire	81km 7°

(Also caught on 05.05 and 11.05.2013)

Y513873	4	19.10.2012	Clow Bridge, Lancashire	
	R (=F)	21.04.2013	Sutton Weaver, Runcorn, Cheshire	56km 210°
D030566	5M	01.05.2013	Meols, Wirral, Merseyside	
	R	01.05.2013	Hilbre Island, Wirral, Merseyside	6km 252°
D030574	5M	03.05.2013	Meols, Wirral, Merseyside	
	R	03.05.2013	Hilbre Island, Wirral, Merseyside	6km 252°

D030566 and D030574 were caught at Meols and retrapped on Hilbre Island later the same day.

Y577413	5F	24.03.2012	Market Drayton, Shropshire	
	R	27.04.2013	Sutton Weaver, Runcorn, Cheshire	50km 345°
D349420	5	21.03.2013	Brewood, Staffordshire	
	R	25.04.2013	Sutton Weaver, Runcorn, Cheshire	80km 336°
Y159854	6M	20.04.2012	Llwynmawr, Wrexham	
	R	04.11.2013	Old Storridge Common, nr Great Malvern, Worcestershire	101km 148°
Y095873	5	08.03.2013	The Lodge, Sandy, Bedfordshire	
	R (F)	02.05.2013	Meols, Wirral, Merseyside	240km 307°

Y382187	5M	18.04.2012	Bidston, Wirral, Merseyside	
	R	07.01.2013	Nuthampstead, Hertfordshire	264km 127°
D225031	4M	17.11.2012	Old Stores Meadow NR, Capel, Surrey	
	R	30.04.2013	Sutton Weaver, Runcorn, Cheshire	289km 327°
Y439071	4M	31.10.2011	Icklesham, East Sussex	
	R	16.11.2013	Anderton NP, Northwich, Cheshire	342km 321°
Y233003	3	10.11.2011	King's Wood, Kent	
	R (=M)	03.12.2013	Oxmoor Wood, near Runcorn, Cheshire	339km 315°
Bullfinch				
V070943	3F	26.09.2011	Longshaw, nr Orrell, Greater Manchester	
	R	24.03.2013	No.3 bed Woolston Eyes, Warrington	20km 141°
	X	15.06.2013	No.3 bed Woolston Eyes, Warrington	20km 141°
Reed Bunting				
X656003	5M	01.02.2010	Alderley Edge, Greater Manchester	
	R	14.07.2013	Frodsham, Cheshire	33km 270°
Y493881	4M	19.11.2011	New Farm, Besford, Worcestershire	
	R	07.05.2013	No.1 bed Woolston Eyes, Warrington	144km 350°
L870950	3F	13.10.2011	Oxmoor Wood, near Runcorn, Cheshire	
	V	08.04.2013	New Laithe Farm, Newton, Lancashire	67km 13°
	R	27.04.2013	New Laithe Farm, Newton, Lancashire	67km 13°

NEST RECORDS 2013

David Norman

With a total of 776 nest records, of 66 species contributed by 18 members, MRG retained its now-customary position amongst the three largest contributors to the BTO's national scheme. Our top five species for 2013 were Blue Tit, Great Tit, Swallow, Pied Flycatcher and Blackbird. 44% of our total of nest records was from species considered to be Birds of Conservation Concern, 47 on the **Red List** and 291 on the *Amber List*. Of our total, 365 were cavity-nesting passerines and 227 open-nesting passerines, the latter a category for which the Nest Record Scheme is keen to encourage more submissions.

Nest record cards submitted in 2013

Mute Swan	2	*Barn Owl*	*21*	Treecreeper	1
Canada Goose	1	Little Owl	6	Wren	8
Mallard	*1*	Tawny Owl	9	Dipper	3
Grey Heron	7	*Kingfisher*	*1*	Blackbird	45
Little Grebe	*1*	G Spotted W'pecker	2	**Song Thrush**	**2**
Marsh Harrier	2	Magpie	1	*Mistle Thrush*	*1*
Hen Harrier	1	Jackdaw	15	**Sp Flycatcher**	**6**
Goshawk	3	Carrion Crow	1	Robin	12
Sparrowhawk	2	Raven	3	*Pied Flycatcher*	*68*
Buzzard	17	Blue Tit	127	*Redstart*	*15*
Kestrel	*16*	Great Tit	106	*Dunnock*	*2*
Hobby	3	Coal Tit	2	**House Sparrow**	**9**
Moorhen	4	**Willow Tit**	**1**	**Tree Sparrow**	**15**
Coot	4	*Swallow*	98	**Yellow Wagtail**	**1**
Oystercatcher	*7*	*House Martin*	*1*	*Grey Wagtail*	*1*
Lapwing	**6**	Long-tailed Tit	13	Pied Wagtail	6
Ringed Plover	*10*	Chiffchaff	2	Chaffinch	8
Black-headed Gull	*8*	*Willow Warbler*	*1*	Greenfinch	1
Little Tern	*13*	Blackcap	3	Goldfinch	2
Stock Dove	*24*	*Whitethroat*	*1*	**Linnet**	**2**
Woodpigeon	8	Reed Warbler	*1*	*Bullfinch*	*1*
Collared Dove	*3*	Nuthatch	7	*Reed Bunting*	*2*
				TOTAL	**776**

This creditable total was, however, a significant drop from that of the previous year, mostly because of a massive reduction in breeding Barn Owls, down from 146 nests in 2012 to just 21 in 2013. This decrease, mirroring that reported widely across the country, was caused by the very poor 'vole year'. At many sites, one or two adults occupied the territory but did not breed, and some of those that did breed were found to be catching mostly shrews rather than voles or mice. The Barn Owls bred later than normal, with no chicks ringed before July, and had small broods, the 16 active nests in July or August containing just 36 ringable young (2.25 per nest). However, as the small mammal population rose following their breeding season, some Barn

Owls bred unusually late, and productively, with five nests visited in late September or October containing 21 ringable chicks (4.2 per nest).

Two species, Yellow Wagtail and Willow Tit, were welcomed back to the nest record list in 2013 after a long absence; they last appeared in 1992 and 1997 respectively. The Willow Tit nested in a thin, rotting tree stump (see photo).

(Photo: D Norman)

The BTO's Nest Record Scheme was started in 1939 (as the Hatching and Fledgling Inquiry) and a celebratory one-day conference to mark the 75th anniversary was held at the BTO, Thetford, in March 2014. David Norman was invited to give one of the introductory talks which he entitled '25,000 nest records … and counting'. With 25,409 records submitted in the Group's name in 24 years (1990-2013) MRG is the third largest contributor in the history of the scheme. In recognition, the Group was presented with one of the '75th Awards', a nicely-etched glass mug.

(Photo: P Coffey)

ARCTIC REDPOLL (COUES' RACE) – MRG'S 200TH SPECIES

David Norman

The 2012 Annual Report of Merseyside Ringing Group records that Quail was the 199th species on the Group's list, and wondered what the 200th would be. This article tells the story of that bird.

On 17 November, 2013 I was on my own at Oxmoor with just four nets up. After 9 o'clock a few redpolls moved around, attracted to an mp3 lure, and I caught three small groups of 3, 4 and 4. In the middle group was the palest redpoll I have ever seen in the hand. I took some notes and put it down as a Common (Mealy) Redpoll but on reviewing my photos that afternoon I wondered if I had missed an Arctic Redpoll of the (Scandinavian) Coues' race (*Carduelis hornemanni exilipes*). I have never seen Arctic Redpoll in the hand, although I have watched Hoary Redpoll in the field on snowy days in the USA. I am embarrassed not to have considered this possibility in detail at the time, mainly because the rump was not as pure white as I expected for an Arctic. I now know that my expectation was wrong, and also that I crucially missed recording the underside, especially the undertail coverts. Fortunately I had plenty of photographic evidence, sufficient to confirm its identity:

Arctic Redpoll (photos 1-3)

It had a wing of 70.5mm, the same as a typical Lesser Redpoll (and just about the bottom of the range for a Common Redpoll), but it looked bigger, perhaps because it had a longer tail, and weighed 12.5g (with no visible fat), whereas the other ten ranged from 9.5g to 11.0g. Its bill seemed small and short. The red poll patch was small (although of course that can be very variable and this poll is much the same size as the breeding female Lesser Redpoll previously depicted on the merseysiderg website). Every feather that on a Lesser Redpoll would be creamy/ buff/ brown, on this bird seemed to be pale grey or white. The flanks were white with some streaking, decreasing towards the tail, but regrettably I did not note or photograph the undertail coverts. In behaviour, this bird called incessantly whilst in the net and whilst being processed, unusual for a redpoll, although to my ears the call did not sound any different from a standard Lesser Redpoll. It did eventually quieten down when I was photographing it.

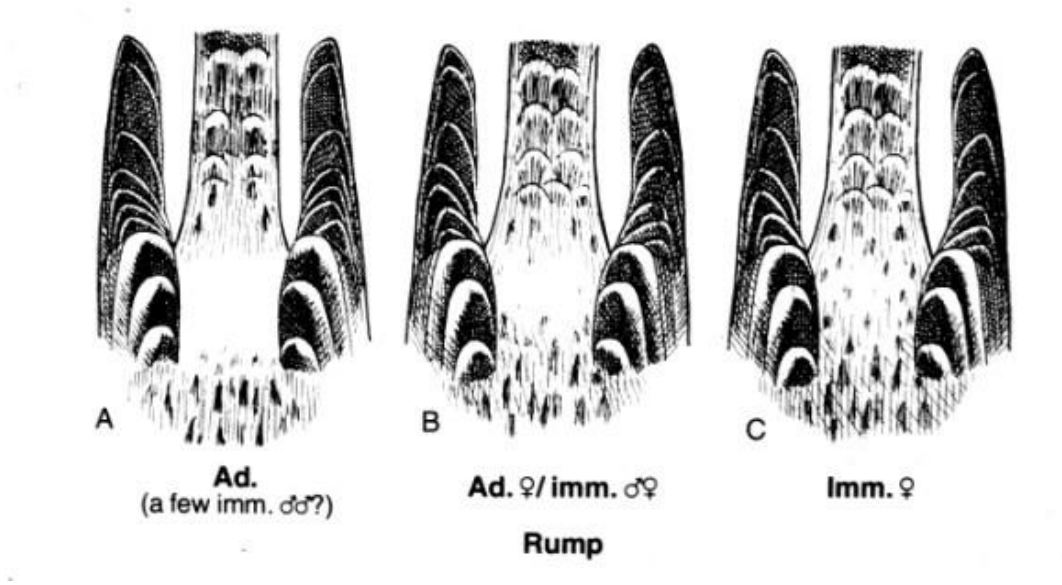
Its short bill showed in comparison with two Lesser Redpolls (photo 4):

Its comparatively long tail is clearly shown in the following composite image showing a Lesser Redpoll (caught an hour later) which had the same wing length (photos 5 and 6):

The moult limit in the greater coverts of this Arctic Redpoll was easy to detect, as shown in photo 7 below: five old greater coverts, shorter and duller, with less extensive white tips than the replaced adult-type greater coverts which were obviously darker and glossier. The tertials were already quite worn, much more so than on typical first-year Lesser Redpolls at this time of year.

Photo 7

I now realise that this bird fits pretty well with Svensson's depiction (below) of the rump of Arctic Redpolls, presuming that it is an immature female. It was certainly a first-year (Euring age code 3) and the small size suggested female. A wing-length of 70.5mm is the smallest in a sample of 84 *exilipes* (47 males and 37 females) quoted by Marc Herremans in his paper "Taxonomy and evolution in redpolls" *Ardea* (1990) 78: 441-458.



The only Arctic Redpolls previously recorded in Cheshire and Wirral were one in December 1995 and two in January 1996, at three different sites, with none since. Common Redpolls are also county rarities so I asked the County Recorder (and MRG member) Hugh Pulsford for his opinion and sent my description and photos to Chris Batty as an MRG colleague but particularly as a member of the British Birds Rarities Committee (BBRC) who has a special interest in redpolls. Chris replied including the comments:

In the case of your bird, we cannot see the longest undertail coverts, and the rump is undeniably streaked across its length, so it would fail as a Coues' Arctic on both criteria. However, I am confident your bird is a Coues' Arctic Redpoll, and I would accept it as such on the basis that the pallid appearance of the bird is beyond the limits of Mealy Redpoll, especially the nape, mantle and scapulars that are uniformly broadly fringed white without any significant brown tones, the large extent of white rump reaching the smallest tertials (even if it is streaked), and the white forehead. First-winter redpolls are described as being more streaked than adults, although I am not sure from where this fact is sourced. Of unknown significance, but the slight sandy wash below the cheek and bib is an appearance I associate with Arctic Redpoll.

A complication, which somewhat distracted me from this bird, was that one of the others caught at the same time looked like a standard Lesser Redpoll apart from having a white rump (Photos 8-10). This one (an adult female) also had three all-white greater coverts, one on the right and two on the left wing, and I wonder if she has some colour deficiency, perhaps from old-age, as often seen with Blackbirds. If you're just looking through a flock, trying to find a redpoll with a white rump, this could fool people!

Photos 8-10

The three birds whose heads are depicted in photo 4 were actually this white-rumped Lesser Redpoll, a 'normal' Lesser Redpoll, and the Arctic Redpoll. Photos 11-13 show:

the crown and back of their heads;

their backs with mantle and rump exposed;

and their backs with mantle and rump concealed.

With hindsight I now feel that the identification seems obvious, but it's a bit different having had time to think about it and do some research, rather than a few minutes with birds in the hand. This bird looks much more like a classic Arctic Redpoll than many that are photographed and depicted elsewhere on the internet.

As luck would have it, the December 2013 issue of *British Birds* contained a lengthy article "Redpolls: a review of their taxonomy, identification and British status" *British Birds* (2013) 106: 708-736 by Andy Stoddart, vice-Chairman of BBRC, so I sent him a draft copy of this article with all the images, to which he replied *What a lovely Arctic Redpoll! It shows all the necessary features and although the rump might not be to some people's taste, it's actually well within the range of variation. A great record for Cheshire!*

A LONG-TERM STUDY OF CHESHIRE SAND MARTINS

DAVID NORMAN

(This article has been compiled by Peter Coffey as a shortened version of the paper by David Norman and Will J Peach, 'Density-dependent survival and recruitment in a long-distance Palaearctic migrant, the Sand Martin *Riparia riparia*', *Ibis* 155 (2013) 284-296. Will Peach provided most of the statistical analysis and the work could not have been published without his contribution. This article presents the findings without the statistical tests and with fewer graphs; any reader who is interested in the detail should ask DN for a copy of the *Ibis* paper. Parts of this work were presented by David Norman at the First European Ornithological Union conference (Bologna, 1997) and BTO conferences (Swanwick, 2003 and 2013)).

SUMMARY

Long-term studies can provide powerful insights into the relative importance of different demographic and environmental factors determining avian population dynamics. Here we use twenty-three years of capture-mark-recapture data (1981-2003) to estimate recruitment and survival rates for a Sand Martin *Riparia riparia* population in Cheshire. Inter-annual variation in recruitment and adult survival was positively related to rainfall in the sub-Saharan wintering grounds, but unrelated to weather conditions on the breeding grounds. After allowing for the effects of African rainfall, both demographic rates were negatively density-dependent with adult survival being related to the size of the western European Sand Martin population (probably reflecting competition for resources in the shared wintering grounds), and recruitment being related to the size of the local study population in Cheshire (potentially reflecting competition for nesting sites or food). Local population size was more sensitive to variation in adult survival than to variation in recruitment, and an increase in population size after 1995 was driven mainly by the impact of more favourable conditions in the African wintering grounds on survival rates of adults. Overwinter survival in this long-distance Palaearctic migrant is determined partly by the amount of suitable wetland foraging habitat in the sub-Saharan wintering grounds (which is limited by the extent of summer rainfall) and partly by the numbers of birds exploiting that habitat.

INTRODUCTION

It is well established that climatic factors in their African wintering quarters are crucial in the annual life cycle of a range of Palaearctic long-distance migrant birds, the group whose populations are declining most rapidly in Europe (Sanderson *et al.* 2006, Heldbjerg & Fox 2008). One key environmentally limiting factor appears to be rainfall or drought in the sub-Saharan region, which normally experiences a short but intense wet season, with rainfall confined almost entirely to the period June to October. This precipitation causes the major watercourses to flood, creating an inundation zone that gradually recedes during the following winter dry season; the amount of summer rainfall determines the extent of the inundation zone. Drought adversely affects a range of species by decreasing the area of open water, depressing the numbers of insects, and inhibiting the production of fruit (Zwarts *et al.* 2009). Annual variation in rainfall adds to the longer-term impact of habitat degradation including the expansion of the Sahara (Gonzalez 2001).

Droughts in the African wintering quarters have been proposed to be the main causal factor accounting for regional population declines of at least 17 Eurasian bird species (Newton 2004). The principal mechanism by which Sahelian drought affects bird populations is through the reduction of overwinter survival rates (Baillie & Peach 1992). Increased mortality in response to

drought has been demonstrated for a range of species including Sand Martin (Szép 1995a, Cowley & Siriwardena 2005, Robinson *et al.* 2008).

Even when survival rates are strongly influenced by African rainfall, fluctuations in breeding population size may be unrelated to variation in overwinter survival of adults. In the early years of a detailed study of Hungarian Sand Martin colonies, variation in population size was unrelated to variation in adult winter mortality, with recruitment of first-time breeders and immigration from elsewhere being more important (Szép 1995b). Other studies on hirundines have found that weather during the breeding season or on migration has more of an influence on population size than conditions on the wintering grounds (Cowley & Siriwardena 2005, Stokke *et al.* 2005).

