

# Bird ringing at Paxton Pits Local Nature Reserve 2014



Juvenile Nightingale, 22 June 2014. Image © Katie Fuller

The Constant Effort Scheme (CES) is run by the British Trust for Ornithology (BTO) as part of the Trust's 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 and length of nets are erected and approximately the same amount of time is dedicated each year to allow for comparable data. The 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](http://www.bto.org/ringing) - and while it is difficult to analyse the data collected at a local site scale with seven years of data it has allowed a little comparative analysis in particular with running averages of birds caught during the previous five years, Table 1.

The weather during 2014 was much kinder to us than in 2012 and 2013, and all 12 main visits were completed, with 140m of standard mist nets erected for each session. All sessions reached the ideal 6 hours, starting soon after dawn. It was a much better season than in 2013 with 399 new birds of 27 species captured during the CES period, Table 1. Additionally, 34 birds originally captured during 2007 - 2013 were recaptured during the breeding season in 2014, Table 2. The standout retrap was a Dunnock first caught in 2007. Still a little short of the BTO record of 11 years and 3 months, but we can only speculate how many other Paxton Dunnocks this one may have fathered in the last seven breeding seasons! The total number of individual birds captured during the 2014 breeding season was 433, slightly above the average of 414 captured during 2008-2013, Figure 1.

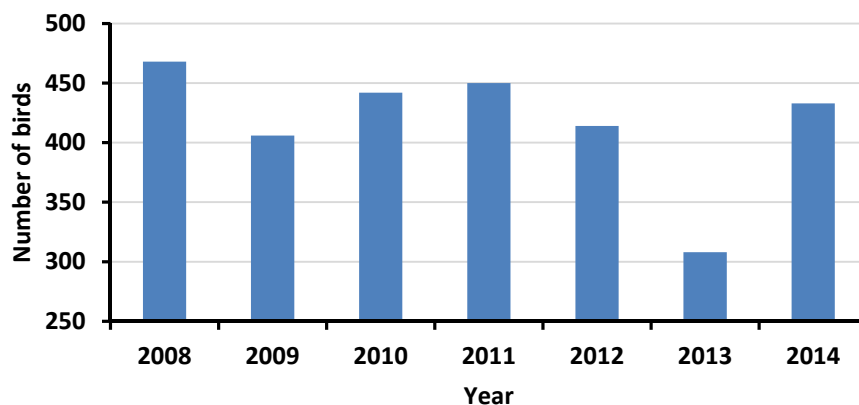


Figure 1. The number of individuals captured during the breeding seasons 2008 – 2014.



Juvenile Long-tailed Tit, 3 May 2014. Image © Katie Fuller

The evidence appears to show that, overall, birds bounced back quite well from the poor breeding season in 2013, although this varied between species, Table 3. Of particular note is the large number of juvenile Long-tailed Tits - by far the highest number caught in one season.

Conversely, the number of adult and juvenile Willow Warblers was well below the five-year average. Long-tailed Tits do naturally exhibit large variation in breeding success with 2014 being a boom year, but the relative lack of Willow Warblers may be a result of the general decline of the species in southern England (Balmer et al 2013).

Table 1. The number of adult and juveniles caught during CES ringing in 2014 (May – August), compared to the average of the previous five years (2009-2013).

