

Bird Ringing at Paxton Pits Local Nature Reserve 2012

The Constant Effort Scheme (CES) is run by the British Trust for Ornithology (BTO) as part of the Trusts scientific programme to monitor the trends in bird populations and investigate the causes behind increases or decreases in abundance of key species. CES has been running across the British Isles for over 25 years and is specifically designed to monitor changes in the abundance of adults and juveniles between years and over the long-term and can also be used to monitor changes in productivity. The scheme provides high quality data on changes in adult survival rates and productivity, to complement the other scientific work of the BTO and other bird conservation organisations. Paxton Pits forms one of these sites, which are involved in the Scheme. It is focused on a small area within the Pits, comprising dry scrub with reed fringed lakes alongside. This is the fourth consecutive year that bird ringing has taken place here.

The methodology requires 8 to 12 evenly spaced visits between the start of May and the end of August. A small number of extra visits are also permitted within the CES season. The same number of nets are erected and approximately the same amount of time is dedicated each year to allow for comparable data. Similar to the Breeding Bird Surveys (BBS) monitoring that the BTO also run (in conjunction with the RSPB and JNCC), it is very difficult to analyse the data collected at a local site scale. However, this data is fed into a much wider analysis at a national scale and has been successfully used to monitor changes in adult survival and productivity; see the BTO website for more details – www.bto.org/ringing

Despite the very challenging weather during the spring and summer all twelve main visits were completed in 2012, with 140m of standard mist nets erected for each session. All sessions reached the ideal 6 hours, starting soon after dawn dawn. It was a relatively disappointing season with 363 new birds of 27 species captured during the CES period, Table 1. Additionally, 32 birds originally captured during 2007 - 2011 were recaptured during the breeding season in 2012, Table 2. The total number of individual birds captured during the 2012 breeding season was 414, below the average of 454 captured during 2008-2012, Figure 1. This is the lowest number of individuals and new birds caught in the five years of consistent effort, highlighting the effect of poor weather on breeding.

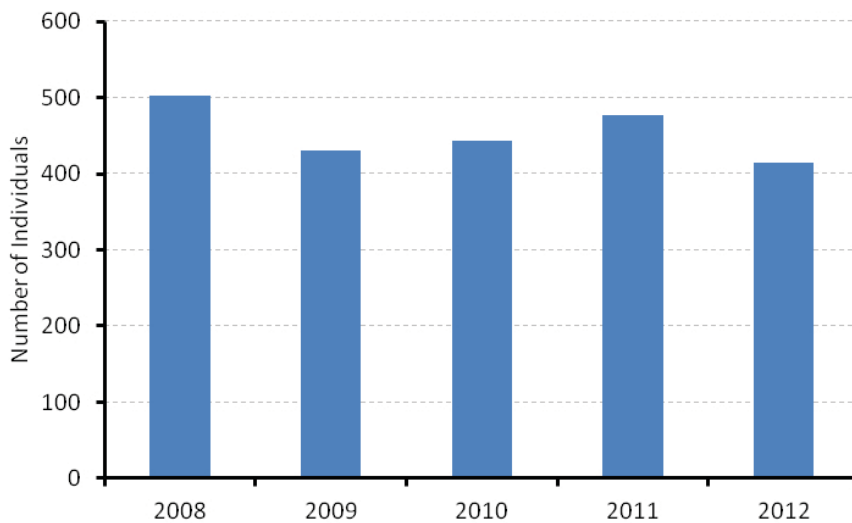


Figure 1. The number of individuals captured during the breeding seasons 2008 – 2012.

The scientific focus is on the more commonly caught species such as Wren, Robin and Willow Warbler, but other species always make ringing sessions more interesting. In 2012 interesting captures during the breeding season included the first Magpie and the second Sedge Warbler to be ringed during the breeding seasons. The breeding season was a season of contrast with only Willow Warblers producing record numbers of young, whereas Dunnocks, Chiffchaffs, Blue Tits and Great Tits fared poorly, Table 1.



Lesser Whitethroat © Katie Fuller



Hairy Dragonfly © Katie Fuller

Table 1. The number of birds caught during CES ringing in 2012 (May – August).