Fluctuations in bird populations are often dampened or regulated by density-dependent demographic processes (Newton 1998). Variation in the availability, and competition for, limiting resources (like habitat, food or nest sites) is likely to influence demographic rates in a density-dependent manner, and population changes in migratory species will depend on the relative strength of density-dependent processes in the breeding and wintering areas (Sutherland 1996, Newton 2004). If overwinter survival is sensitive to population density, but reproductive output is not, then population size is expected to be most sensitive to loss of wintering habitat, and *vice versa* (Sutherland 1996). However, little is known about actual density-dependence in the demographic rates of long distance Palaearctic migrants, although a recent study has suggested that fluctuations in the size of the Dutch Sand Martin population have been most strongly density-dependent during years following drought in the Sahel winter quarters (Zwarts *et al*. 2009).

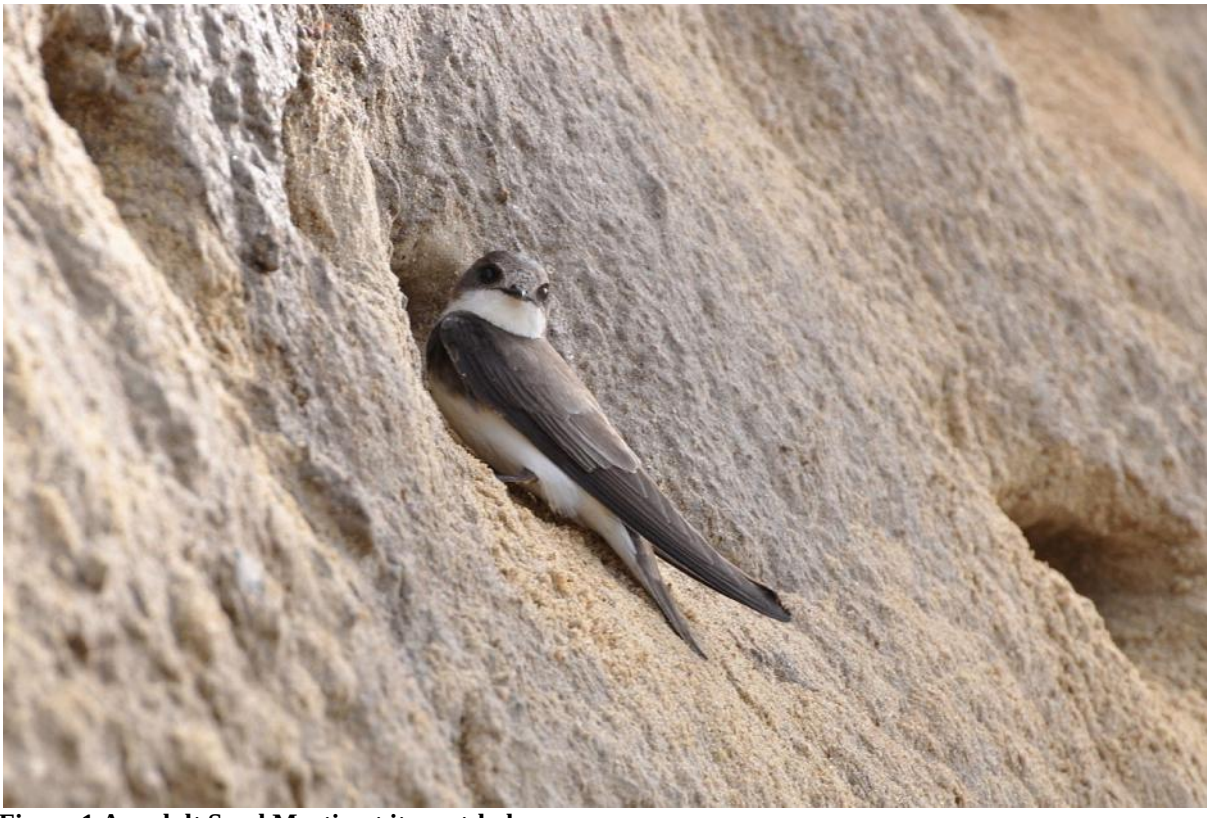


Figure 1 An adult Sand Martin at its nest-hole.
(By Aiwok (Own work) [GFDL (http://www.gnu.org/copyleft/fdl.html) or CC-BY-SA-3.0-2.5-2.0-1.0 (http://creativecommons.org/licenses/by-sa/3.0)], via Wikimedia Commons from Wikimedia Commons).

I had long had an interest in Sand Martins. On the first morning after I received my C permit (13 August 1980) my first ringing session was at a sand quarry. I knew that lots of ringers liked ringing Sand Martins, especially the wandering juveniles for the chance of recoveries and

controls, but I soon realised that catching, and retrapping, adults from year to year was a more interesting subject. I did not, however, anticipate that keeping this going for many years would lead to such a fascinating set of results.

Here, we report a long-term study of Sand Martins conducted at breeding colonies in Cheshire, UK during the period 1981-2003. The Sand Martin is an obligate insectivore, feeding on small aerial insects throughout the year. It nests colonially by burrowing into vertical faces in river banks or sand quarries. European Sand Martins cross the Sahara and spend the winter in the Sahel region immediately south of the desert, the most important wintering habitat for European migrant passerines (Moreau 1972). The Sand Martin has an unfavourable conservation status, being Amber Listed in the UK (Eaton *et al.* 2009) and a Species of European Conservation Concern (SPEC) category 3 (depleted) in Europe (Burfield & van Bommel 2004). The study uses new analytical techniques to estimate both survival and recruitment rates from mark-recapture data. The extended study period encompassed wide variation in environmental conditions on both the breeding and wintering grounds, and includes a period of recent amelioration in conditions in the Sahel region which has been associated with non-linear relationships with avian demography (Nevoux *et al.* 2008). We test whether demographic rates are related to weather conditions on the breeding and wintering grounds, and to population size.

METHODS

Study area and breeding colonies

This study included all the quarries in central Cheshire, centred on Delamere and the eponymous Sandiway, an area with one of the highest densities of breeding Sand Martins in the UK (Jones 1993). Most Sand Martins in Cheshire, as in the rest of Britain, nest in commercial quarries (Norman 2008) and no birds were found breeding in other habitats. Between two and seven colonies were active each year during 1981 to 2003 inclusive, totalling 12 colonies over the 23-year period. The sites occupied in any one year were within 1-9 km of each other, and the nearest unstudied colonies were at least 15 km away from the closest colony within the study area.

During every year from 1982 to 2003, all sand quarries within the core study area, and within a distance extending at least 10 km beyond it, were visited in the last week of May to check for breeding Sand Martins. All apparently occupied nest holes were counted, although (owing to lost notebooks) the data from 1985 and 1995 are not now available. This survey was conducted on dates when virtually all first-breeding attempts were under way and before the earliest juveniles had fledged, so there should have been no confusion involving holes excavated for second breeding attempts or by fledged juveniles. Assessment of active nest-holes can be difficult but, to ensure consistency, I made all counts myself, viewing the sand-faces in the early evenings from close range through binoculars, taking care to distinguish active, occupied burrows from old holes or trial borings (Kuhnen 1978). Over a 21-year period in south-west Sweden, the ratio of pairs (assessed from mist-netting) to nest-holes varied little, in the range 60% to 65% (Persson 1987a). In Hungary, endoscope inspections showed that 64% of holes contained nests in river and sandpit colonies, and this proportion did not vary significantly between years, sites or population levels (Szép *et al*. 2003a). My counts of apparently occupied nest holes should therefore provide an accurate relative measure of breeding population size.

Sand Martins were caught at breeding colonies using mist-nets, mostly in the early morning with some evening visits where the colony faced east and early-morning sun on the net(s) would have inhibited the catching rate. From one to five capture sessions spaced at least six days apart were conducted annually at each occupied site, sampling the entire colony to avoid the possible clumped distribution of returning birds (Szabó & Szép 2010) and attempting to catch as high a proportion as possible of the breeding adults while avoiding excessive disturbance. Over the 23-year period, capture visits were made between 30 May and 25 August, with 2 in May, 104 in June, 86 in July and 8 in August; 90% of all adult captures occurred in the period 1 June to 16 July. Mortality during this relatively short capture period is likely to have been small compared

to that during the rest of the year: a Swedish study found that losses of adults during the entire breeding season were at most 6.5% of those on migration and over winter (Persson 1987b). All of the capture-recapture fieldwork was conducted by myself (sometimes accompanied by other MRG ringers) and my systematic approach remained unchanged throughout the period of study. This methodology is essentially that adopted by the BTO when the RAS (Retrapping Adults for Survival) scheme was started in 1999.

Figure 2 A typical mist-net catching Sand Martins in a Cheshire quarry (photo: David Norman).

Sand Martins were marked with individually-numbered metal rings issued by the British Trust for Ornithology (BTO) and were aged as adults (hatched before the current year) or juveniles, with more than 99% of adults being sexed according to the presence or absence of a brood patch, and the shape of the cloaca (Svensson 1992). Some other studies have not separated males and females, including a BTO paper on Sand Martin RAS projects (Robinson *et al.* 2008), and some ringers elsewhere have reported difficulty in consistently sexing the species, but, as shown later, it considerably increases the power of the analysis to do so. Over the entire study period, only 14 birds (0.2%) were sexed inconsistently on recapture and these were excluded from all analyses. To minimise handling times, Sand Martins were not weighed or measured.

Mark-recapture analysis

Annual adult survival rates were estimated from the capture-mark-recapture (CMR) data using multinomial probability models (Lebreton *et al*. 1992). The analysis is based upon 6,053 adult Sand Martins (3,217 males and 2,836 females) captured in the Cheshire study area from 1981 to 2002 inclusive, of which 1,179 (702 males and 477 females) were recaptured in subsequent years (1982 to 2003). Birds first captured as juveniles entered the analysis only if they were recaptured in subsequent years as adults (there were 370 of these, 274 males and 96 females). In total, with multiple recaptures, I had more than 10,000 handlings of adults, and over 4,000 juveniles.

Our approach was to begin with a biologically plausible starting model, check its suitability for our data and then attempt to simplify that model aiming to achieve a "best fit" of the data (Lebreton *et al*. 1992). Our starting model was one in which both survival and recapture differed between years and between males and females. Akaike's Information Criterion (AIC) adjusted for small sample size (AICc) was used to guide model selection (Lebreton *et al.* 1992; Burnham & Anderson 1998).

Reverse-time CMR models were used to estimate annual recruitment to the population (Pradel 1996). Specifically, estimated fecundity rates provide a measure of the numbers of new recruits to the population per adult in the previous year (Williams *et al*. 2001). Our measure of fecundity effectively integrates annual productivity with survival between fledging and recruitment to the population as breeding adults.

We tested for relationships between Sand Martin demographic rates (adult survival and fecundity) and rainfall in the West African winter quarters (Figure 3), and rainfall and temperatures on the Cheshire breeding grounds. June is the main chick-rearing period for Sand Martins in Britain (Cowley 2001) and June rainfall has been shown to be a negative correlate of adult survival and population change in this species (Cowley & Siriwardena 2005).

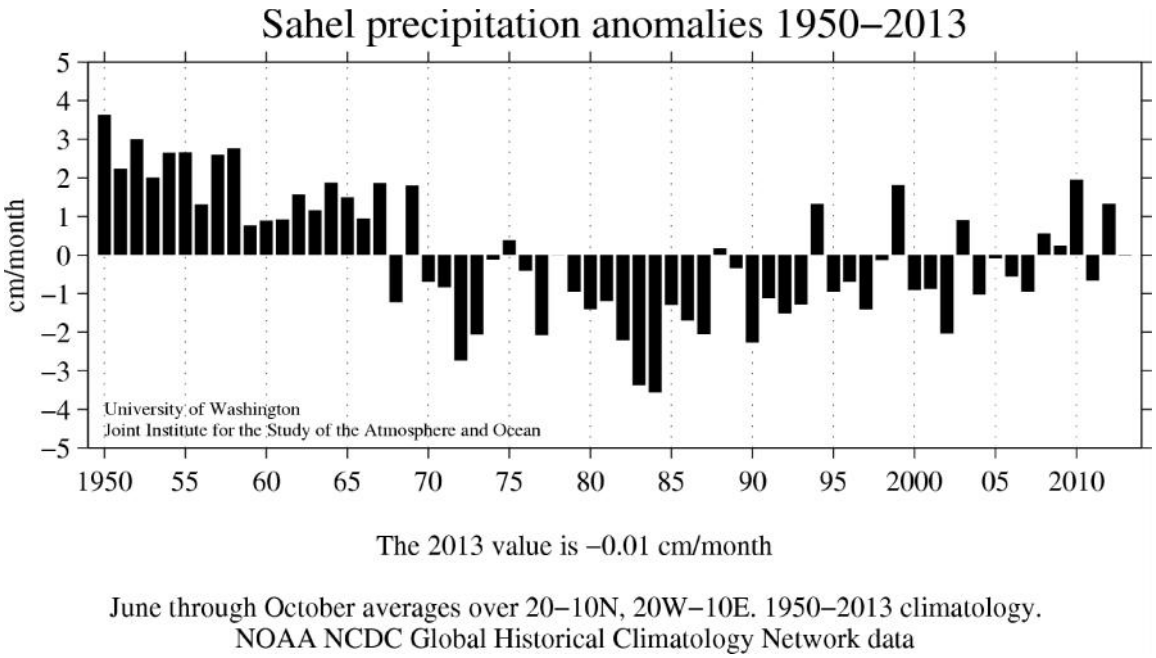


Figure 3 Sahel rainfall 1950-2013 from http://jisao.washington.edu/data/sahel/. The bars above the axis indicate years that were wetter than the long-term average while the drier (drought) years are shown by bars below the axis.

We also tested for evidence of density-dependence in demographic rates. If a demographic rate is limited by some finite resource (such as the area of insect-rich habitat or the availability of unoccupied nesting habitat) then we might expect that rate to be negatively related to the numbers of birds attempting to utilise that resource, as well as the extent of the limiting resource. We tested for such an influence of Sand Martin population size on demographic rates at two spatial scales: the local breeding population in the Cheshire study area and the abundance of breeding birds across western Europe. In all our tests of density-dependence, population size at the beginning of each survival period was used.

We tested for relationships between demographic rates and potential covariates (weather and population size variables) by fitting models in which year-specific survival or fecundity were constrained to be linear logistic functions of one or more of the potential covariates. In all, we

tested models for survival with 21 different combinations of parameters, and 16 different models for fecundity, as detailed in our *Ibis* paper.

The nesting hole breeding surveys provided an independent measure of changes in adult abundance across our study colonies, and provided an empirical measure of the local population multiplication rate (PMR = nest hole count in year n+1 / nest hole count in year n). A comparison of observed and predicted PMRs provided an assessment of the relative importance of adult survival and fecundity as drivers of population change in our local Sand Martin population (Robinson *et al.* 2004).

Any permanent emigration of marked Sand Martins out of our study area could have caused an under-estimation of true survival rates. Our regular capture effort included all known breeding colonies within the study area, with the nearest un-sampled colonies being at least 15 km away, well beyond the normal 1 km foraging radius of nesting Sand Martins (Alves & Johnstone 1994). In the first half of this study period (1981-1991), Sand Martins were also captured at some colonies 15-34 km from the main study area. During this period, 9 adult Sand Martins captured in the main study area within the main breeding period (1 June to 15 July) moved to or from any of these surrounding colonies (5 within a year and 4 between years), compared with 1095 re-captured in the study area (632 within a year and 463 in subsequent years). These data suggest low rates of dispersal between colonies within and beyond the main study area. We also examined the distances moved by adult male and female Sand Martins ringed or reported in the UK and Ireland during the period 1 June to 15 July inclusive. Data included all reports from 1979 (before which, most birds were not sexed) until the end of 2003, and were either recaptures of live birds more than 10 km from the place of first capture (94.3% of records) or reports of dead birds (5.7%). We considered differences between the sexes in within- and between-year movements in excess of 10 km and 20 km.

RESULTS

Adult survival and recruitment

Adult recapture probabilities varied between years but not between the sexes and averaged 0.42 over the course of the study. Apparent survival varied between years and was higher for males than for females, but the pattern of inter-annual variation did not differ between the sexes. Fecundity rates also varied between years, with an additive sex effect in which newly recruited females entered the population at a slightly higher rate than males. There was marked temporal variation in both apparent survival and fecundity, and local population size was substantially higher after 1995 than before.

Relationships between demographic rates, weather and population size

Inter-annual variation in adult survival exhibited a positive, non-linear relationship with rainfall in the Sahel wintering grounds during the preceding summer (Figure 4) but was unrelated to rainfall or temperature on the breeding grounds during the preceding June. The relationship between Sahel rainfall and survival did not differ between the sexes. Having allowed for the effect of Sahel rainfall, adult survival was negatively related to the size of the western European Sand Martin population at the start of each survival period. There was no evidence of any interaction between the effects of Sahel rainfall and European population size, or that the relationship with European population size differed before and after 1995. Variation in adult survival was unrelated to population size (nest counts) in the Cheshire study area.

Inter-annual variation in fecundity was unrelated to June rainfall or temperature in the Cheshire study area, but was positively related to Sahel rainfall after allowing for a negative relationship with local population size. Return rates of young Sand Martins were lower in years following relatively large colony counts.