Note: Due to a different arrangement of net positions and length of net used, 2007 is not comparable to subsequent years

	Adults						Juveniles						Unaged						Nestlings						Total Number of New Birds						
	2007	2008	2009	2010	2011	2012	2007	2008	2009	2010	2011	2012	2007	2008	2009	2010	2011	2012	2007	2008	2009	2010	2011	2012	2007	2008	2009	2010	2011	2012	
Woodpigeon	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0		
Kingfisher	0	0	0	1	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0		
Green Woodpecker	1	2	0	1	0	2	2	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	3	4	0	1	0	4		
Great Spotted Woodpecker	0	0	0	0	0	0	1	2	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1	2	1	1	0	1		
Wren	4	7	5	4	3	6	16	13	20	10	22	21	0	0	2	1	0	0	0	0	0	0	0	20	20	27	15	25	27		
Duncock	11	6	15	3	1	9	13	14	24	6	15	6	0	0	0	0	0	0	0	0	0	0	0	24	20	39	9	16	15		
Robin	11	8	5	2	1	2	39	45	34	38	68	38	0	0	0	0	0	0	0	0	0	0	0	50	53	39	40	69	40		
Nightingale	6	5	6	3	4	3	1	4	0	5	2	0	0	0	0	0	0	0	0	0	0	0	0	7	11	6	8	6	3		
Blackbird	15	9	9	6	0	6	1	4	4	4	16	4	0	0	0	0	0	0	0	4	0	0	0	16	17	13	10	16	10		
Song Thrush	4	6	3	4	0	1	2	3	4	0	7	1	0	0	0	0	0	0	0	0	0	0	0	6	9	7	4	7	2		
Cetti's Warbler	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0		
Reed Warbler	6	4	5	9	11	14	2	8	13	15	11	6	0	0	0	0	0	0	0	0	0	0	0	8	12	18	24	22	20		
Sedge Warbler	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1		
Lesser Whitethroat	5	14	3	2	3	4	5	11	2	6	5	4	0	0	0	0	0	0	0	0	0	0	0	10	25	5	8	8	8		
Whitethroat	1	0	1	3	1	5	2	2	8	7	7	3	0	0	0	0	0	0	0	0	0	0	0	3	2	9	10	8	8		
Garden Warbler	5	22	14	16	17	15	15	20	6	11	10	19	0	0	0	0	0	0	0	0	2	0	0	20	42	20	29	27	34		
Blackcap	13	24	16	29	23	30	24	30	10	12	44	31	0	0	0	0	0	0	0	2	0	0	0	37	56	26	41	67	61		
Chiffchaff	5	9	1	5	2	4	9	38	41	34	21	10	0	0	0	0	0	0	0	0	0	0	0	14	47	42	39	23	14		
Willow Warbler	13	18	16	18	13	13	21	17	18	25	12	29	0	0	0	0	0	0	5	0	0	0	0	39	35	37	53	25	42		
Goldcrest	0	0	0	0	0	0	0	0	1	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	2		
Long-tailed Tit	9	3	4	2	3	2	16	7	4	13	1	1	0	7	0	0	0	0	0	0	0	0	0	25	20	8	17	4	5		
Marsh Tit	0	0	0	0	0	0	0	0	0	4	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	1		
Blue Tit	14	10	8	3	8	8	12	11	28	18	30	4	0	0	0	0	0	0	0	0	0	0	0	26	21	36	21	38	12		
Great Tit	10	6	5	7	2	3	7	10	14	14	23	11	0	0	0	0	0	0	0	0	0	0	0	17	16	19	21	25	14		
Treecreeper	2	0	0	0	0	0	6	5	5	5	6	5	1	0	0	0	0	0	0	0	0	0	0	9	5	5	5	6	5		
Magpie	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1		
Jay	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0		
House Sparrow	0	9	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	0	1	1	0		
Chaffinch	4	5	1	1	4	4	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	5	3	1	4	4		
Goldfinch	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0		
Greenfinch	0	15	3	1	4	3	3	2	2	0	3	1	0	0	0	0	0	0	0	0	0	0	0	3	17	5	1	7	4		
Bullfinch	9	14	11	11	8	15	6	5	1	3	20	8	0	0	0	0	0	0	0	0	0	0	0	15	19	12	14	28	23		
Reed Bunting	0	3	2	4	1	2	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	3	2	1	2	2		
Totals	148	202	133	136	113	152	204	254	243	229	330	209	1	7	2	1	0	0	2	5	6	0	2	0	0	358	474	381	375	443	363

Table 2. The number of birds caught during CES ringing in 2012 which were originally caught during 2007-2011.