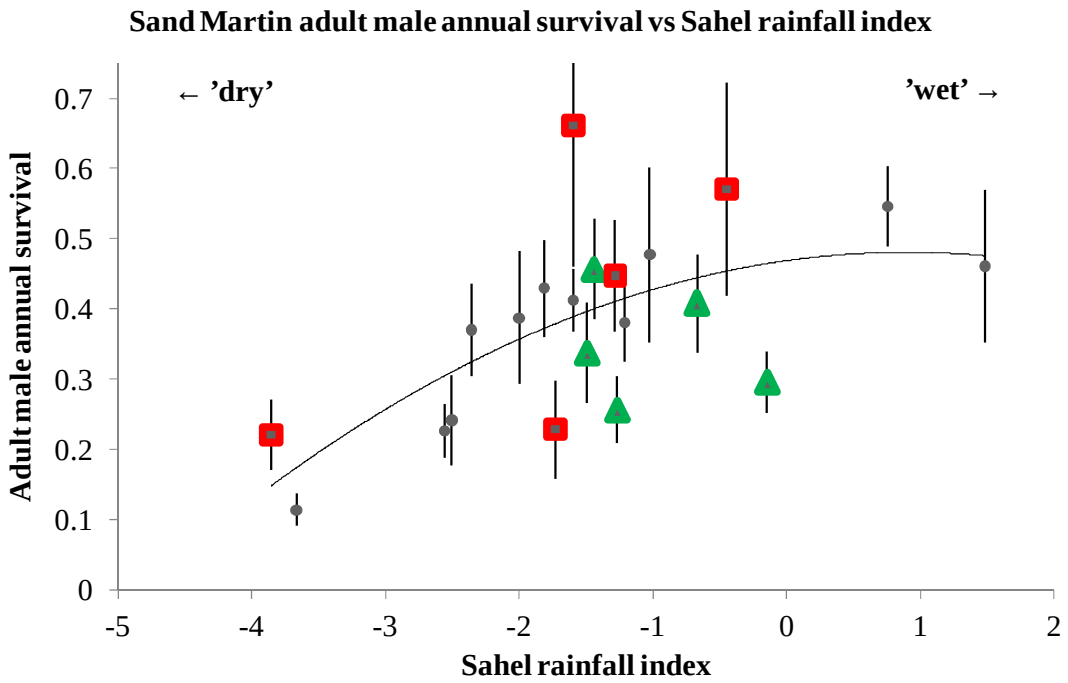


Figure 4 Adult male Sand Martin annual survival (points and error bars) plotted against the Sahel rainfall index from Figure 3. The line is the best fit to the data and is markedly non-linear. The top five years with the highest European population index are marked with the triangles and the bottom five years with the lowest population are marked with squares.

Drivers of population change

Inter-annual variation in adult survival had a much greater influence on population size in Cheshire Sand Martins than did variation in fecundity. As seen in Figure 5, the size of the local breeding population fell in most of the years when male survival fell below 0.35 and increased in most of the years when male survival exceeded 0.35, suggesting a possible threshold level of adult survival for population growth.

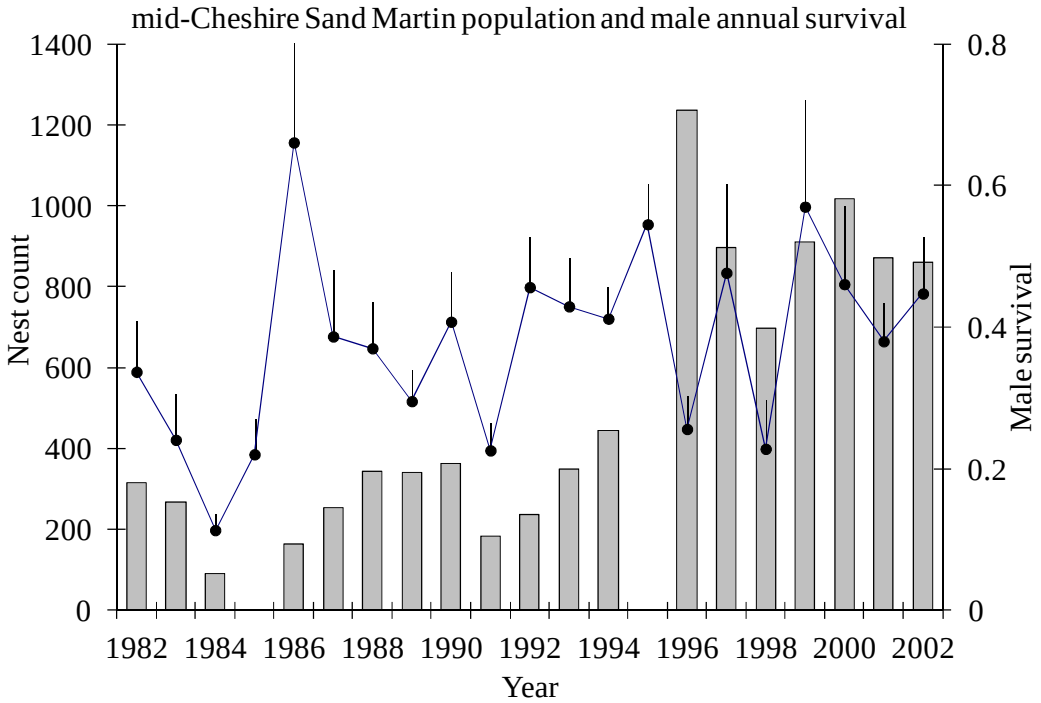


Figure 5 The total number of apparently occupied nest-holes in the mid-Cheshire study area (bars) plotted against the calculated adult male survival over the previous winter (line and points with error bars).

The observed PMR was uncorrelated with any of the three weather variables in the previous year (Sahel rainfall, June rainfall and June temperature). However, local population size was correlated with Sahel rainfall in the previous year but not with June rainfall or temperature. The increase in the Cheshire Sand Martin breeding population after 1995 was associated with an increase in average adult survival (from 0.350 for males before 1995 to 0.424 after) and a reduction in average fecundity (from 0.703 for males before 1995 to 0.643 after).

Sex-dependent breeding site fidelity

Ringing recovery data for Britain and Ireland indicate that female Sand Martins are more likely than males to be found at distances greater than 10 km and 20 km from their breeding-season ringing locations, both within and between breeding seasons.

DISCUSSION

Demographic estimates

Sand Martin survival estimates show broad similarity across studies, particularly during years of low survival as in 1983-84 (Cowley & Siriwardena 2005, this study), 1990-91 (Szép 1995a, Cowley & Siriwardena 2005, Robinson *et al.* 2008, this study) and 1997-98 (Robinson *et al.* 2008, this study) implying that large-scale environmental factors may be causing mortality.

All studies that have considered sex-dependence have reported lower apparent survival amongst female Sand Martins (Persson 1987b, Szép 1995a, Cowley & Siriwardena 2005, this study). This probably reflects lower fidelity to breeding areas amongst females rather than any genuine sex-related difference in adult survival (Persson 1978, Mead 1979, Szép 1995a, Szép 1999). Our analysis of British and Irish ringing recoveries confirms this, showing females to be less site faithful than males both within and between breeding seasons. Although the costs of reproduction or risks associated with spending more nights in nest holes (e.g. bank collapse or nest predation) might have caused higher mortality amongst female Sand Martins, there is unlikely to be any difference in winter mortality as the sexes have similar body sizes (Bryant & Jones 1995) and probably utilise similar regions and habitats within the African wintering grounds (Szép *et al.* 2003b).

Our measure of fecundity effectively integrates breeding productivity and survival between fledging and recruitment into the breeding population. Higher average fecundity estimates for females (0.722 ± 0.0135 compared to 0.675 ± 0.0142 for males) could partly reflect the higher rates of breeding dispersal among females (leaving more unoccupied nesting habitat and unpaired males for new female recruits), and possibly also a lower initial capture probability (consistent with the smaller capture totals for females; see Methods).

Effects of weather and density-dependence

Our study confirms that the amount of rainfall in the West African winter quarters is the main environmental factor limiting the survival of both adult and first-year Sand Martins. This has previously been reported for adult Sand Martins (Szép 1995a, Cowley & Siriwardena 2005, Robinson *et al.* 2008) and several other insectivorous passerines (see Introduction), although not previously for first-year mortality (incorporated here in our measure of fecundity). Heavier rains in the West African wintering grounds create a more extensive wetland inundation zone around the major rivers, which provides insect-rich foraging habitats for Sand Martins. Plentiful rainfall may therefore reduce the likelihood of subsequent starvation and perhaps ensure the production of high quality feathers in the annual moult (van den Brink *et al.* 2000). Sandstorms are more likely in the Sahel when the soil is drier, and these are likely to reduce the feeding efficiency of aerial insectivores like Sand Martins, with the lightest birds being captured during and after prolonged sandstorms (pers. obs.). Nutritional stress probably explains the enhanced survival of smaller Sand Martins following drought years in the Sahel (Jones 1987, Bryant & Jones 1995).

The relationship between adult survival and Sahel rainfall was markedly non-linear (Figure 4), survival being less sensitive to variation in rainfall during the wetter years that predominated after 1994. Drought reduces their survival, through the smaller area of wet, insect-rich, habitat, but in the wetter years, above a certain rainfall the birds' survival does not increase and is limited by other factors such as conditions on migration, disease, predation and old age. A similar pattern has been described for White Storks (Nevoux *et al.* 2008), and this probably reflects a tendency for other factors to limit survival rates of Palaearctic migrants above a threshold level of rainfall in the Sahel (which in the case of Sand Martins occurs at a rainfall anomaly of approximately -1). Unlike Cowley and Siriwardena (2005), but like Robinson *et al.* (2008), we found no evidence of any influence of breeding season rainfall or temperatures on inter-annual variation in adult survival. This may partly be a consequence of the differing time periods considered.

Although several previous studies have reported density-dependent patterns of overwinter mortality in long-distance Palaearctic migrants, as far as we know our study provides the first independent quantification (albeit correlational) that overwinter survival in a long distance Palaearctic migrant is density-dependent. As seen in Figure 4, four out of the five years with the highest European Sand Martin population (marked with triangles) are below the line, birds having a lower survival than expected from the Sahel rainfall; while four of the five years with the lowest population (marked with squares) are above the line, birds having a higher overwinter survival than expected from the Sahel rainfall. The negative relationship between adult survival and the size of the western European Sand Martin population (coupled with the lack of any such relationship with the size of the local breeding population) is consistent with a mechanism of density-dependent competition for insect prey and/or insect-rich habitats operating in the West African winter quarters or perhaps on migration. A given area of inundation zone can probably only provide sufficient insect prey for a limited number of insectivorous birds, which might be a relatively high proportion of a small initial population or a smaller proportion of a larger population. We note that the 'survival' value is a proportion of those present, so that 'high' survival of a low population may be only a relatively small number of birds. A similar mechanism might affect other insectivorous birds dependent on the extent of the Sahelian inundation zone and may account for some previous cases of relatively high survival following relatively dry years in the Sahel. There was little support for a similar density-dependent mechanism affecting overwinter survival of first-year birds but evidence that local recruitment was lower in years following high local nest counts. The mechanism underlying this relationship may have been density-dependent natal dispersal as has been documented for a wide range of birds and mammals (Matthysen 2005). In Sand Martins this might reflect increased competition for nest sites or breeding season food.

Demographic determinants of population size

The size of the Cheshire Sand Martin population fluctuated markedly during the course of the study (from 90 occupied nest-holes in 1984 to 1,236 in 1996) and was larger after 1995 than before. As seen in Figure 5, many of the years with an increased Cheshire breeding population follow a rise in the overwinter survival, and vice versa. The correlation between adult survival and PMR suggests that population size in Cheshire Sand Martins was determined mainly by inter-annual variation in adult survival, with recruitment having a weaker influence. Consistent with these patterns, adult survival was higher, and recruitment (fecundity) lower, after 1995 than before (see Results). Higher adult survival after 1995 was probably driven mainly by heavier rainfall in the sub-Saharan winter quarters (Figure 3). Consistent with our data, a previous long-term study of British Sand Martins also found adult male abundance at breeding colonies to be positively correlated with an index of Sahelian rainfall in the previous year (Cowley & Siriwardena 2005). However, a study of Hungarian Sand Martins found changes in local population size to be unrelated to adult survival (or Sahel rainfall), suggesting that population size was more sensitive to variation in recruitment (Szép 1995a, 1995b). Thus, demographic drivers of population change may vary between regions within Europe.

SOME CLOSING INFORMAL COMMENTS FROM DAVID NORMAN

Figure 6: Sand Martin F912139 (photo: D Norman)

Every bird contributed to the analysis, particularly those that were already wearing rings from previous years, but two individuals are memorable for other reasons. I ringed F912139 as a juvenile on 3 July 1990 at Long Ridge, Delamere, and this bird was one of those caught by a team including me on 9 March 1991 at a roost in Djoudj, Senegal, 4,265 km away. That was remarkable enough, then on 1 June 1991 he was the second bird out of my net, as a breeding adult male at the Long Ridge colony (Figure 6), and caught on a further two dates during that season although not since then. F388059 was ringed as an adult male on 2 June 1989 at Newchurch Common, retrapped in 1990 at Long Ridge, Delamere and then at Town Farm Quarry, Cookson Green, in 1994, 1995 and finally on 2 June 1996, exactly 7 years after its ringing date. The BTO counts longevity as the elapsed time from ringing to finding, and this time span of 7 years makes F388059 rank fourth in the all-time list. However, the three older birds, all caught again by ringers between 7 and 8 years after ringing, were all ringed as juveniles, so F388059, ringed as an adult, is actually the oldest known bird from a total of over 1,200,000 Sand Martins ringed in Britain and Ireland, 1910-2013.

Finally, this Sand Martin study may appear to be complicated. The analysis was indeed extensive, with state-of-the-art statistical tests, collaboration with a professional ornithologist, and use of tabulated data from elsewhere (Sahel rainfall, British and European population indexes and the BTO dataset of all Sand Martin recoveries). But the fieldwork was actually quite simple: find all the Sand Martin breeding colonies every year, count all the apparently occupied nest-holes and try to catch as many of the adults as possible. I do not think that is complicated, and it is the sort of study that would be well within the capabilities of almost any ringer. The fieldwork needed a systematic and dedicated approach, but was straightforward and took no particular skill apart from the commitment to continue for 23 years. It was fortunate that the extended study period covered a wide range of population sizes and climatic conditions in their winter quarters, allowing the comprehensive analysis to show the effects described above, that turned out to be interesting enough to be published in the prestigious journal *Ibis*, currently ranked as the world's leading ornithological publication.

ACKNOWLEDGEMENTS

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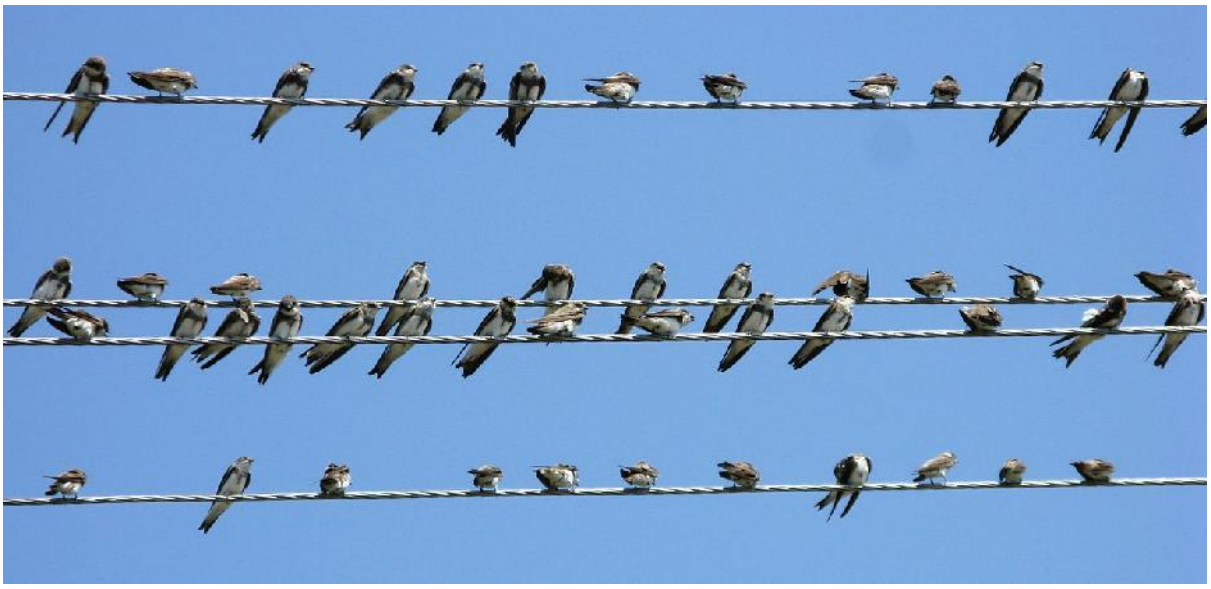

Figure 7 Sand Martins gathering in autumn on their way south for another winter in the Sahel. (By Шатилло Г.В. (Own work) [CC-BY-SA-3.0 (http://creativecommons.org/licenses/by-sa/3.0) or GFDL (http://www.gnu.org/copyleft/fdl.html)], via Wikimedia Commons from Wikimedia Commons.

IRRUPTION OF COAL TITS IN AUTUMN 2012

David Norman

A slightly modified version of this article appeared in the Cheshire and Wirral Bird Report 2012

Coal Tits are not normally thought of as migrants. The annual Cheshire and Wirral Bird Report species statement describes Coal Tit as 'resident', although the caveat for that status is that 'winter and summer populations do not necessarily consist of the same individuals'. There is, however, occasional evidence of autumn passage in the county, such as records from Wirral coastal sites in October 2003, with counts of 60 and 20, and two counts, a month apart, each of 75 birds in September-October 2010. MRG has several records of ringed Coal Tits that have undertaken long-distance movements to or from Cheshire and Wirral, such as birds ringed on Bardsey Island, Gwynedd in October 1985 and caught at Little Sutton, Wirral in February 1986 (136 km ENE); another ringed at Hale, Widnes in March 1989, found seven years later 231 km NNE in Northumberland; and, even more oddly, a juvenile ringed in June 1994 in Cumbria and caught at Upton, Wirral in June 1995.

There appeared to be another such influx in autumn 2012, although the geographical pattern differed from those in 2003 and 2010. In the period 4 October to 5 November 2012, I ringed 29 Coal Tits in my garden at Sutton Weaver near Runcorn, comparing starkly with a grand total of 36 between those dates in the previous 32 years! During visible migration watches at nearby Hale Head, Rob Cockbain and Jeff Clarke recorded two big counts, moving south: 100 on 13 October and 40 on 19 October, and there were 30 at Red Rocks, Wirral, on 14 October, but no unusual numbers of Coal Tits were noted elsewhere in Cheshire and Wirral. None of the county's other ringers who responded to my request for information reported catching exceptional numbers of Coal Tits, beyond the expected year-to-year fluctuations in this species. This perhaps suggests that the autumn 2012 irruption was on a narrow front. Similar irruptive movements were also reported from north Lancashire, typically a few days before the Cheshire and Wirral records. At Heysham the first noticeable birds were 19 on 27 September and 426 were counted in early/mid October, with a maximum of 164 passing south on 9 October (http://northlancsringinggroup.blogspot.co.uk/2012/12/a-few-preliminary-observations-on-this.html).