Species	Retraps from previous years				
	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>2011</u>
Water Rail	-	0	-	-	-
Woodpigeon	-	0	-	-	-
Kingfisher	-	0	0	0	-
Green Woodpecker	0	0	-	0	-
Great-spotted Woodpecker	0	0	0	0	0
Wren	0	0	0	0	0
Dunnock	0	1	0	1	5
Robin	0	1	0	1	1
Nightingale	0	0	0	1	0
Blackbird	2	0	1	1	1
Song Thrush	0	1	0	0	0
Reed Warbler	0	0	0	0	0
Sedge Warbler	-	-	-	0	0
Lesser Whitethroat	0	0	0	0	0
Whitethroat	0	0	0	0	0
Garden Warbler	0	0	0	3	4
Blackcap	0	0	1	0	0
Chiffchaff	0	1	1	2	0
Willow Warbler	0	0	0	0	3
Goldcrest	-	-	0	0	0
Long-tailed Tit	0	1	0	0	2
Marsh Tit	-	-	-	-	0
Blue Tit	0	0	0	2	7
Great Tit	0	0	1	1	4
Treecreeper	0	0	0	0	2
Jay	-	0	-	-	-
House Sparrow	=	0	-	0	0
Chaffinch	0	0	0	0	0
Goldfinch	-	-	-	-	0
Greenfinch	0	0	0	0	0
Bullfinch	0	0	0	2	2
Reed Bunting	0	0	0	0	1
Totals	2	4	4	14	32

Note: - indicates the species was not captured in that year and was therefore not available to be retrapped.

Bird ringing also took place during the rest of the year, with particular focus on the autumn migration during September and early October. In total, 657 new birds of 29 species were caught in 2012 (Table 3), and 80 birds were retrapped which were originally caught between 2007-2011 (Table 4). This is the second lowest annual total, but may have been influenced by reduced effort during the autumn and early winter. Blackcap captures were again high, as were Willow Warblers but Chiffchaffs were again very low. Magpie was the only new species caught during 2011, a very young juvenile from a nearby breeding attempt no doubt.



Magpie © Katie Fuller

Table 3. The total number of new birds ringed during 2012 with comparison against the ringing activities of 2001-2002 and 2007-2011.