All Coal Tits caught in my garden, and in scrub at Oxmoor Local Nature Reserve near Runcorn, a total of 36 in autumn 2012, were first-year birds, with no adults. These figures contrast with the age ratio amongst 54 birds I caught at four Cheshire woodland sites in winter 2012/13, 43 adults: 11 first-years. This indicates that the irrupting birds, found at sites with peripheral (sub-optimal) habitat, were immatures whilst the great majority of Coal Tits in their core woodland habitat were adults. I propose that these results follow from two effects: (i) a poor 2012 breeding season with fewer juveniles produced, in common with all insectivores (http://www.bto.org/volunteer-surveys/ringing/surveys/ces/ces-results/preliminary-ces-results/2012), although figures for Coal Tits are unknown because no-one studies birds in their core coniferous woodland; and (ii) a failure of tree-seed crops, depriving them of their favoured food outside the breeding season. The experienced adults are better able to survive in the woods where food is difficult to find, and the young birds roam more widely in the hope of discovering easier sources.

Some people have wondered if our autumn immigrants could be Irish Coal Tits, such thoughts perhaps prompted by the occurrence of a few of the *hibernicus* race on the Isles of Scilly, but every one that I have handled has been a normal British bird. They quite often can appear to have creamy-coloured cheeks if examined closely. None of those that I caught was already wearing a ring, or has since been reported elsewhere, but a bird caught by South Manchester RG near Manchester Airport in January 2013 had been ringed as a chick in Northumberland in June 2012, a movement of 182km S, giving an interesting clue to the origin of some of the Coal Tits present here in winter 2012/13.

COMMON TERNS IN THE DEE ESTUARY
MAY- JULY 2013

Peter Coffey

1. Introduction

The Common Tern *Sterna hirundo* is listed among the reasons for designation of the Dee Estuary as a Special Protection Area and a Ramsar Wetland of International Importance. The failure of the breeding colony at Shotton in 2009 and 2010 became a cause for concern and in 2011 a multi-agency working group convened by Merseyside Ringing Group (MRG) examined available information on factors that might affect Common Tern activity.

Boat-based surveys in the Dee estuary and observations at Shotton reserve were conducted in 2011 and 2012[1]. Whilst no breeding occurred in those years, camera surveillance proved that terns were using Shotton as a night-time roost on high tides. In addition, we began to build a better understanding of tern activity in the estuary. In the hope of better things in 2013, MRG agreed to continue with both the boat-based surveys in the estuary and observations/camera surveillance at Shotton. More cameras were purchased to increase coverage.

MRG was supported by Natural Resources Wales who paid for the boat trips.

2. Boat-based surveys

Peter Coffey and Kenny McNiffe conducted two surveys, on 7 May and 6 June. It was noticeable, yet again, how much the main channel had moved compared to the previous year. On the first survey, small groups of up to five Common Terns were observed from Oakenholt downstream to Hilbre. Display flight was recorded on several occasions and some terns were carrying fish.

On the second survey, brisk easterlies picked up in strength and created rough water all along the Welsh coast so we ventured as far downstream as Mostyn dock but could not go further. As it happens, all the activity was close to Shotton. Common Terns were fishing in the channel at Connah's Quay dock and we had regular sightings of terns carrying fish flying either side of the whole length of the Broken Bank in the direction of Shotton. Terns were observed contact dipping and diving for prey around Oakenholt/Flint Castle as the tide was rising against sandbanks. Further activity was noticed up to Flint Point but not downstream from there. Terns were also recorded fishing in the White Sands area and again in the Oakenholt area as the tide fell. The consistent feature was of birds carrying fish flying in the direction of Shotton; on average approximately 1 in 3 birds was carrying food but that was sometimes as high as 6 in every 10 birds.

A six-foot beam trawl with micromesh was used in the channel from the Flint Bridge downstream to Oakenholt when the water column was still relatively small before the tide had started to flood in. The expected shrimps/flounders were caught but so too were approximately 20 sparling of 40-50mm length, ideal prey for the terns.

After the second boat survey, Keith Marland (the survey boat skipper) continued to observe tern activity in the river and reported tern feeding had been concentrated in the upper estuary, with birds flying east towards the colony. Some of the best feeding was taking place just below the Flint bridge on the flood tide and nearly all the catch was sand eels. This coincides with the good catches of bass being caught as far up the estuary as the dock at Connah's Quay – bass follow sand eels!

[1] For details see Merseyside Ringing Group Annual Reports 2011 and 2012

3. Observations at Shotton

The terns first appeared in numbers on 19 May but cold wet weather in the subsequent days seemed to put them off breeding for a while. They returned in force around 1 June and 400+ birds have been recorded regularly since then. All three islands were occupied and birds settled down to breed. Terns carrying food were observed dropping down into compartments and then emerging without fish, presumably having offered the food to a female that may be creating a nest/laying eggs.

Early optimism was dashed on 16 June when two of the three islands appeared to be deserted and subsequent checks of video footage from the Bushnell Trophy Cameras installed on the islands revealed a fox was the culprit. Electric fencing was hastily purchased and erected along the main bund to prevent further visits.

Thankfully the terns did not abandon the colony and up to 250 birds were still present a fortnight later. However a visit to the colony on 27 June was disappointing: only 30 viable eggs were counted and only one nest had two eggs, demonstrating the scale of disruption caused by the fox. On a follow-up visit on 21 July 40 nests were counted, almost all on island 2, but no chicks had hatched.

Sadly there was another visit by a fox in the early hours of 23 July. Most adults abandoned the colony but several pairs continued to attend the colony and were observed carrying fish. On a visit on 16 August, two chicks were found on island 1 and ringed; their difference in size suggested they were from two nests. Both chicks fledged successfully. No other chicks were found at the colony.

4. Reports from other Common Tern colonies in Liverpool Bay

A colony of Common Terns has developed in Preston Docks, nesting on flat concrete-faced wave breakers mounted on flexible pylons from the dock floor. The birds feed in the Ribble estuary and Liverpool Bay but not in the dock. The first record of breeding was in 2009 when two pairs attempted to nest and eventually one chick fledged. Over the next three years the colony increased to 6, 10 and 30 pairs and in 2013 reached 120 pairs. Seven birds ringed as pulli at Shotton have been recorded at Preston: two in 2012 and five in 2013. Six of those birds hatched in 2006-08 and will not have bred at Shotton. One tern, ringed as a pullus in 1999, may have bred at Shotton before the collapse of the colony and bred at Preston in 2013. Other breeding adults at Preston include birds from Doffcocker Lodge, Bolton and the Seaforth colony.

The Seaforth colony had been regularly used by Shotton birds as a post-breeding assembly point and it is also used as an area where non-breeding adults congregate. The colony experienced severe overcrowding since 2009 as “displaced” Shotton birds moved there, with some attempting to breed. Sheer pressure of numbers led to many nests being destroyed at the egg stage. This lessened in 2013 resulting in 165 pairs nesting there and successfully raising young.

5. Acknowledgements

Special thanks to Natural Resources Wales, who funded the boat trips, and to Keith Marland, whose boat we used and who provided valuable insight into the dynamics of the Dee estuary and the state of the fisheries. Thanks also to Tata Steel for their continued support for the tern colony at Shotton and especially Steve Hughes who, together with colleagues from Dee Wildfowlers, helps to maintain the islands.

BIRD-RINGING AND OBSERVATIONS AT SHOTTON 2012 - 2013

Peter Coffey*

** Peter Coffey on behalf of the Shotton team: John Birch, Rob Cockbain, Graham Thomason, Paul Triggs, John Parkinson and Richard Birch who assiduously log birds recorded on the reserve and ring species where possible.*

The tern colony

A more detailed report of the activity of Common Terns in the Dee estuary and at Shotton is provided in this Annual Report (pp 46-47).

Ringing Highlights

The total number of birds ringed in 2012 and 2013 (938 birds) was less than the bumper 2011 total (1157) although a higher number of species were caught (32 compared to 29). Thirty-seven ringing sessions in 2012 and 33 in 2013 yielded average numbers of birds caught per session of 16.8 and 9.6 respectively.

Sparrowhawks are regularly seen at Shotton and in July 2013 both male and female were seen carrying prey indicating breeding on the reserve. Despite this presence only one bird was caught, and that was in September 2012. A Water Rail ringed on 21st November 2010 was retrapped on 4 November 2012. Oystercatcher was the only wader ringed – two chicks at a nest on the tern islands.

Great Spotted Woodpeckers visit the feeding stations; relatively few new birds were caught compared to 11 in 2011 but several regular visitors were retrapped. Tits also visited feeding stations, with Blue and Great Tits dominating, but four Coal Tits were welcome additions to the ringing totals in 2012.

Cetti's Warbler failed to put in an appearance in 2012 but returned in numbers in the autumn of 2013. Two birds, one male and one female, were caught and ringed on 10 November. One was retrapped on 8 December and on 29 December a third Cetti's Warbler was ringed together with one of the earlier birds. Parties of Long-tailed Tits can be seen (and heard) regularly across the Shotton reserve and occasionally they will fly into one of the nets. Eighteen out of a party of 20 birds moving through on 8 December 2013 were caught and ringed, almost half the total for the two-year period.

Warblers accounted for 27.7% of new birds in 2012 and 27.6% in 2013 but that consistency hides significant variations between species (see Table 1 below). Chiffchaff numbers dropped from 43 to 14 whilst Willow Warbler numbers were unchanged at eight per year. Blackcap declined by half (24 to 12) but Whitethroat increased from five to nine. Sedge Warblers declined by one third (15 to 10) whilst Reed Warblers declined from 76 to 34. Garden Warbler and Lesser Whitethroat were each recorded only once in the two year period.

In 2012, Chiffchaff was recorded from 1 January through to 11 November. In 2013, the first Blackcap, caught on 21 April, was a retrapped female from April 2011; the latest Blackcap was a male caught on 10 November. A Sedge Warbler controlled on 5 May 2013 was carrying a French ring – we are still waiting for ringing details.

Thrushes are observed at, or flying over, the reserve during the winter months but, with the exception of Blackbird, none has been caught. A Redstart caught and ringed on 12 August, 2012 was a welcome visitor. Finches regularly visited the bird feeders in autumn/winter of 2012/13 but, in common with many MRG sites, very few visited in the autumn of 2013 because of the abundance of the natural harvest. Chaffinch, Greenfinch and Goldfinch are the commonest

finches caught at Shotton but Lesser Redpoll was reported regularly between December 2012 and April 2013, with 18 being ringed. A Brambling was ringed on 29 January 2012 and three Siskins were ringed in February 2013.

Table 1: New birds ringed at Shotton 2012-13

Species	2012	2013	Totals
Sparrowhawk	1		1
Oystercatcher	2		2
Common Tern		2	2
Woodpigeon	1		1
Great Spotted Woodpecker	4	3	7
Goldcrest	1	3	4
Blue Tit	81	28	109
Great Tit	50	27	77
Coal Tit	4		4
Cetti's Warbler		3	3
Long-tailed Tit	18	20	38
Chiffchaff	43	14	57
Willow Warbler	8	8	16
Blackcap	24	12	36
Garden Warbler		1	1
Lesser Whitethroat	1		1
Whitethroat	5	9	14
Sedge Warbler	15	10	25
Reed Warbler	76	34	110
Wren	13	6	19
Blackbird	6	8	14
Robin	10	12	22
Redstart	1		1
Dunnock	10	5	15
Chaffinch	100	53	153
Brambling	1		1
Greenfinch	61	9	70
Goldfinch	59	25	84
Siskin		3	3
Lesser Redpoll	6	12	18
Bullfinch	6	3	9
Reed Bunting	13	8	21
Totals (32 species)	**620**	**318**	**938**

Sightings at Shotton

Many other species are recorded at Shotton but not ringed. Mute Swans were regularly recorded in both years but did not breed. The maximum count was six on 27 May 2012 which included four birds flying over the reserve. Shelduck was recorded only once: three birds on 13 May 2012. Wigeon was recorded twice: eight birds on 1 September 2012 and 12 birds on 29 September 2013. Counts of Gadwall were low in the early months of 2012 but built up from September to a peak of 52 on 27 December. Numbers were maintained throughout January 2013 and peaked at 54 on 3 February before falling sharply. No significant counts were recorded in the autumn of 2013. Teal was seen in small numbers, the maximum count being 18 on 29 January 2012. Pintail is an irregular visitor: 14 were present on 15 February 2012, of which 13 were males. One Pochard was seen on15 February 2012 and nine on 28 October 2012.

Goldeneye was present in the winter months in small numbers, with a maximum of eight birds on 24 February 2013. Seven of these birds were females. Mallard and Tufted Duck are present in good numbers (maxima of 60 and 24 respectively) for most of the year.

Little Egret is becoming a regular visitor and seven flew over the reserve on 22 January 2012. However one of the highlights was when a Great White Egret circled the pools several times on 14 July 2013 before drifting off towards the river. Little Grebes successfully bred both years, raising five chicks.

Table 2: Additional species recorded but not ringed at Shotton, 2012-2013

Species	**2012**	**2013**	**Species**	**2012**	**2013**
Mute Swan	X	X	Greenshank	X	
Pink-footed Goose	X		Redshank	X	X
Greylag Goose		X	Black-headed Gull	X	X
Canada Goose	X	X	Common Gull	X	X
Shelduck	X		Lesser Black-backed Gull	X	X
Wigeon	X		Herring Gull	X	X
Gadwall	X	X	Black Tern	X	
Teal	X	X	Sandwich Tern		X
Mallard	X	X	Stock Dove	X	X
Pintail	X		Swift	X	X
Shoveler	X	X	Kingfisher	X	X
Pochard	X		Magpie	X	X
Tufted Duck	X	X	Jay	X	X
Goldeneye	X	X	Jackdaw	X	X
Pheasant	X	X	Crow	X	X
Cormorant	X	X	Raven	X	X
Little Egret	X	X	Skylark		X
Great White Egret		X	Sand Martin	X	X
Grey Heron	X	X	Swallow	X	X
Little Grebe	X	X	House Martin	X	X
Marsh Harrier	X		Nuthatch	X	
Hen Harrier	X		Starling	X	X
Buzzard	X	X	Fieldfare	X	X
Kestrel	X	X	Song Thrush	X	X
Merlin	X		Redwing	X	X
Peregrine	X	X	Mistle Thrush	X	X
Water Rail	X	X	Stonechat	X	
Moorhen	X	X	Grey Wagtail	X	X
Coot	X	X	Pied Wagtail	X	X
Lapwing	X	X	Tree Pipit		X
Woodcock		X	Meadow Pipit	X	X
Black-tailed Godwit		X	Rock/Water Pipit	X	X
Whimbrel	X		Linnet		X
Common Sandpiper	X	X	Common Crossbill		X
Green Sandpiper	X	X			
Total species (including ringed birds): 2012 – 88 ; 2013 – 86; Combined - 101					

Three unusual raptor sightings occurred in January 2012: a female Hen Harrier on 1st, a female/immature Marsh Harrier on 22 and a male Merlin on 28 January. Peregrine is a more regular visitor with five sightings in 2012 and two in 2013.

Water Rail was seen (or heard) on three occasions each year in the winter months with a peak of four birds on 29 December 2012. Coot numbers peaked at 25 on 26 August 2012 and 50+ on 23

September 2013. Eight species of wader were recorded but not ringed on the reserve. Lapwing sightings included a flock of 50+ flying over the reserve on 30 September 2012 and 125 flying over on 29 September 2013. A Woodcock was a welcome visitor on 29 December 2013 and seven Black-tailed Godwits were observed flying towards the Mersey estuary on 21 July 2013. Whimbrels regularly visit the Dee estuary and one visited the reserve on 26 August 2012. Only two Common Sandpipers were recorded, on 29 July 2012 and 21 April 2013. Green Sandpipers were observed on thirteen occasions. The peak period is July-September with eight records including four birds being seen on 1 September 2012 and on 14 July 2013. Birds were also recorded on 4 and 17 March (2012 and 2013 respectively), 10 November 2013 and 30 December 2012 and 1 December 2013. A Greenshank was seen on 26 August 2012 and Redshank was heard/seen on occasions in both years. A ninth species of wader, Dotterel, was observed on ploughed fields just outside the reserve on 15 April 2012 where a party of nine birds included three in summer plumage.

Gull species are common but occasionally significant movements of birds are recorded. Lesser Black-backed Gulls and Herring Gulls, totalling 150, flew over heading east on 29 January 2012 and 100 of each flew over on 25 March 2012. Small numbers of Black-headed Gulls were observed visiting the tern islands in both years but did not appear to attempt breeding. Whilst no Common Terns bred successfully in 2012, camera evidence was used to estimate 400-500 adults were roosting on the islands and it also provided a six-second video clip of a Black Tern trying to roost amongst the Common Terns on 28 May. Sadly the bird was not observed during daylight hours. Five Sandwich Terns flew over the reserve on 21 July 2013.

Woodpigeon is ever-present at Shotton but noticeable movements were recorded: 150 birds on 30 December 2012, 120 on 20 January 2013 and 100 on 1 December 2013. Kingfisher was seen on two occasions each year. Swifts hunt for prey over the reserve each summer, with maximum numbers of 30+ and 20 on 1July 2012 and 30 June 2013 respectively. Jay, Magpie and Carrion Crow live on the reserve and parties of Jackdaw are occasionally observed flying over. Raven was observed flying over on five dates. Notable observations of hirundines included 300 Swallow and 200 House Martin on 2September 2012 and a spring movement of 40 Sand Martin, 50 Swallow and 30 House Martin on 21 April 2013. A Nuthatch visited the reserve on 26 August 2012.