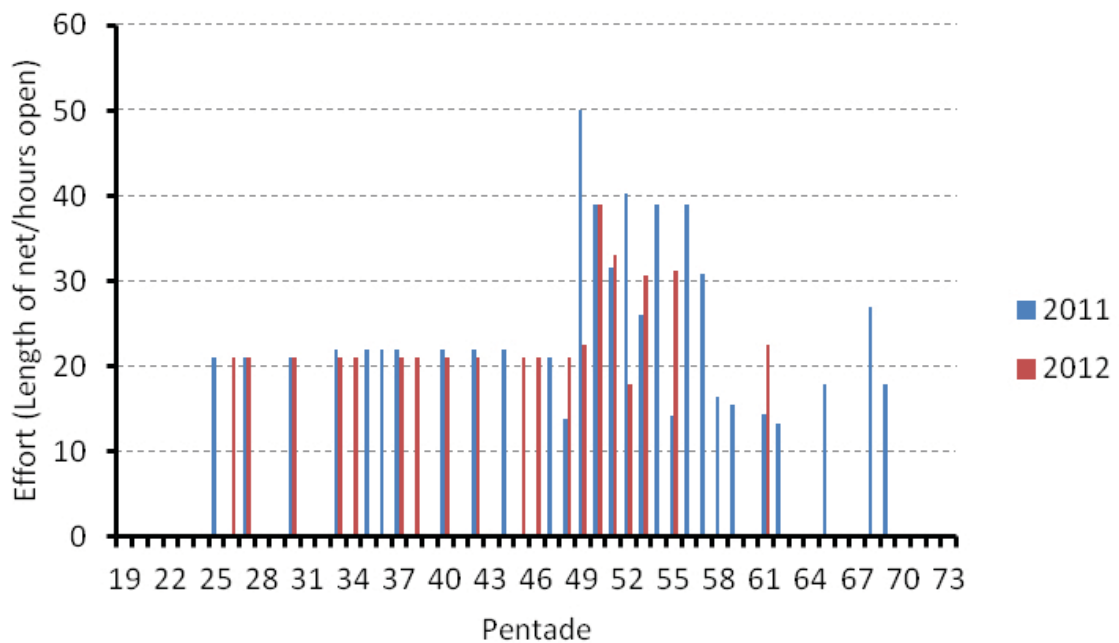
Species	2001	2002	2007	2008	2009	2010	2011	2012
Water Rail	-	-	-	1	-	-	-	-
Woodcock	-	-	-	-	-	-	1	-
Woodpigeon	-	-	-	1	-	-	-	-
Sparrowhawk	-	1	-	-	2	-	3	-
Turtle Dove	1	1	-	-	-	-	1	-
Kingfisher	1	-	-	2	1	1	-	-
Green								
Woodpecker	1	-	3	4	-	1	-	4
Great-spotted								
Woodpecker	-	-	1	2	1	3	2	1
Barn Swallow	-	-	-	-	-	1	-	-
Wren	29	11	24	29	27	20	34	27
Dunnock	26	10	32	27	43	14	27	22
Robin	28	10	63	61	50	55	72	47
Nightingale	17	4	7	14	6	8	6	3
Blackbird	16	5	39	34	18	23	49	24
Song Thrush	8	2	12	16	12	8	17	6
Redwing	-	-	2	1	1	13	19	4
Cetti's Warbler	-	-	-	-	-	-	1	-
Sedge Warbler	9	6	-	1	-	2	1	1
Reed Warbler	17	6	9	36	26	43	33	32
Lesser								
Whitethroat	15	11	15	32	10	27	13	17
Whitethroat	7	10	5	5	16	21	23	10
Garden Warbler	20	9	24	43	26	42	34	38
Blackcap	50	16	178	163	152	202	279	209
Chiffchaff	30	15	30	98	77	128	47	29
Willow Warbler	25	13	35	46	38	83	26	50
Spotted								
Flycatcher	-	-	-	1	-	-	-	-
Goldcrest	1	-	-	17	2	11	16	10
Long-tailed Tit	17	17	34	35	19	17	42	9
Marsh Tit	-	-	2	1	1	1	4	1
Blue Tit	13	45	39	58	73	73	105	33
Great Tit	25	21	23	31	32	44	53	22
Treecreeper	-	9	9	5	6	10	11	8
Magpie	-	-	-	-	-	-	-	1
Jay	-	-	1	2	-	-	1	-
House Sparrow	-	-	-	9	-	1	1	-
Chaffinch	5	4	6	10	5	2	8	5
Linnet	-	-	-	-	2	-	-	-
Goldfinch	-	-	-	-	-	-	2	1
Greenfinch	5	5	7	32	8	9	36	8
Siskin	-	-	-	2	-	-	-	-
Lesser Redpoll	-	-	-	-	-	-	1	-
Bullfinch	21	19	16	33	26	28	67	33
Reed Bunting	2	2	1	3	2	7	10	2
Total	389	252	617	855	682	898	1045	657
No. of Species	25	24	26	34	28	30	34	29

Table 4. The number of birds retrapped during 2012 which were previously caught during 2007-2011.