Significant sightings of Starling include 1000 birds roosting at Shotton on 1/2 September 2012 and 100 emerging from a roost on 8 December 2013. Thrush species observed but not ringed include: Fieldfare in December 2013 (maximum of 20 on 1st); 60+ Redwing on 28 October 2012 and up to 20 arriving at a roost on 8 December 2013; and Mistle Thrush with a maximum of 6 reported on 10 November 2013. Stonechats, both male, were seen on 26 February and 11 November 2012. There was a single record of Grey Wagtail in 2012 but a small roost built up in 2013 with up to six birds seen leaving the roost on 8 December 2013. The roost was still active on 29 December. Far fewer Pied Wagtails were recorded with a maximum of three on 6 October 2013. Three species of pipit were recorded. Five Meadow Pipits were present on 6 October 2013, a Water/Rock Pipit was seen on 1December 2013 and a Tree Pipit was observed on 28 July and 8 September 2013.

Small flocks of finches visited Shotton in the early months of 2012 and winter 2012/13. Maximum counts for Chaffinch were 100+ in January and December 2012; on the latter occasion birds were leaving a roost. Maximum count for Greenfinch was 20 (January 2012), for Goldfinch it was 10 (January and December 2012), Lesser Redpoll 10 (December 2012) and Siskin 15 (March 2013). Linnet was only recorded once – three birds on 28 July 2013. The final record of note was a single Crossbill flying over in a westerly direction on 28 July 2013.

Acknowledgement

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INCIDENCE OF AVIAN POX IN BIRDS CAUGHT IN CHESHIRE AND NORTH SHROPSHIRE, INCLUDING PROBABLY THE FIRST REPORTED CASES IN BLACKCAPS IN BRITAIN

David Norman

Summary

In the period 2011 to August 2014, six Great Tits were caught by Group members in north Shropshire or Cheshire showing lesions characteristic of avian pox, the disease that is spreading north in birds of the tit family. The overall prevalence was low, and no site had more than one bird per winter. An infected Coal Tit was caught in winter 2012-13 and recaptured 45 days later when it was almost clear of the disease. Cases of apparent avian pox were recorded in four non-Paridae species, Dunnock, Robin, Song Thrush and Blackcap. Four different Blackcaps were caught in autumn 2013 with lesions that appear to be avian pox, and another in July 2014. To the best of our knowledge, avian pox in British Blackcaps is a new finding.

Introduction

Avian pox has been reported from many species of bird across the world but has seldom been found in our area. From 2006 onwards the disease was increasingly found in members of the tit family (Paridae), especially Great Tits. During 2006-10 there were 211 incidents nationally of affected Paridae, 90% of them Great Tits, and also 91 reported incidents from other non-Paridae species (Lawson *et al* 2012). Analysis showed that the Paridae-pox was a specific strain, rapidly spreading north, differing from the non-Paridae pox found in sporadic, unconnected outbreaks in other bird species. In 2011 the BTO and the Garden Bird Health Initiative (GBHi, now subsumed into the Garden Wildlife Health project) asked for sightings and information from birdwatchers and ringers to be reported to them (http://www.ufaw.org.uk/documents/Avianpoxingreattits_July2011.pdf).

Although predominantly found in southern England, by 2010 avian pox in Great Tits had been reported from as far north as Shropshire and Derbyshire. Avian pox in other species has been reported since the 1950s from a number of British bird species, including Blackbird, Carrion Crow, Chaffinch, Dunnock, Greenfinch, Goldfinch, House Sparrow, Jackdaw, Starling and Woodpigeon. These records have come from scattered sites across the country with no obvious geographic pattern.

This article has been compiled following requests to all ringers in Merseyside RG and contains all the known records of apparent avian pox, in whatever species, to mid-August 2014. None of the birds has been examined by a veterinary specialist but photographs of all those marked * have been seen by Dr Becki Lawson, GBHi coordinator, and confirmed as showing the visual signs of avian pox.

It is thought that pox can be transmitted by direct contact – and for every incident listed below the ringers took care to clean their hands and equipment used – and that mosquitoes and other insects can be intermediate vectors. Such insects show increased prevalence in warm and wet summers such as 2013. The primary host is presumably birds somewhere.

MRG Records in Paridae (Great Tits and Coal Tit)

An adult male Great Tit* was caught by Bob Harris at Whixall, Shropshire SJ5035 on 22 January 2011 showing signs of avian pox on the top of its head next to the upper mandible (Photo 1). This bird had been originally ringed as a juvenile on 7 September 2009, disease-free. In winter 2010-11, 38 new Great Tits were caught at this site, with 61 retraps, and this was the only infected bird.

Another male Great Tit* was caught at the same site on 17 November 2012 with a large 'wet' lesion covering most of its abdomen (Photo 2). This had originally been ringed as a nestling on 20 May 2012, disease-free. In 2012, 16 new and 20 retrap Great Tits were caught at this site with this bird the only one infected.

Photo 1 (Photos: Bob Harris)

Photo 2

A first-year male Great Tit* caught by me on 3 November 2012 at Norton Priory, Runcorn, Cheshire SJ5583 had a bleeding lesion next to the upper mandible (Photo 3). The bird showed no other signs of illness and weighed 20.2g, a reasonable weight and not suggesting ill-health. I had 32 handlings of 24 different Great Tits at the site during winter 2012-13 with no other cases. The site is mature woodland, with no feeding stations, perhaps giving limited opportunities for bird-to-bird contact.

Another first-year male Great Tit* was caught by me on 5 January 2013 at the feeding station in Delamere Forest, Cheshire SJ5471 with a lesion below its lower mandible (Photo 4). This bird had been ringed on 23 October 2012 and not then noticed with any symptoms. This was the only bird ever caught at the site showing signs of avian pox. In winter 2012-13 I had 37 captures of 32 different Great Tits, 42 captures of 36 different Blue Tits and 30 handlings of 21 different Coal Tits at this site.

Photo 3 (Photos: David Norman)

Photo 4

None of these four Great Tits was caught or seen again after the given date, and no infected bird has been caught at any of these sites since winter 2012-13. However at the time of going to press, two Great Tits have been caught elsewhere during 2014: a first-year female Great Tit was caught by Hugh Pulsford on 2 February 2014 at the feeding station at Great Warford, Cheshire SJ8176 with a large, boil-like structure on its head adjacent to the bill; and a Great Tit, thought to be an adult male, was caught at the feeding station at Woolston, Cheshire SJ6588 on 31 May 2014, with a large lesion on its head, the first ever seen at this site.

The one other case of pox-like symptoms in a tit species was perhaps the most interesting: a Coal Tit* caught in his garden at Sandiway, Cheshire SJ6070 by Alan Garner on 16 February 2013, infected around its eye (Photo 5). This bird had been ringed on 29 November 2012 and then recaptured 3 days later, without any symptoms being apparent. Shortly before its February recapture, the bird had been seen feeding in the garden on several occasions, avoiding the seed feeders and feeding almost exclusively on the lawn, where it appeared to find plenty of small invertebrates. The bird was then caught again on 2 April 2013 when the lesion had almost cleared up (Photo 6). There are a few other documented cases of individual wild birds recovering from the symptoms of avian pox but this is the only one that we have recorded.

Photo 5

Photo 6

(Photos: Alan Garner)

Apparent avian pox in Blackcaps

On 26 July 2013, at Oxmoor Local Nature Reserve, Runcorn, Cheshire SJ5584, I mist-netted a juvenile Blackcap* with weeping lesions on both legs that looked very much like instances of pox that I have seen on American birds (Photo 7). An hour later, an adult female Blackcap* was caught that had lost much of her head plumage around her eyes and ears, and had a growth on one side (Photos 8&9); I wondered if she might have been the mother of the first bird.

Photo 7

Photos 8&9

(Photos: David Norman)

(Photo 10 taken by David Norman)

On 7 October 2013, I caught at Oxmoor a first-year female Blackcap* with a large growth on her upper mandible (Photo 10). She had no visible growths anywhere else and weighed a reasonable 17.4g with a trace of visible fat, so had apparently been feeding reasonably well.

To give a measure of the prevalence, at Oxmoor in 2013 I had 150 handlings of Blackcap (137 individual birds), and 2,470 handlings of all species, and lesions were not seen on any other birds. I had 908 handlings of Blackcap in the previous ten years at the site (2003-2012) and never noticed any bird with symptoms.

Another Blackcap was caught in August/ September 2013 at Woolston, Cheshire SJ6588 with pox-like lesions on its abdomen. A further juvenile Blackcap was caught by Neville Powell on 12 July 2014 near Poynton, Cheshire SJ9484 displaying the early growth signs of avian pox on the upper mandible.

No samples were taken from any of these birds so there is no definitive proof of the possible diagnosis but they all appear similar to published photographs of birds with avian pox.

Blackcap does not appear in the lists of species reported in Britain with avian pox, and I can find only one published reference from elsewhere. Rajchard and Rachač (2001) reported mist-netting a small sample, 36 birds of 12 species, in mid-August in the Czech Republic. The most numerous was Blackcap, with 14 individuals, every one of which was showing symptoms of avian pox on their legs while none of the other birds did. The authors suggested that the Blackcaps had concentrated to feed at a fruiting elder bush and that, by rubbing their diseased legs on the branches, the pox was transmitted to other birds.

MRG Records in other non-Paridae species

An adult Robin caught by Bob Harris at Whixall, Shropshire SJ5035 on 19 March 2013 showed signs of avian pox around its eye, having been originally ringed as a juvenile on 24 November 2009 and retrapped on 30 January 2010 and 3 December 2010, free of disease on all occasions.

Photo 11shows a juvenile Dunnock, caught by Bob Harris in his Whixall garden on 28 November 2011, with what appeared to be classic symptoms of avian pox, lesions on the upper mandible. It had a reasonable weight of 20.5g but was not seen again.

On 16 August 2014 a juvenile Song Thrush was caught at Woolston, Cheshire SJ6588 with a pox-like lesion on its bill.

(Photo 11 taken by Bob Harris)

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HABITAT-DEPENDENT VARIATIONS IN THE INCIDENCE OF CHAFFINCHES WITH DISEASED LEGS

David Norman

Summary

Chaffinches are unlucky in being probably the species most susceptible to diseased legs, either from Knemidocoptic mange (KM) or Fringilla papilloma virus (FPV). I caught 1,863 Chaffinches in Cheshire in nine winter periods (October to March) 2005/06 to 2013/14 and 63 of those birds were recorded with diseased leg(s), 50 with symptoms of KM and 13 appearing to have FPV. The incidence of diseased legs is significantly higher at feeding stations (18 infected out of 148 caught (12.2%)) than at sites in farmland 13/754 (1.7%) or woodland roosts 27/770 (3.5%) or my garden 5/142 (3.5%). Most of the infected birds were released unringed without processing but the age was recorded for 38 of them, 34 adults and 4 first-years, the significantly higher proportion of adults suggesting that birds can live with the symptoms of disease for a considerable time.

Introduction

It is not surprising that ringers notice the state of birds' legs. Most are normal and healthy but a small proportion of wild birds have diseased legs, some species being more prone than others and Chaffinch being probably the worst-afflicted. They are susceptible to two types of problem that cause growths on their legs, Knemidocoptic mange (KM) and Fringilla papilloma virus (FPV). The mange is caused by a microscopic mite (less than 0.5mm in diameter) that burrows into the upper layers of the skin to lay its larvae; the mites are spread by close contact with an infected bird, although they can survive for a limited time off the host. FPV is a virus (related to papillomaviruses that can infect the skin of many species including humans) that causes wart-like growths on the bird's foot and lower leg, made up of excessive growth of keratinised layers of skin. Its mode of transmission is not known but it seems likely that the virus may be spread via surfaces the birds stand or perch upon (Kirkwood & Macgregor 1998).

The manifestations of these diseases, which also occur in captive birds, are given a variety of other names especially by aviculturists, including scaly leg, tassel foot and bumblefoot. These names, sometimes with contradictory symptoms, can be found widely on forums and advice pages about garden birds, including those of the BTO and RSPB. Bumblefoot is incorrect, though: this is a bacterial infection, found in poultry, resulting in the formation of abscesses.

KM and FPV cannot always be distinguished without laboratory tests but my understanding of their typical symptoms is that the Knemidocoptes mites give rise to scaly excrescences, causing a thickened leg, while FPV usually manifests itself in a 'ruff', mostly around the 'ankle' joint, with the leg itself often appearing normal; both are shown in the images below.

There are occasional flurries of chatter amongst ringers about birds with diseased legs, always based on anecdote with no data. This paper is presented as a quantitative contribution to the discussion.

Left: Chaffinch diseased legs presumed to be Knemidocoptic mange; Right: Chaffinch diseased legs presumed to be Fringilla papilloma virus. (Photos: David Norman)

Methods and Results

In the nine 'winter' (October to March) periods 2005/06 to 2013/14 I have caught 1,863 Chaffinches by mist-netting at a variety of sites in Cheshire. Sixty-three of them had one or both legs showing signs of disease, for which I recorded a brief description of the appearance of the growth and, for most of them, the age and sex of the bird. Most birds were released immediately after extraction from the net although a few were not noticed until they were processed. Handling was minimised to try to avoid transmission of the disease, and the ringers' hands were disinfected after touching the bird. Biometrics were not normally taken but several of the Chaffinches were obviously large, presumably of Scandinavian origin.

Most birds were released unringed although six of the 63 were ringed on the unaffected leg, in line with the guidance in the 2001 *Ringers' Manual*. This was updated in *Ringing News* (Spring 2013) to 'Diseased birds may not be ringed'. Because 57 of the 63 Chaffinches with diseased leg(s) were not ringed and thus not individually identifiable, there is a small possibility of double-counting if an infected bird was caught more than once. But the retrap rate of Chaffinches is low (76 of the 1800 ringed in this study (4.2%)) so that, on average, only two of the unringed birds were likely to have been caught twice; this small proportion would not affect the analysis.

It should be noted that none of these birds has been examined by a veterinary specialist, and the type of disease was classified according to the above photographs. Of the 63 birds with diseased legs, 50 appeared to be KM and 13 FPV; two of the latter also had minor excrescences on their legs. The following analyses do not distinguish between birds with the two types of leg disease.

Table 1 gives the number of Chaffinches with diseased leg(s) caught each winter at each site and Table 2 gives the number of healthy Chaffinches caught each winter at each site; these figures include recaptures of birds already wearing a ring. The sites are BHFM = Bickley Hall Farm SJ5247, feeding station surrounded by farm; DEL = Delamere Forest SJ5471, feeding station in middle of woodland; DFH = Fox Howl, Delamere SJ5271, feeding station at edge of woodland; MDBK = Meadow Bank Farm, Broxton SJ4752, wildbird seed plots in open farmland; AST = Aston SJ5678 roost in mature woodland with extensive understorey; NOP = Norton Priory, Runcorn SJ5583 roost in mature woodland with extensive understorey; SUW = Sutton Weaver, Runcorn SJ5480 garden.

Table 1: The numbers of Chaffinches with diseased leg(s), either Knemidocoptic mange or Fringilla Papilloma Virus, caught each winter at each site

Site	BHFM	DEL	DFH	MDBK	AST	NOP	SUW	Total
Winter	feeding stations			farm	roost		garden	
2005/06				1	1			2
2006/07				1	4			5
2007/08	3			2	4			9
2008/09	1	6		2	5	1	1	16
2009/10	2	1		1	2	2	1	9
2010/11	1			1	1	1		4
2011/12	1	1	1	3	1		1	8
2012/13			1		2	1		4
2013/14				2		2	2	6
Total	**8**	**8**	**2**	**13**	**20**	**7**	**5**	**63**

Table 2: The numbers of Chaffinches with healthy legs caught each winter at each site. (49 Chaffinches caught at four other sites, none with diseased legs, are included in the totals.)

Site	BHFM	DEL	DFH	MDBK	AST	NOP	SUW	Total
Winter	feeding stations			farm	roost		garden	
2005/06		5	2	154	25	41	8	243
2006/07				10	44	27	13	94
2007/08	4			93	44	34	30	205
2008/09	20	19	2	126	73	54	24	318
2009/10	14	14	5	32	69	88	25	247
2010/11	1	9		226	64	12	18	366
2011/12	3	11	6	78	59	30	4	192
2012/13	3	2	4		25	19	12	66
2013/14		4	2	22	13	22	3	69
Total	**45**	**64**	**21**	**741**	**416**	**327**	**137**	**1800**

The overall prevalence of Chaffinches with diseased legs as a proportion of the total caught was 63/1863 (3.4%), with wide differences between different sites: BHFM 8/53 (15.0%); DEL 8/72 (11.1%); DFH 2/23 (8.7%); MDBK 13/754 (1.7%); AST 20/436 (4.6%); NOP 7/334 (2.1%); SUW 5/142 (3.5%). Some of the samples are small and some of the differences could have arisen by chance, but the figures suggest that disease incidence is lowest in the open farmland, intermediate at the garden and roost sites, and highest at the feeding stations.

Applying statistical tests (contingency tables for comparing the proportions and using Yates's correction) there is no difference between the prevalence at the two roost sites ($\chi_1^2 = 2.77$, $p = 0.10$) and no difference between the prevalence at the three feeding stations ($\chi_1^2 = 0.24$, $p = 0.89$) so we can combine these and compare the birds from the four habitat groups. There is no difference between the farmland and garden sites ($\chi_1^2 = 1.08$, $p = 0.30$) or between the roost and garden sites ($\chi_1^2 = 0.86$, $p = 0.81$). The difference between the farmland and roost sites is marginally statistically significant ($\chi_1^2 = 3.84$, $p = 0.05$); one diseased bird more at the farmland site or one fewer at the roost sites would make this comparison not statistically significant. The one set of comparisons that is statistically robust is between the feeding stations and each of the other three groups: feeding stations versus farmland ($\chi_1^2 = 37.5$, $p < 0.0001$); feeding stations versus roosts ($\chi_1^2 = 18.1$, $p < 0.0001$); feeding stations versus garden ($\chi_1^2 = 6.27$, $p = 0.01$).

The incidence of diseased legs at the four types of site then becomes feeding stations: 18/148 (12.2%); farmland 13/754 (1.7%); roosts 27/770 (3.5%); and garden 5/142 (3.5%).