Species	2007	2008	2009	2010	2011
Water Rail	-	0	-	-	-
Woodcock	-	-	-	-	-
Woodpigeon	-	0	-	-	-
Sparrowhawk	-	-	0	-	1
Turtle Dove	-	-	-	-	0
Kingfisher	-	0	0	0	-
Green Woodpecker	0	0	-	0	0
Great-spotted Woodpecker	0	0	0	0	0
Barn Swallow	-	-	-	0	-
Wren	0	0	0	0	0
Dunnock	0	1	0	1	5
Robin	0	1	0	1	3
Nightingale	0	0	0	1	0
Blackbird	2	2	1	2	3
Song Thrush	0	0	0	0	1
Redwing	0	0	0	0	0
Sedge Warbler	0	0	-	0	0
Reed Warbler	0	0	0	0	0
Lesser Whitethroat	0	0	0	0	0
Whitethroat	0	0	0	0	0
Garden Warbler	0	0	0	3	4
Blackcap	0	0	0	0	1
Chiffchaff	0	0	0	0	0
Willow Warbler	0	0	0	0	3
Spotted Flycatcher	-	0	-	-	-
Goldcrest	0	0	0	0	0
Long-tailed Tit	0	0	1	3	5
Marsh Tit	0	0	0	0	0
Blue Tit	0	0	2	5	10
Great Tit	0	0	1	1	7
Treecreeper	0	0	0	0	2
Jay	0	0	-	-	-
House Sparrow	-	0	-	0	-
Chaffinch	0	0	0	0	0
Linnet	-	-	0	-	-
Greenfinch	0	0	0	0	0
Siskin	-	0	-	-	-
Bullfinch	0	0	0	2	4
Reed Bunting	0	0	0	0	0
Total	2	5	5	19	49

Monitoring the effort expended in capturing birds is crucial when testing whether changes in numbers captured between years is due to changes in abundance or changes in effort, ie capturing more a particular species could be due to them being more abundant in a particular year, or simply that more ringing sessions took place or a more nets were in place. During the breeding season 2007-2012 the effort has been largely constant, but it is likely to have varied considerably in the autumns. We have made an attempt to quantify the effort expended during the summer and autumn of 2011 and 2012 to allow a simple comparison, Figure 2. Approximately 113 hours of ringing took place from May to December (compared to 161 hours in 2011), with 47 hours of ringing during the autumn and winter, from the end of the CES season onwards (compared to 92 hours in 2011). The reduced number of birds caught during 2012 may therefore be, in part at least, explained by reduced ringing effort during the autumn and early winter of 2012.

Figure 2. Ringing effort during the breeding season and autumn 2011 and 2012 (pentade 19 = 1-5 April).



One of the most interesting aspects of bird ringing for many people is the dispersion or migration movements that birds make. Details have been received from the BTO regarding several birds that passed through Paxton Pits or were found dead.

Woodcock

FH09453	6	03/01/11	Paxton Pits Nature Reserve, Cambridgeshire
	X Dead (shot)	19/04/12	Lomonosovskiy, Moscow, Russia Federation 2496 km, E, 1 yr 107days

Blackcap

Y308733	3F	08/09/11	Paxton Pits Nature Reserve, Cambridgeshire
	5F Recaptured	12/04/12	Landguard Point, Felixstowe, Suffolk 113 km, ESE, 217 days

Y801828	3F	15/09/12	Paxton Pits Nature Reserve, Cambridgeshire
	3F Recaptured	21/09/12	Old Weston, Cambridgeshire 18 km, NW, 6 days

Y801924	3M	28/09/12	Paxton Pits Nature Reserve, Cambridgeshire
	3M Recaptured	07/10/12	Hinxton Hall Genome Campus, Cambridgeshire 35 km, SE, 9 days