There also appears to be significant variation in the total incidence of diseased legs from year to year, with the annual rate varying tenfold from 0.8% in 2005/06 to 8% in 2013/14 ($\chi_8^2 = 16.0$, $p = 0.04$) but this is confused by the annual variations in the numbers caught at the different types of site. If the birds caught at feeding stations are removed from the calculation, the year-to-year variation becomes statistically non-significant ($\chi_8^2 = 14.3$, $p = 0.06$). It will be worth testing this again with more data from future years.

Of the 38 birds with diseased leg(s) where the age was noted, 34 were adults and only 4 first-years; of the 1800 birds ringed, 820 were adults and 980 first-years. There is obviously a much greater tendency for the diseased birds to be adults ($\chi_1^2 = 27.1$, $p < 0.0001$).

Of the 53 birds with diseased leg(s) whose sex was recorded, 31 were males and 22 females; of the 1800 birds ringed, 832 were males and 968 females. There is thus a tendency for the diseased birds to be more likely to be males than females but this is not statistically significant ($\chi_1^2 = 2.64$, $p = 0.10$).

In the course of this survey, diseased legs were noted in two other species, a Brambling with FPV roosting at Aston in winter 2011/12 and two Bullfinches with KM, also at Aston in winter 2008/09.

Discussion

There are few documented records of the incidence of KM or FPV. In the 1960s a few cases were noted in *British Birds* (Keymer & Blackmore 1964, Washington 1964, Macdonald 1965) so the journal organised a survey of British ornithologists (Blackmore & Keymer 1969) which brought forward 153 records of a variety of skin infections in 24 species including KM in four birds, a Pheasant, a Skylark and two Sedge Warblers, but no Chaffinches, while papillomas were reported from 16 Chaffinches. There were no records of how many birds were examined so no measures of the prevalence of any disease.

Others have taken an interest in the subject from the pathological or veterinary viewpoint. In a large survey of birds captured for ringing in the Netherlands, papillomas were found on 330 (1.3%) of some 25,000 Chaffinches examined (Lina *et al.* 1973). This work has been quoted as reporting that "cases usually occur in clusters and 'quite high' proportions of local populations may be affected in outbreaks", but I have not been able to access the original paper to discover any figures. The proportion of 1.3% does not differ statistically from the 1.7% that I found at the Cheshire farmland site ($\chi_1^2 = 0.70$, $p > 0.40$).

A decade ago, Literak *et al.* (2003) tabulated reported occurrences of FPV from six European countries: with the exception of the Dutch study mentioned above, all of the numbers were small (fewer than 10). With the advent of online forums, there have been more reports but, unhelpfully, all of the form "I have had one" or "we have seen lots". It seems that Chaffinch leg diseases have probably been under-recorded but I cannot help wondering if they have become more common and widespread with the increase in bird-feeding. The method of transmission of KM and FPV is assumed to be close contact or shared surfaces, and artificial feeders are probably the only places where Chaffinches would normally meet those criteria.

My results show very significantly higher incidence among Chaffinches caught at feeding stations than at other types of site but it is impossible to disentangle cause and effect. Are more diseased birds seen at communal feeding sites because they offer more opportunities for disease transmission? Or, if diseased birds are compromised in their ability to find natural food, do they tend to gather, and live longer with a disability, at sites with food provided for them?

It could be argued that my garden site is in effect a feeding station as substantial quantities of seed and other food are provided daily. The main distinction from the three other feeding sites (BHFM, DEL and DFH) is that those in the garden are known to be kept reasonably hygienically clean and are moved around from time to time. It could be said that the results speak for themselves and the proportion of Chaffinches in my garden with diseased legs is no higher than at the farm or roost sites.

I do not know where the birds at the two roost sites (AST and NOP) are feeding, but Chaffinches are not present there during the day, and there have been several movements of (healthy) ringed birds between my garden and both roost sites. So, in principle, they could be visiting feeders with a high density of birds and potentially transmitting disease, but again the results suggest not.

The significantly higher proportion of diseased adults in my sample perhaps suggests that the diseases develop slowly, that birds can live with the symptoms for a considerable time, and they are not particularly debilitating. Kirkwood & Macgregor (1998) wrote, about FPV, that "Affected birds usually seem in otherwise good health but some may show signs of lameness and hop mainly on the unaffected foot and digits may be lost. The warts grow slowly and may progress over many months. Even birds with large papillomas often appear to behave normally so, in some cases, the growths may be little more than an inconvenience and relatively minor irritation". Two of the birds in my sample with FPV obviously were badly affected, however. One had been ringed previously, on 5 January 2003 at DEL (when free of disease), and was retrapped 15 March 2009: on both wings its innermost five primaries, with the corresponding primary coverts and several of the greater coverts, were badly abraded with the feathers in poor condition. I guess that this bird was unable to preen normally. The other, an adult male with FPV at BHFM, mist-netted on 17 January 2010, died in the hand; it weighed 16.8g, by far the lightest Chaffinch I have ever weighed, 2.5g below the next-lightest adult male that I have in my database (n=259).

My Chaffinch catch totals for the last two winters have been low, but I intend to keep on collecting this simple information about the incidence of diseased legs.

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GLYN ARTHUR 2013

Bob Harris

This year will be remembered for one thing – snow! Prior to my first visit, there had been severe weather throughout the country, and more so in Wales. It came with a double whammy: not only was it bad with deep and drifting snow, but it also hit just as sheep were lambing. Losses were high, although Glyn Arthur losses here were not as high as elsewhere. Even on the visit in mid-April, snow was still much in evidence. The road to the farm over Moel Arthur was like a snow tunnel and it was a bit disconcerting to be checking nest-boxes walking through lying snow. Needless to say there was no nesting activity.

My next visit, two weeks later, found that all the snow had gone (apart from the summit of Snowdon that could be seen in the distance from the end of the south slope) but there was still a wintery feel in the air and temperatures were below the seasonal averages. The day started bitterly cold and finished in bright warm sunshine.

On my next inspection the following weekend Redstarts and Pied Flycatchers had arrived and there was some evidence of territorial possession of nest boxes by males, but there was no nest building activity by the flycatchers; indeed only one female Pied Flycatcher was seen. There was no nesting activity on the north-facing slope by any species but on the warmer south-facing slope, Great and Blue Tits were getting on with the job. Two nest boxes had eggs, one in a Blue Tit nest and two in a Great Tit nest. Box 49 had all the signs of Redstart, lined and ready for eggs. Of interest, four other boxes were in use by others – one was a host to about 30 snails, two to mice and one to a solitary bat.

Although temperatures were 1-2 degrees below seasonal norms the breeding season was pushing ahead. My next visit on the 4 May recorded 62 active nests with seventeen tit nests containing a total of fifty eggs. There were three Redstart nests but only two containing eggs. The impression was that the Pied Flycatchers were ready and waiting for the weather to improve as all twelve nests were ready but with no eggs.

By the following week sixty nests were active, with two showing no development on last week. Thirty-five were complete nests containing a total of 196 eggs. Another of the Redstart nests now contained four eggs and the first Pied Flycatcher eggs had been laid – six nests with a total of 20 eggs. Five of these nests were on the warmer south-facing slope.

It was calculated that due to the weather, breeding was anything between 2-3 weeks later than normal, a feature that was reflected nationally. By 18th May activity was definitely in 'hurry-up' mode. There were now four Redstart nests all with eggs, with three being incubated; Pied Flycatchers had 16 nests built of which eleven had eggs; and Blue and Great Tit were not building any more nests but were adding eggs to clutches. The first of two Pied Flycatcher females were lifted this week – one a new bird, and the other (V570710) a bird that had been ringed as a pullus on site in 2009 and had returned to breed every year since. Four more females were lifted the following week – three new and one a pullus from 2011.

By 1 June the first chicks were being ringed – 47 Blue Tit, 40 Great Tit and six Redstarts. One Great Tit nest was lost due to squirrel predation and another contained dead chicks for reasons unknown. Four more incubating female Pied Flycatchers were lifted, three were returning adult females from last year and one was a pullus ringed in 2011.

Effort on 8 June was concentrated on catching adult Pied Flycatchers. Very little wind on the days of my visits made nest approaches difficult – little background noise to hide my approach. Thus few birds were caught by 'lifting' and many had to be 'box-trapped' which takes time. Indeed only four males were trapped – one new, two returning adults from last year, and one an adult male from 2011 but not seen in 2012. Sixteen Great Tits were ringed, no Blue Tits, six Redstarts and 25 Pied Flycatchers.

My last breeding season visit of this year was on the 15 June. Only once before have I had to make a visit towards the middle of June to ring outstanding pulli. Previously this was just for two broods (2009) – this year it was for nine broods, so this gives some indication of the lateness of the breeding season. Most nests/species were nearing the end of their breeding season so this was the last chance for me to catch as many adult flycatchers as I could. Five males were caught and three females. There were only 16 Pied Flycatcher nests this year. In the end 14 females were caught and processed and 11 males. Interestingly there were only 15 males to be caught as male L638269 was polygamous, supporting females in boxes 67 and 120 – one box on the upper path and the other on the lower path (of the south-facing slope).

Interesting adults this year include:
X932382, a male ringed as a pullus at Prion in 2010 and caught here in both 2012 and 2013;
X062920, a male ringed as a pullus at Llanarmon in 2010 and caught here in 2012 and 2013;

V570710, a female ringed as a pullus at Glyn Arthur in 2009 and retrapped every year since;
X060342, a female ringed as a pullus at Glyn Arthur in 2010 and retrapped every year since.

The last three years have been unusual. In 2011 the breeding season started early and the earliest ever first-egg date for Glyn Arthur was recorded – 26 April. Sixteen clutches were subsequently laid with a success rate to fledging of 87.5%. In 2012, although a very wet and challenging nesting year, 21 clutches were laid of which 18 broods fledged. The success rate was 85.7%. This year, with the latest first egg laying date of the last three years (7 May) again only 16 clutches were laid but the success rate was up to that of 2011 at 87.5%. Further analysis of the figures indicate the difference lies in the egg-to-young conversion; if the egg hatches the chick will fledge, the difference is in the number of eggs that hatch and those that don't.

Let's see what next year brings our way.

My continued thanks and heartfelt appreciation to the Williams family for access to their land to continue this study.

RINGING AT PANDY, NEAR GLYN CEIRIOG, 2013

By Nicola Edmonds

After two very poor summer seasons at Pandy I almost dreaded to think what this one would bring. On top of that, Britain then experienced one of its coldest winters with snow falling in some parts as late as April. An exceptionally cold March brought heavy snowfall to the Ceiriog valley, and subsequently pushed the entire breeding calendar back a few weeks for many of the bird species being monitored. Nevertheless the summer ended up being fairly good overall, which was reflected in both the ringing and nest record totals, and the success rates of the birds.

In all 119 nests from 20 species were recorded, closer to the good year of 2010 (121 nests, 19 species) than the dismal numbers for the previous two. Ringing totals were a respectable 436 birds, of which 423 were pulli and 13 were fully grown, bringing the grand total ringed at Pandy beyond the 8000 milestone, to 8302 birds. Other numbers of note include the 600th ringed Swallow, and a new bird for the Pandy list – the first ringing record for Woodpigeon.

The regulars

The year always starts on the river. This season even one of the early breeders – the Dippers – were a little behind, with the first egg date recorded as 12 April (in 2012's warm spring it was 24 March). Some years their earliest broods may actually have been missed, but it was unlikely this time because on the first visits to the valley snow was still on the ground. Some particularly early springs, and/or wetter summers, have led to second broods (perhaps more if the first was missed), but this year there was only one attempt at one site, a second site was unused, and the third had a failed first attempt but re-laid over a month later. In the end only six pulli were ringed between the two, and there were no further broods.

The end of May brings the Jackdaws, and this year it was a bumper year. There were ten nests recorded, eight of which were possible to reach resulting in a record 28 pulli being ringed. The number of nests being accessed has increased year on year, and only 2012 surpassed the numbers of nest records for this species largely because inaccessible nests were monitored as well. All in all there are around 13 accessible holes that have been used over the last 10 years (and probably a couple more that have potential but have not been used yet), but for some reason these are never all occupied at once. As with many other birds that re-use old nests, some years the parasite burden is probably too high and a hole is left fallow. Having regular help to reach nests means I have a better picture of their survival; this year was the first in a long time when I managed frequent visits to nests. Their egg/fledge survival was 86.5%, a little higher than the 81.25% reported last year.

Swallows normally come next, but a new addition this year was a House Sparrow colony at one of the Swallow sites. I was able to record five nests and ring eight pulli. Few places in Pandy and the nearby area actually have sparrows at all, with small colonies being very localised around a few clusters of houses and farms, of which this one farm seems to be a particular hot spot. Visiting this colony will definitely become a regular part of the year, as House Sparrows are on the red list for species of conservation concern, and have seen a significant decline in breeding pairs nationwide.

The Swallows had a good season (88% egg/fledge survival), with 20 nests recorded and 73 pulli ringed – one of my highest totals yet (cf. 2010 with 20 nests and 70 ringed), in no doubt due to having extra help to reach some of them, as with the Jackdaw and House Sparrow nests.

The last regulars of the year are the Spotted Flycatchers, and it was pleasing to have four nests this year, though one was a second brood that failed to fledge. Between the rest 13 pulli were ringed, all fledging, bringing a small shred of hope for a bird that is fast disappearing from the valley, and the wider country as well.

In the nest boxes

There are over 90 small hole nest boxes that are monitored yearly, plus a further dozen or so of 'other' non-standard nest boxes, which include three owl boxes, a handful of open-fronted boxes, and some camera, ornamental, and 'other species' boxes. In all the boxes make up the majority of the nest recording efforts throughout the season, and therefore form the larger part of the Pandy year totals.

After successive years of wet summers and heavy winter snowfall taking their toll, plus the loss of a couple of sites, the nest box totals have taken quite a downturn – and in 2013, despite the better weather, for some the decline is noticeably stark.

Pied Flycatcher is the species of interest in the small hole boxes, and they have suffered significant losses from the 2011 and 2012 seasons. In 2013 just seven active nests were recorded, though one further early attempt came to nothing, and two more males were heard singing – one near a box that was not used. This is the lowest number of pairs that have been recorded in almost 20 years at Pandy, with a mere 43 pulli ringed. However egg/fledge survival rates (89.6%) were up to almost the levels reported in 2007 (90.8%) which – with the exception of 2011 – was also noted for being a record low for pairs, at 11 in total, four of which were in newly erected boxes. Conversely, one of the highest numbers of pairs I personally have recorded was in 2009 (21 pairs) which was also the worst year for survival at only 52.5%, a factor attributed mainly to bad weather in early June, though perhaps not the sole reason behind it if pair density and competition are considered as well.

All the female Pied Flycatchers were trapped on the nest, with one being a pullus from 2011 ringed in another nest box site further down the valley. Five males were also trapped; two were retraps, one ringed as a nestling in 2010, and the other was even older – ringed in its first breeding season in the exact same nest box in 2007.

Tit numbers and survival rates were up on last year. Great Tit pairs were above average with 30 nests, and their egg/fledge success rate returned to a more respectable level of 72.4% (cf. 24% in 2012). A decent 127 pulli were ringed, plus two fully-grown birds trapped whilst tending their young. Another adult caught was a retrap ringed as a nestling in 2010. Blue Tits still remain very low in number with just 10 nests recorded, including one in a wall. Their success rate was higher than normal at 70%, well above last year's record low of 28.6%, though only 46 pulli were ringed. Two of the Blue Tit nests contained good sized broods, both fledging 10 young. Like the Pied Flycatchers, low abundance of competing pairs this year has probably helped increase their success rate, along with the much more favourable weather conditions.

Other nest-box occupants this year included a pair of Nuthatches; the female was ringed in 2012 two boxes away and all of their eight young fledged. Two broods of Redstart were also found in boxes not part of the normal stock. The first brood was in a small-hole nest-box, the second in an open-front box in the same garden nearly one month later. The young at the first box were large when ringed so probably fledged but their fate was unknown. It is possible that the same adult pair created the second nest – but we'll never know!

Elsewhere in the valley...

Whilst the nest boxes were definitely down on occupancy, elsewhere things were looking promising. Perhaps with less time needed to focus on the boxes there was simply more time to spend searching – and it certainly paid off.

An additional five Redstart nests were added to the two in the boxes, and 20 pulli were ringed in total. This is exceptional, as normally most Redstart nests in natural cavities cause much frustration and are usually impossible to access. Equally inaccessible were the two Coal Tits nests recorded – both in holes in walls – and a single House Martin nest low enough to monitor

easily despite not being able to look inside. Like the Redstarts, Pied Wagtail nests are also sometimes unreachable, but this year included a good number of open sites, with 11 pulli ringed from three of the four nests found.

At the other end of the scale are the truly 'open' nests. This year these included four Blackbird nests, four Chaffinch, two Song Thrush, two Robin, a Stock Dove, and a Woodpigeon. Whilst warblers are markedly absent from the list, and other finches too, this is still a nice variety to add on to what was definitely a better year all round.

The first brood of House Sparrows ever ringed at Pandy. Photo by landowner Steve.

Ringing totals for Pandy 2013.

	2013			Grand total		
Species	**Fledged**	**Pullus**	**Total**	**Fledged**	**Pullus**	**Total**
Kestrel				0	1	1
Curlew				0	2	2
Stock Dove		1	1	2	22	24
Woodpigeon		1	1	0	1	1
Tawny Owl				0	26	26
Swift				1	7	8
Great Spotted Woodpecker				10	0	10
Magpie				1	0	1
Jackdaw		28	28	0	197	197
Goldcrest				28	0	28
Blue Tit	1	46	47	472	992	1464
Great Tit	2	127	129	230	1618	1848
Coal Tit				43	13	56
Marsh Tit				3	0	3
Skylark				0	5	5
Swallow		73	73	3	621	624
House Martin				2	0	2

	2013			Grand total		
Species	**Fledged**	**Pullus**	**Total**	**Fledged**	**Pullus**	**Total**
Long-tailed Tit				25	0	25
Wood Warbler				0	10	10
Chiffchaff				6	6	12
Willow Warbler				41	111	152
Blackcap				5	12	17
Garden Warbler				10	67	77
Lesser Whitethroat				1	0	1
Whitethroat				1	0	1
Nuthatch		8	8	27	63	90
Treecreeper				3	6	9
Wren				27	56	83
Dipper		6	6	12	159	171
Blackbird		10	10	23	168	191
Song Thrush		6	6	9	94	103
Mistle Thrush				3	10	13
Spotted Flycatcher		13	13	0	217	217
Robin		5	5	37	149	186
Pied Flycatcher	9	43	52	249	1439	1688
Redstart		20	20	1	129	130
Whinchat				0	63	63
Dunnock	1		1	28	58	86
House Sparrow		8	8	1	10	11
Grey Wagtail		5	5	11	153	164
Pied Wagtail		11	11	2	73	75
Meadow Pipit				0	13	13
Chaffinch		12	12	135	147	282
Greenfinch				32	8	40
Goldfinch				2	26	28
Siskin				4	0	4
Linnet				0	7	7
Bullfinch				7	28	35
Yellowhammer				2	16	18
TOTALS	13	423	436	1483	6803	8302

In the table above, Birds of Conservation Concern are indicated as **Red List** and *Amber List.* There are 27 red list and 152 amber list birds – 41% of birds ringed.

Acknowledgements

Many thanks to my (much braver) trusty friend Leah, who can get to places with a ladder I never imagined possible, and of course I extend my endless gratitude to all the landowners old and new for their kind support year after year.

WOOLSTON EYES RINGING REPORT 2013

Michael Miles*

* On behalf of the ringing team (Jason Atkinson, Mike Baron, John Blundell, Kieran Foster, Phil Guest, Chris Piner, Hugh Pulsford, Margaret Rawlins and David Riley)

Ringing operations in 2013 were carried out in two areas of the Reserve: the east end of No.1 bed and the centre of No.3 bed. The grand total of 4,802 birds of 47 species newly-ringed across the Reserve was a 13% increase on the 4,268 birds of 53 species ringed in 2012 but 14% below the ten-year average of 5,585. It will be remembered that 2012 was a very poor breeding season for a number of species and especially the warblers that are such a feature of Woolston. In light of this, some recovery was anticipated and this proved to be the case. Ringing effort, calculated as the "number of ringing sessions", was broadly comparable to 2012.

The total of 47 species ringed is the lowest number since 1997. There are a number of reasons for this. Very little trapping took place so no ducks or rails were ringed. In addition no snipes were ringed. A genuinely puzzling "miss" was Linnet; this was the first year since 1987, when ringing was restricted to the autumn migration season, that no Linnets were ringed at Woolston.

Just two species were ringed in record numbers: Woodpigeon and Brambling. The 14 Woodpigeons ringed equals the total in 2010. The 96 Bramblings ringed in the first quarter of the year reflected the strength of the Brambling "invasion" in the winter of 2012/2013. The winter of 2013/2014 has not seen a repeat and the scarcity of Bramblings at Woolston in the second winter period has denied us a "century" of Bramblings.

Only two Sparrowhawks were ringed compared with the ten-year average of five. Although these catches tend to be opportunistic, the trend is downwards and Sparrowhawks appear less common at Woolston than they used to be. Waders were represented by three Lapwings, Woolston's first ever Ringed Plover and the third Common Sandpiper to be trapped on the reserve. Modest as it is, these captures reflect the very good wader passage seen on No.3 bed which in turn shows one of the benefits of the restoration work undertaken there.

Just 47 Goldcrests were ringed, the lowest total since 2009. Tit catches reflected a moderate year. Blue Tits were caught in numbers close to the ten-year average whilst Great Tits were a little below average. A single Coal Tit was ringed after a total of 25 in 2011 and 2012 combined. As an aside, in an East Cheshire garden catches of Coal Tits were 70% down on the five-year average from 2008 to 2012 so it may have been a poor breeding season generally. The 29 Willow Tits ringed is consistent with a ten-year average of 35. It should be noted that trapping in the north-west corner of No.3 bed was intermittent during the post-fledging period and there is usually one successful pair in that area of the bed. In 2013 some captures may have been "missed". After a poor year in 2012, roost catches of Hirundines recovered to typical numbers. The formation of an accessible roost on No.1 bed was the main contributing factor in this improvement.

It was a more productive breeding season for warblers with 1,727 ringed of ten species compared with 1,453, also of ten species in 2012. There were of course individual variations. Sedge Warblers bounced back dramatically after just 44 birds were ringed in 2012 and the total of 132 in 2013 is above the ten-year average. Reed Warblers also recovered well but the two Grasshopper Warblers ringed was the lowest total since 2007 and you have to go back to 1985 when David Norman was the only ringer operating at Woolston to find another year when just one Lesser Whitethroat was ringed. Also on the downside, catches of Willow Warblers continue to decline which may reflect habitat succession on No.1 bed and catches of Blackcaps were 20% below the ten-year average. September is usually the "big" month for Blackcaps at Woolston but the strange weather patterns in 2013 resulted in less ripe Elderberry than is normal in September and the large influx of Blackcaps did not happen.

Results were mixed for the resident ground feeders. Species that nested early and in fairly open positions such as Blackbirds, Song Thrushes and Robins suffered heavy predation of first broods as slow development of vegetation in the delayed spring left nests exposed. There was evidence that some recovery occurred with later broods. Species nesting in deeper cover such as Wrens and Dunnocks did well and were caught in above average numbers. Redwings arrived in good numbers and stayed around and the 47 ringed was the highest total since 2000 when ringing was undertaken on Rixton Pastures, an exceptional site for fruiting trees and bushes that attracted large numbers of thrushes.

The male Redstart caught on No.3 bed on 20 April was the first caught there this century. The two Tree Sparrows ringed on No.1 bed were the first ringed at Woolston since 2004 and some nest boxes have been erected to encourage what appears to be a small colony to become established. There was a strong autumn passage of Meadow Pipits across No.1 bed and the total of 60 ringed is the highest since 85 in 1995.

Finches were caught in good numbers. Aided by consistent success at the No.1 bed feeders, catches of Greenfinches were the highest since 2006; the record catch of Bramblings has already been referred to, whilst Chaffinches were caught in average numbers. Turning to the less commonly caught finches all species were either not caught at all (Linnet, Siskin) or in the case of Goldfinch and Lesser Redpoll caught in below average numbers. However, the winter of 2013/2014 was notable for the incidence of Common Redpolls in the flocks of Lesser Redpolls and three Common Redpolls were caught on No.1 bed. Finally, the 147 Bullfinches ringed was a little below recent years but in line with the ten-year average. The number of Reed Buntings ringed fell sharply from 138 in 2012 to just 66. It is not clear what has caused this reduction and the results of 2014 are awaited with interest.

One new species was ringed in 2013, Ringed Plover, bringing the cumulative total of species ringed at Woolston to 104. Individual species milestones included the 100th Woodpigeon, 9,000th Blue Tit, 6,000th Chiffchaff, 800th Garden Warbler, 600th Meadow Pipit, 300th Brambling and 12,000th Greenfinch.

No.1 bed

Ringing took place on 74 occasions on the bed during the year with sessions taking from two hours to eight hours and a total of 1890 birds were ringed, a 15% increase on the previous year and 10% up on 2011.

Just one raptor was ringed, a first year male Sparrowhawk caught on 14 August. Of the 23 ringed on the bed since 2001, nine have been ringed in August. The two pullus Lapwings were the first to be ringed on the bed since 2004 and the two pullus Stock Doves, from a nesting pair in one of the owl boxes, were the first since 2010. Only five Great Spotted Woodpeckers were ringed during the year, compared with the previous five-year average of 7.2, and the first juvenile was caught on 26 June. Two birds were retrapped that had been ringed in earlier years, one from 2011, and the other from 2012. Just a single Jay was ringed during the year, the lowest number since 2009.

It was a quiet year for Goldcrests with 25 ringed, the lowest since 2009 and the fifth lowest since 1995. Two birds were retrapped in March, presumably returning to breeding territories; both had been ringed on the bed in the previous October. One juvenile was caught in the summer, on 7 August, while autumn passage began on 29 September and continued until the final bird was caught on 24 November.

Tits generally had a poor year and although the 101 Blue Tits ringed was slightly higher than the previous year it was the third lowest since 1995. A further 61 birds were caught that had been ringed in previous years: the oldest was ringed on 19 January 2008, while there was a further bird from that year, nine from 2009, 5 from 2010, 18 from 2011 with the remainder from

2012. There was also one bird caught that had originally been ringed on No 3 bed. The 70 Great Tits ringed was the lowest for five years and compares badly with the previous five-year average of 94.2. A further 59 birds ringed in previous years were caught, with the oldest from 24 June 2005, others were from 2007 (1), 2008 (1), 2009 (5), 2010 (10), 2011 (13) and the remainder from 2012. Coal Tits appear to have fared badly during the year with just a single bird ringed, a juvenile caught on 5 July, reflecting the worst year since 2005. It was also the worst year for Willow Tits since 2007 with just 14 new birds caught compared to the previous five-year average of 17.6. A further nine were caught that had been ringed in previous years with the oldest ringed on 28 July 2006, others were from 2008 (1), 2009 (1) with the remainder from 2012. Fifty-one Long-tailed Tits were ringed during the year; better than the previous two years although less than the previous five-year average of 78. The first juvenile was ringed on 26 June, about a month later than usual. Four other birds were caught that had been ringed in previous years with the oldest from 2010.

After the blank year in 2012, seven Sand Martins were caught during the year, all juveniles, between 3 and 14 August. It was also a good year for Swallows as a reasonably-sized roost formed on the bed, resulting in the best total since 2008 with 98 new birds ringed. The previous five years averaged 52.4. The first of the year was on 31 July and the last on 21 August; only two adults were caught.

It was a better year for warblers with 632 birds of nine species ringed, a 15% increase on the previous year's total but 6.5% less than 2011. Chiffchaffs had their best year since 2010 with 198 new birds ringed and a further five birds were retrapped that had been ringed in previous years, the oldest from 24 July 2009, two were from 2010, one from 2011 and one from 2012. The first birds to be caught arrived back on 31 March with the first juvenile ringed on 26 June and the last bird of the year on 18 October. Willow Warblers had their worst year since 2004 with 111 birds ringed; a further 12 birds that had been ringed in previous years were retrapped, with the oldest from 29 July 2006. The first four were caught on 19 April – three were returning birds. The first juvenile was ringed on 5 July and the last bird of the year was on 3 September.

Slightly more Blackcaps (119) were caught than in 2012 (112), this being only slightly below the previous five-year average of 129. The first of the year was ringed on 19 April with the last on 6 October and the first juvenile, probably locally bred, was ringed on 26 June. Garden Warblers were caught in their highest numbers since 2010 with 19 birds ringed, the first on 7 May and the last on 30 August. The first juvenile of the year, ringed on 10 July, was also probably locally bred. Just a single Lesser Whitethroat was caught during the year, a juvenile on 14 August; this species appears to be getting scarcer on the bed with five-year averages as follows: 1995-99 = 6.2 birds per year, 2000-04 = 5.8, 2005-09 = 7.0, 2010-13 = 0.75. Thirteen Whitethroats were ringed which was slightly better than the 12 in the previous year, but as with the Lesser Whitethroat, it is becoming less common, with the five-year averages as follows: 1995-99 = 84.6 birds/year, 2000-04 = 111.4, 2005-09 = 81.6, 2010-13 = 38.0. The reduction in ringing effort recently might partly explain the lower numbers but there must be a genuine fall in the number of breeding birds on the bed. Hopefully management work taking place during 2014 will have a positive effect on the population. The first of the year was ringed 22 April and no birds were caught from previous years. The first juvenile was caught on 26 June and the last of the year was on 3 September.

After the blank previous year, one Grasshopper Warbler was ringed, a juvenile caught on 27 June. Sedge Warblers had their best year since 2010 with 33 birds ringed; no birds were caught that had been ringed in previous years. The first of the year were caught on 30 April with the first juvenile ringed on 10 July and the final bird of the year was caught on the late date of 25 September. The total of Reed Warblers ringed, 137, compares well with the previous year's low total of 77, but is poor in comparison to the previous five-year average of 192.The first of the year was on 30 April, the first juvenile was ringed on 5 July; nine other birds were caught in September and the last on 15 October. Three birds were caught that had been ringed in previous years, the oldest from 23 August 2008, one was from 2010 and one from 2011. Three birds were

caught that had originally been ringed on No 3 bed and four had been ringed in other parts of Britain.

A single Nuthatch was ringed on 5 July, the eighth to be ringed on the reserve since 1979, and all have been on No 1 bed. Five Treecreepers were ringed during the year, an average total, the first on 9 March and the last on 18 October; two juveniles were caught, on 5 and 16 July. Forty Wrens were ringed during the year, similar to the previous year's total of 41, but the lowest number to be ringed on the bed since 1995. The previous five-year average was 60.8. The first juvenile was ringed on the late date of 5 July. A further eight birds were caught that had been ringed in previous years, the oldest from 20 August 2011; two others were from that year with the remainder from 2012.

Just eight new Blackbirds were caught during the year, the second poorest since 1995, well below the previous five-year average of 29. Three males were the only birds to be caught in breeding condition and the first juvenile was ringed on 2 June. Only two other juveniles were ringed during the year. Song Thrushes also had a poor year with 11 birds ringed and none retrapped from previous years. The first juvenile was caught on 5 July. Two Redwings were caught during the year, both in December, while Robins had their second-worst year on record with just 35 birds ringed compared to the previous five-year average, 74. The first juvenile of the year was ringed on the late date of 17 June. A further ten birds were retrapped that had been ringed in previous years, the oldest from 15 May 2010, with two others from that year (including one ringed as a nestling), one from 2011 and the remainder from 2012. Dunnocks have never been caught on the bed in large numbers but even so, the 16 ringed during the year was the second lowest since 1995, the previous five-year average being 22.6. The first juvenile was ringed on 17 June while two birds were retrapped from previous years, the oldest from 16 February 2008 and the other from 2012.

Tree Sparrow came back into the annual ringing totals for the first time since 2004, when a pair was found nesting in an old dilapidated nest box and the two young were ringed; this is the first recorded breeding of this species on the reserve. Meadow Pipits had their second best year since 1995 with 58 birds ringed, with the first on the early date of 25 August. Probably the highest ever day catch for the reserve was achieved on 26 September when 43 were ringed; the final birds of the year were caught on 6 October. Only four birds were aged as adults with the rest birds of the year.

It was quite a poor year for Chaffinches, with 57 birds ringed, compared with the previous five-year average of 78. The first juvenile was ringed on 17 June. And a further 12 were caught from previous years with the oldest from 25 February 2005, the oldest bird to be caught on the bed during the year. In addition two were caught from 2009, four from 2010, and the remainder from 2012. It was an exceptional year for irruptive Brambling, with 54 ringed; the previous highest since 1995 was just six! The first of the year was on 4 January and the final one on 22 April; four birds were also retrapped that had originally been ringed on No 3 bed. Twelve females were ringed compared to 42 males. It was also an excellent year for Greenfinches with 448 new birds ringed, the third highest total since 1995, comparing well with the previous five-year average of 273. The first juvenile was ringed on 2 June. Twenty-five birds ringed on No3 bed found their way over to No1, including one originally ringed on 20 December 2008, while two birds were caught that had been ringed elsewhere in Britain. A further 24 birds were retrapped that had been originally ringed on No 1 bed in previous years, with the oldest from 9 April 2010.

It was a slightly better year for Goldfinches with eleven ringed compared to the previous two years' totals of five and six while it was also a slightly better year for Lesser Redpolls with 33 ringed compared to 28 in 2012 although the previous five-year average is 78. The first bird of the autumn was ringed on 12 October. Three Common Redpolls were ringed during the year, matching the total number of birds ringed on the bed since 1995. The first two were caught together on 24 October, while the second was caught alongside three Lesser Redpolls on 24 November. Bullfinch totals were slightly down this year with 54 new birds ringed, compared

with the previous five-year average of 65, although it is still the fifth best year since 1995. The first juvenile was ringed on 26 June. Two birds made the trip from No 3 bed and a further 13 ringed in previous years were caught, the oldest from 14 July 2007. Reed Buntings had their poorest year since 1995 with 42 birds ringed compared to the previous five-year average of 95. The first juvenile was ringed on 5 July. Twenty-seven birds were retrapped from previous years, with the oldest from 15 December 2007, one was from 2009, seven from 2010, six from 2011 and the remainder from 2012. One bird ringed elsewhere in Britain was caught and one was retrapped that had been ringed on No3 bed.

No.3 bed

Ringing took place on 68 occasions during the year and 2,912 birds were ringed, an increase of 11% when compared with 2012. No wildfowl, crakes or rails were ringed in 2013 which reflects a lack of trapping effort. In the latter part of the year, as part of the management work on the bed, a pool was excavated and a duck trap built and this had already produced dividends in the early part of 2014.

Just a single Sparrowhawk was ringed, a juvenile male caught on 6 November. A comment was made in the 2012 report that Sparrowhawks appear to be declining at Woolston and this trend continues. An adult Lapwing (hatched in 2012) was trapped on the scrape in front of the Frank Linley hide on the morning of 11 May. This is the first free-flying bird ringed on the bed in recent times. The adult Ringed Plover trapped in the same area on the morning of 11 May is the first of this species to be ringed at Woolston. It was one of nine birds seen on the scrape that day. Also present were Lapwing, Greenshank and Little Ringed Plover. A juvenile Common Sandpiper was trapped on the 7 September in a channel near the duck trap. Together with two Green Sandpipers this bird had been feeding in the channel for about two weeks. This is only the third to be ringed at Woolston. The first was ringed on No.1 bed in 2004, the second on No.3 bed in 2008.