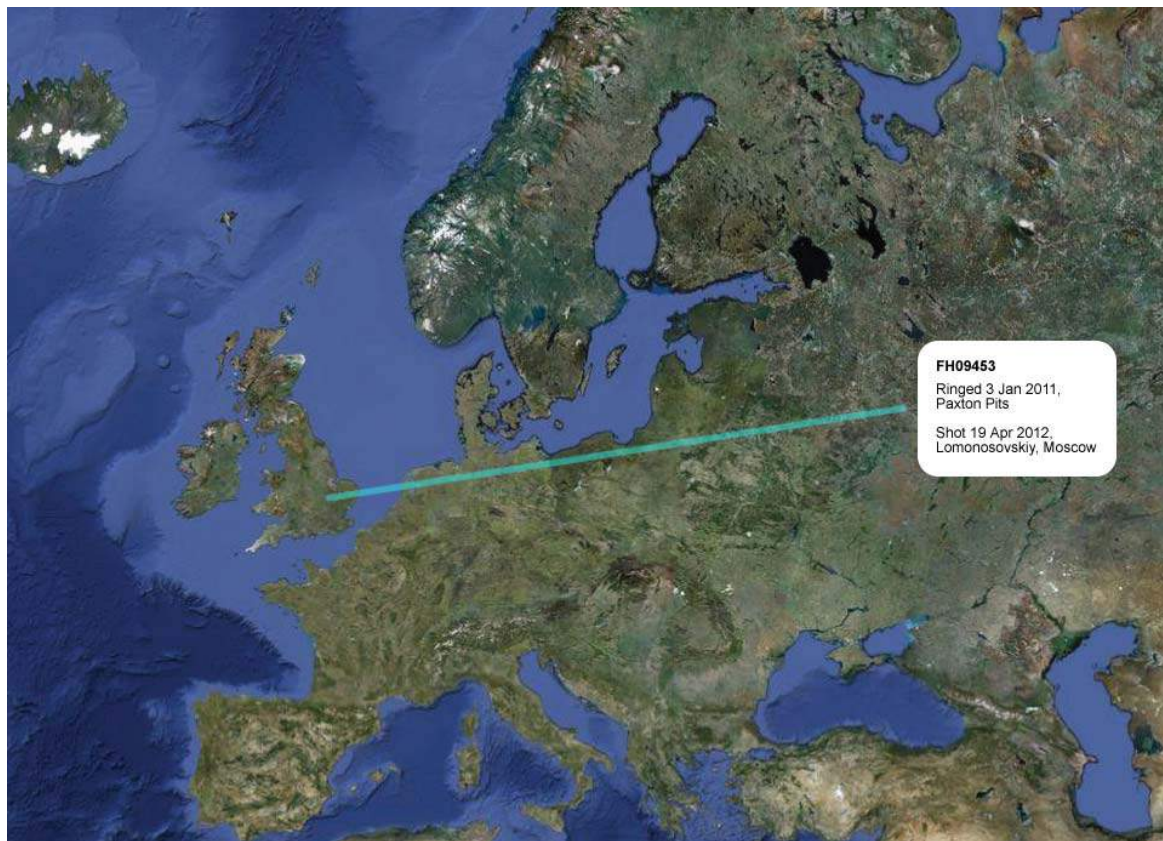
Lesser Redpoll

Y308935	3M	08/10/11	Paxton Pits Nature Reserve, Cambridgeshire
	5 Recaptured	02/03/12	Baldwin's Hill, East Grinstead, West Sussex 125 km, S, 146 days

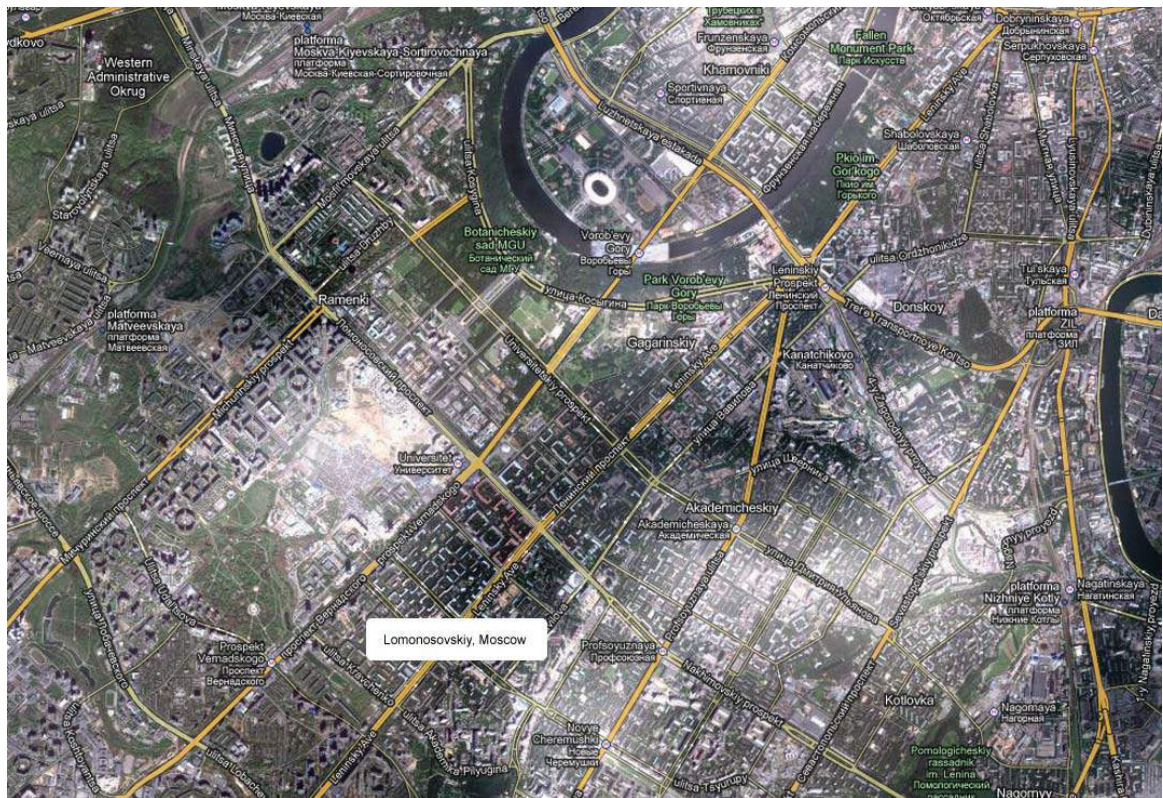
Age codes:	1	chick hatched during the calendar year of ringing
	3J	hatched during calendar year of ringing and still partly in Juvenile plumage
	3	hatched during calendar year of ringing
	4	hatched before calendar year of ringing, but exact year unknown
	5	Hatched the previous calendar year
	6	Hatched 2 or more years ago
	7	Hatched two years ago.

The Woodcock was shot by a hunter in Russia. The recovery details give a suburb of Moscow as the location where it was shot, but it is perhaps more likely that it was shot elsewhere in Russia and this is the where the hunter lives, Map 1 and 2.

Map 1. Movement of Woodcock FH09453



Map 2. Lomonosovskiy, Moscow



With the three Blackcaps detailed above our knowledge of the movements of Blackcaps which move through Paxton Pits grows. Even with this knowledge it is still difficult to detect meaningful patterns at this stage, Map 3 and 4, although in autumn we appear to have birds which are migrating south in the autumn as you might classically expect, but some which are also migrating north. These birds which appear to be moving north may be birds from the central European population which winters in Britain in increasingly larger numbers.

Map 3. Movements of Blackcaps to Paxton Pits



Yellow lines indicate a generally southern direction of travel to Paxton Pits; blue lines a northerly direction and the green line indicates a bird caught more than one year after original capture.

Map 4. Movements of Blackcaps from Paxton Pits



We are still awaiting the original ringing details of a French ringed Nightingale caught at Paxton Pits in May 2010 and a British ringed Blackcap was caught in September 2012.

If you find a dead or injured bird which is ringed please report the ring number to the address on the ring or via the website www.ring.ac
Please bear in mind that dead birds can carry diseases, so please wear gloves whilst handling the bird to read the ring number and address, and wash your hands thoroughly afterwards.

Acknowledgements

Thanks to the large number of ringers who gave up their time to help out at Paxton Pits during 2012: Katie Fuller, Judith Norfolk, Maureen Reeves, Paul Tinsley-Marshall and Kelly Thomas for their help during 2012. Also thanks to Paxton Pits LNR for permission to continue this project in 2012 and particular thanks to the Friends of Paxton Pits who made a generous financial contribution to the cost of purchasing new mist nets and rings.