Five Stock Doves were mist-netted at the feeding station this year, between April and August. All the birds were aged as adults. In addition 14 Woodpigeons were ringed this year, also caught at the feeding station. All 24 Stock Doves ringed at Woolston together with 61 of the 102 Wood Pigeons ringed have been caught since 2005. We have had no recoveries from these birds as yet but they are a useful training resource as ringers gain experience of handling larger birds and applying the larger sizes of rings. The technique of catching Swifts in a flick net requires particular weather conditions that encourage the birds to fly close to the ground and such conditions did not prevail on many occasions in 2013.Nevertheless in two sessions a total of 6 adult Swifts were netted and ringed. A Kingfisher was an unexpected find in a net in the reed-bed near the south bank on the 7 September. It was retrapped in the north-west corner of the bed on 22 September. It appears to have been using the bed as a short-cut whilst moving up and down the river.

A total of 13 Great-spotted Woodpeckers were ringed during the year of which ten were juveniles, the first of which was ringed on 30 June. Five birds ringed in 2012 were retrapped during the year and one from 2011. The average annual total of new birds ringed is 9.4. The resident territory-holding birds are a common sight around the feeders and the team handled this species on 56 occasions during the year. Just a single Magpie was ringed, a juvenile bird ringed on 30 November. In contrast a total of 22 new Jays were ringed in 2013, a record total for No.3 bed .The first juvenile bird was ringed on 19 July, 12 days later than in 2012, but not an atypical date. Jay is another species that is often encountered at the feeders and appears to be increasing in numbers as the woodland areas mature.

Only 22 new Goldcrests were ringed in 2013. The last of the first winter period was ringed on the 13 April. The first returning bird of the second winter period was on 22 September. This is about typical for this species. The average is 30 new birds. A bird trapped on the edge of the North Meadow on 7 July was aged as a 1J (“Fledged, but flying so weakly that it is obviously incapable of having flown far from the nest”) and must have hatched locally.

A total of 174 new Blue Tits were ringed in 2013 compared to the average of 145.8. The first pulli were ringed on 25 May, nearly two weeks later than in 2012. Forty-eight pulli were ringed in the nest boxes from eight broods. This is a good total for No.3 bed but the average brood size was only 6.0 chicks per brood compared to 9.4 in 2012. This illustrates the two effects of survival which impacts the number of adults available to breed and productivity which defines their success in raising chicks to fledging. The combination of these two generates the net increase or decrease in the population as a whole. There were 362 handlings of the species in the year. Birds ringed in previous years and retrapped in 2013 were as follows: 2012 (23), 2011 (7) 2010 (7), 2009 (1) and 2008 (1). A total of 164 Great Tits were ringed in 2013, close to the average of 169.8 from 2004. There were 390 handlings of the species in the year. The first pulli were ringed on the 25 May, again nearly two weeks later than in 2012. Seventy-two pulli were ringed in the nest boxes from 13 broods, an average of 5.5 pulli per brood (6.3 in 2012). The first fledged young was ringed on 22 June, the second-latest date, and in sharp contrast to last year's date of 16 May. Birds ringed in previous years and retrapped in 2013 were as follows: 2012 (18), 2011 (8) 2010 (7), 2009 (4) and 2008 (1).

Data on the breeding activity in the nest boxes is submitted to the BTO's Nest Record Scheme. The national sum of all such records is analysed to provide important input into estimates of population changes in the species concerned. Since regular monitoring started in 2010 nearly 100 Nest Record Cards have been submitted from No.3 bed.

Coal Tit is a rare bird on No.3 bed and none were caught during the year. A total of 15 new Willow Tits were ringed in 2013 and 12 of these were juveniles the first of which was ringed on 8 June. The species was handled on 59 occasions. Birds ringed in previous years and retrapped in 2013 were as follows: 2012 (5), 2011 (2) 2010 (1), 2009 (0), 2008 (0) and 2007 (1). The average is 16.8 new birds per year. In 2014 the team at Woolston will be collecting faecal samples from Willow Tits as part of a national project to study diet as part of an investigation into the causes of the national decline in this species.

Only six Sand Martins were ringed in 2013. These were all trapped at roost on the 2, 9 and 28 August. Weather conditions in late summer were more conducive to roost netting than they had been in 2012 and 258 Swallows were ringed after just 99 in 2012. Roost netting is opportunistic and highly weather-dependant so whilst this total is above the recent average it is well short of the record of 665 Swallows ringed in 2007. A total of 73 new Long-tailed Tits were ringed. The first juveniles were ringed on the 25 May, a typical date. Birds ringed in previous years and retrapped in 2013 were as follows: 2012 (7), 2011 (3) 2010 (2), 2009 (2), 2008 (0) and 2007 (1). This last bird has been encountered on no fewer than 35 occasions. Whilst this represents something of a recovery from the 51 birds ringed in 2012 the large family parties that used to roam the bed in previous autumns were again absent in 2013.

A total of 213 new Chiffchaffs were ringed during the year, a large increase on the 114 ringed in 2012. The first returning bird was caught on the 6 April, a late date and two weeks later than in 2012. The first juvenile was ringed on the 22 June, three weeks later than in 2012 and a record late date. The last bird of the year was ringed on 23November and was probably attempting to overwinter. The last autumn migrant was caught on the 12 October (10 days later than in 2012). Seven birds were retrapped from 2012 with none from previous years. In summary it was a late season but a successful one. A total of 42 new Willow Warblers were ringed in 2013, just one fewer than in 2012. The first was on the 13 April (7 April in 2012) the last on 8 September (13 September in 2012). The first juvenile was ringed on 7 July (a week earlier than in 2012, the latest year on record). One bird was retrapped from 2012 and one from 2011. Both of these birds were ringed as juveniles at Woolston and retrapped as adult males breeding on the bed.

A total of 308 new Blackcaps were ringed during the year compared with 350 ringed in 2012. The record is 515 new birds ringed in 2010. The Elderberry crop ripened very late this year which meant the September catch of Blackcaps passing through Woolston was reduced. The first bird was ringed on the 20 April, (24 March 2012) and the last on 16 November although this was probably an overwintering bird. The last autumn migrant was ringed on the 5 October

(27 October 2012). The first juvenile was ringed on 30 June, a record late date, (10 June 2012). Birds were retrapped from previous years as follows: 2012 (6), 2011 (2) and 2010 (1). This appears to be another species that had a "late" season. Turning to Garden Warbler a total of 13 new birds were ringed in 2013, down on the last few years (27 in 2012, 38 in 2011). The catch on No.1 bed was the best since 2010 so there is no clear trend demonstrated by these results. The first was ringed on the 7 July and the last on the 7 September. All the birds were juvenile. It is typical to catch this species later in the year than the more common Sylvia warblers. In the case of Whitethroats, a total of 103 new birds were ringed in 2013 compared to 82 in 2012. The first was ringed on the 5 May (12 May in 2012) and the last on the 8 September, the same date as 2012. The first juvenile was ringed on 22 June, a typical date. Six birds were retrapped from 2012, three from 2011 and three from 2010. No Lesser Whitethroats were ringed on the bed in 2013 and just a single Grasshopper Warbler (an adult male) was ringed on the 27 April. The snow of the first winter period crushed the tall vegetation on the bed and as a result there was very poor habitat for this species in 2013. It is not surprising therefore that they didn't establish territories on the bed.

During the year 100 Sedge Warblers were ringed, a great improvement on the 25 ringed in 2012. There were 36 different returning adults handled compared with just nine in 2012 implying good survival in winter 2013/2014. In 2013 there were 61 juveniles ringed compared to 17 in 2012. With the caveat that it is not possible to distinguish locally hatched birds from passage birds passing through Woolston it can be seen that in both years approximately two juveniles were ringed for each adult handled so breeding success may not have been any better in 2013 than it was in the previous year but there were certainly more pairs breeding on the bed. Two birds caught already wore French rings, one of which was handled on three occasions as a breeding male. The first Sedge Warbler was caught on the 19 April, (12 May 2012) the last on the 22 September (same as 2012). The first juvenile was ringed on the 7 July (same as 2012). The only bird retrapped from previous years was ringed on 15 May 2010 as an adult and it wasn't seen in 2011 or 2012. A total of 314 new Reed Warblers were ringed in 2013, up on the 257 ringed in 2012. The first bird was ringed on 19 April (21 April 2012), the last on 5 October (6 October 2012), the first juvenile on 7 July (same as 2012). Five birds were retrapped from 2012, six from 2011, five from 2010, four from 2009 and two from 2008. The oldest of these, V848902, was already an adult when ringed on 14 June 2008 and was at least six years old when caught again, for the first time, on 14 August.

Eight new Treecreepers were ringed in the year, slightly above average. All the birds were juveniles ringed in July, August and October. Ninety-four Wrens were ringed in the year, an average total. The first juvenile was ringed on the 30 June. This is nearly three weeks later than in 2012. Eleven birds were retrapped from 2012 and three from 2011.

The total of 46 new Blackbirds ringed in 2013 is an average figure, a contrast to No.1 bed where numbers of Blackbirds caught were much lower than in 2012. The first date of a fledged young was 30 June. There were nine juvenile birds ringed at Woolston that were undergoing post-juvenile moult, probably indicating local breeding. Seven birds were retrapped from 2012, three from 2011, one from 2010, one from 2009, one from 2007. Twenty-three Song Thrushes were ringed in 2013, a reduction of 50% on numbers ringed in 2012. Eight birds were ringed as young juveniles indicating local breeding, the first on 26 July, six weeks later than in 2012. Three birds were retrapped from 2012 and one from 2011. The combined results of these two species reflect the high rate of loss amongst first broods referred to in the introduction. Forty-five Redwings were ringed during the year. Although there were a lot of Redwings around, the total this year can be attributed to the use of a "new" lure that has been very effective in many sites around the UK. The first migrant was ringed on the 19 October, a typical date.

The total of 88 new Robins ringed in 2013 is exactly the average since 2004.The first juvenile was ringed on 1 June which is a record late date. This is another species that lost early broods in the late spring. Eighteen birds were retrapped from 2012 and four from 2011. A single male Redstart was trapped in the south meadow on 20 April. This corresponded with a good arrival of the species locally and was predicted by the ringing team. A total of 25 have been ringed at

Woolston, the last birds being ringed in 2011, when two were ringed on number 1 bed. A total of 85 new Dunnocks were ringed on the bed in 2013, the second highest total ever. The first fledged juvenile was caught on the 22 June which is the latest date ever – it would appear that Dunnocks had a delayed but successful breeding season. Seven birds were retrapped from 2012, four from 2011, two from 2010, one from 2009 and one from 2008. This latter bird had been encountered only once in the intervening five years. Two Meadow Pipits were ringed in 2013. One was caught on 28 September and another on the 5 October. These dates are slightly later than normal. Migration over No.3 bed is invariably lighter than over No.1 bed with its more open aspect.

Chaffinches were caught in average numbers with 168 new birds ringed in 2013. The average since 2004 is 154 new birds. The first juvenile bird was ringed on 30 June, the second latest date ever. Six birds were retrapped from 2012, six from 2011, four from 2010, two from 2009, two from 2008 and one from 2007. Again this latter bird has been encountered only once in the intervening six years. A total of 42 new Bramblings were ringed in 2013. This is above the average of 26 new birds per year since 2004. Brambling is an irruptive species and annual totals ringed range from zero to 76.The typical time to see Bramblings at Woolston is late winter/early spring and this year was no exception. Four birds were ringed in January, one in February, 21in March and 16 in April. The last bird was ringed on 20 April.

A total of 301 new Greenfinches were ringed in 2013; the average for this species is 264 new birds and the record year was 2003 when 1199 new birds were ringed. The total of birds ringed doesn't reflect the number of Greenfinches on the bed as this species prefers the more open situation of the feeders by the John Morgan Hide. The first juvenile was ringed on 8 June. Six birds were retrapped from 2012 and two from 2011. No Goldfinches were ringed in 2013. This is the first blank year for this rarely-trapped bird on the bed – the average is just 5 birds per year. Nineteen Lesser Redpolls were ringed during the year (average 27) but this is another species where there is a large variation in the numbers visiting Woolston. The birds were ringed in April (6 birds), October (3), November (8) and December (2). Ninety-three new Bullfinches were ringed during the year, an average total although well below the record year of 2010 when 147 new birds were ringed. The first juvenile was ringed on 30 June. The ringing team handled bullfinch on 283 occasions during the year and this species favours the closed-in aspect of the feeders used by them to the more open Morgan Hide feeders. Twenty birds were retrapped from 2012, 9 from 2011, 6 from 2010 and 2 from 2009.

Only 24 new Reed Buntings were ringed during the year compared to the average of 52 birds. The lowest annual total was in 2005 when just 19 were ringed but that was a consequence of having very little ringing in the reed bed that year (it corresponded with the lowest totals of Reed and Sedge Warbler). We are not sure why 2013 was such a poor year for this species and await with interest the results from 2014.

Members of Merseyside Ringing Group organised two ringing assessment weekends on No.3 bed in the late summer where members seeking permit upgrades or advancement could be assessed by visiting independent trainers. The weather was kind on both weekends and a number of members achieved permit upgrades.

Woolston Eyes Ringing Totals 2013

SPECIES	No. 1	No. 3	TOTALS 2013	TOTALS 1980-2013
Sparrowhawk	1	1	2	98
Lapwing	2	1	3	63
Ringed Plover		1	1	1
Common Sandpiper		1	1	3
Stock Dove	2	5	7	24
Woodpigeon		14	14	102
Swift		6	6	239
Kingfisher		1	1	84
G Spotted Woodpecker	5	13	18	263
Magpie		1	1	125
Jay	1	22	23	298
Goldcrest	25	22	47	1575
Blue Tit	101	174	275	9133
Great Tit	70	164	234	5628
Coal Tit	1		1	104
Willow Tit	14	15	29	684
Sand Martin	7	6	13	1111
Swallow	98	258	356	11983
Long-tailed Tit	51	73	124	3467
Chiffchaff	198	214	412	6225
Willow Warbler	111	42	153	7460
Blackcap	119	308	427	8768
Garden Warbler	19	13	32	803
Lesser Whitethroat	1		1	248
Whitethroat	13	103	116	4727
Grasshopper Warbler	1	1	2	186
Sedge Warbler	33	99	132	4881
Reed Warbler	137	315	452	9496
Nuthatch	1		1	8
Treecreeper	5	8	13	176
Wren	40	94	134	5425
Blackbird	8	46	54	2465
Song Thrush	11	23	34	1135
Redwing	2	45	47	329
Robin	35	88	123	3995
Redstart		1	1	25
Dunnock	16	85	101	3502
Tree Sparrow	2		2	27
Meadow Pipit	58	2	60	646
Chaffinch	57	168	225	4324
Brambling	54	42	96	367
Greenfinch	448	301	749	12269
Goldfinch	11		11	669
Lesser Redpoll	33	19	52	1759
Common Redpoll	3		3	7
Bullfinch	54	93	147	2332
Reed Bunting	42	24	66	6643
Others (57 species)				3056
GRAND TOTAL	**1890**	**2912**	**4802**	**127021**

GROUP MEMBERS IN 2013

Three members progressed to A permits: Stephen Menzie, John Blundell and Phil Guest.
Jimmi Hill has gained a C permit for ringing raptor and owl pulli.
Three trainees have joined the Group: Mike Baron, Christopher Piner and Eileen Reilly.

MRG Patron: F Bairlein **MRG Officers:** Chairman – D Norman; Treasurer – P Coffey; Records Secretary – R Harris; Membership Secretary – K Foster ; Health and Safety Advisor – A Hitchmough; Group Archivist – A Ormond.

List of members

Full members			
J Atkinson	Cheadle	M Whiteside	Burwardsley
S Binney	Higher Bebington	C J Williams	Hoylake
J E Birch	Shotton	L Williams	Thingwall, Wirral
J Blundell	Bolton	B W Wright	Broxton
R P Cockbain	Hale		
P Coffey	Little Sutton	*Trainees*	
D P Cross	West Kirby	M Baron	Rhos-on-Sea
A Duncalf	Northwich	R Brumby	Chester
R Eades	Parkgate	A Davies	Salford
N Edmonds	Pensby	C Piner	Preston
J Elliott	Heswall	E Reilly	Bylchau, Denbighshire
D Faulkner	Pantymwyn		
K Foster	St Helens	*Country Members*	
A Garner	Sandiway	C Batty	Poulton-le-Fylde
P Guest	Warrington	C Benson	Co. Galway, Eire
R Harris	Whixall, Shrops	D Bowman	Lymm
J Hill	Chowley, Cheshire	T Bradshaw	Meols
A Hitchmough	West Kirby	J Clarke	Warrington
R Leigh	Higher Marston	T Cleeves	Huddersfield
A M McCreary	Littleton	A Davis	Atherton
K McNiffe	Eastham	P Fearon	Crosby
S Menzie	Liverpool	Z Houghton	Sandbach
M R Miles	Alderley Edge	A Jones	St Albans
H Nichols	Meols, Wirral	H Jones	Mellor, Lancs
D Norman	Sutton Weaver	T Lowe	Liverpool
A Ormond	Bidston	C Lynch	Anglesey
H Pulsford	Great Warford	P Morgan	Cardiff
M Rawlins	Oldham	B Murray	New Romney, Kent
R D Riley	Great Sankey	D Okill	Shetland
A Robinson	Llwynmawr	S Piner	Preston
L Ryan	Allerton, Liverpool	J Stein	Norway
E Samuels	Bromborough	R Taylor	Huddersfield
K Simcock	Huntington	P Thompson	Wilmslow
P Slater	Speke	T Westhead	Chorley
M G Smith	Upton	H Williams	Devon
G E Thomason	Widnes		
P Triggs	Llanbedr DC	*Honorary Member*	
L Warvill	Liverpool	I G Main	Cheltenham

Merseyside Ringing Group maintained links with national organisations, including Bob Harris on BTO Council, David Norman on BTO Ringing Committee and the Rare Breeding Birds Panel and Chris Batty on the British Birds Rarities Committee. Group members also contributed to local conservation organisations including Mersey Estuary Conservation Group, Woolston Eyes Conservation Group, Cheshire Wildlife Trust and Dee Estuary Conservation Group.