Species	Adult		Juvenile	
	<u>2009-13</u>	<b>2014</b>	<u>2009-13</u>	<b>2014</b>
Water Rail	0	<b>0</b>	0	<b>0</b>
Woodpigeon	0	<b>0</b>	0	<b>0</b>
Kingfisher	0.2	<b>0</b>	0.2	<b>0</b>
Green Woodpecker	1.2	<b>0</b>	0.6	<b>1</b>
Great Spotted Woodpecker	0	<b>1</b>	0.6	<b>0</b>
Wren	5.2	<b>6</b>	16.6	<b>21</b>
Dunnock	13	<b>8</b>	11	<b>14</b>
Robin	6.6	<b>7</b>	41.6	<b>31</b>
Nightingale	5.2	<b>3</b>	1.4	<b>1</b>
Blackbird	11	<b>5</b>	6.2	<b>7</b>
Song Thrush	3.8	<b>0</b>	2.4	<b>4</b>
Cetti's Warbler	0.2	<b>0</b>	0	<b>1</b>
Reed Warbler	9.8	<b>9</b>	11.6	<b>21</b>
Sedge Warbler	0.2	<b>0</b>	0.2	<b>0</b>
Lesser Whitethroat	4	<b>1</b>	3.6	<b>6</b>
Whitethroat	2.4	<b>0</b>	5.6	<b>3</b>
Garden Warbler	19.8	<b>12</b>	11.8	<b>20</b>
Blackcap	25	<b>21</b>	22.6	<b>39</b>
Chiffchaff	6	<b>4</b>	26.6	<b>29</b>
Willow Warbler	17.2	<b>8</b>	18.2	<b>4</b>
Goldcrest	0	<b>0</b>	1	<b>2</b>
Long-tailed Tit	8.8	<b>10</b>	4	<b>44</b>
Marsh Tit	0	<b>0</b>	1	<b>0</b>
Coal Tit	0	<b>0</b>	0.2	<b>0</b>
Blue Tit	12	<b>15</b>	18.6	<b>11</b>
Great Tit	8.8	<b>7</b>	14	<b>15</b>
Treecreeper	1.4	<b>3</b>	4.8	<b>2</b>
Magpie	0	<b>0</b>	0.2	<b>0</b>
Jay	0	<b>1</b>	0	<b>0</b>
House Sparrow	0.8	<b>0</b>	0	<b>0</b>
Chaffinch	2.6	<b>1</b>	0.6	<b>1</b>
Goldfinch	1.2	<b>2</b>	0	<b>0</b>
Greenfinch	2.4	<b>2</b>	1.2	<b>2</b>
Bullfinch	16.4	<b>12</b>	7.4	<b>10</b>
Reed Bunting	2.4	<b>3</b>	0.4	<b>0</b>

Table 2. The number of birds caught during CES ringing in 2014 which were originally caught during 2007-2013.

	2007	2008	2009	2010	2011	2012	2013
Wren							1
Dunnock	1				2		2
Robin							4
Nightingale						1	
Blackbird					1		
Garden Warbler					1		
Blackcap			1		1		
Willow Warbler							2
Long-tailed Tit				1	2	1	
Blue Tit				1		2	
Great Tit					2		2
Treecreeper							2
Goldfinch							1
Bullfinch							3

Note: Only species which were originally captured in previous years and which were retrapped in 2014 are presented.

Table 3. Indication of notable differences in adult or juvenile abundance compared to 5-year average.

	Adult	Juvenile
Robin		▼
Blackbird	▼	
Song Thrush	▼	
Reed Warbler		▲
Garden Warbler	▼	▲
Blackcap		▲
Willow Warbler	▼	▼▼
Long-tailed Tit		▲▲
Blue Tit		▼

▼ – notably lower than 5-year average

▼▼ – considerably lower than 5-year average

▲ – notably higher than 5-year average

▲▲ – considerably higher than 5-year average

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, 577 new birds of 28 species were caught in 2014 (Table 4), and 48 birds were retrapped which were originally caught between 2007-2013 (Table 4). This was quite a low annual total, but was undoubtedly influenced by reduced effort during the autumn and early winter.

There were few real highlights during 2014, but the two Cetti's Warblers were perhaps the most interesting captures, being only the second and third captures of this species in the Sanctuary.



Juvenile Cetti's Warbler, 26 July 2014. Image © Katie Fuller

Table 4. The total number of new birds ringed during 2014 with comparison against the ringing activities of 2007-2013.

Species	2007	2008	2009	2010	2011	2012	2013	2014
Water Rail	-	1	-	-	-	-	-	-
Woodcock	-	-	-	-	1	-	-	-
Woodpigeon	-	1	-	-	-	-	-	-
Sparrowhawk	-	-	2	-	3	-	-	1
Turtle Dove	-	-	-	-	1	-	-	-
Kingfisher	-	2	1	1	-	-	-	-
Green								
Woodpecker	3	4	-	1	-	4	1	1
Great Spotted								
Woodpecker	1	2	1	3	2	1	-	2
Barn Swallow	-	-	-	1	-	-	-	-
Wren	24	29	27	20	34	27	20	31
Dunnock	32	27	43	14	27	22	14	20
Robin	63	61	50	55	72	47	38	38
Nightingale	7	14	6	8	6	3	3	3
Blackbird	39	34	18	23	49	24	12	15
Song Thrush	12	16	12	8	17	6	12	8
Redwing	2	1	1	13	19	4	-	-
Cetti's Warbler	-	-	-	-	1	-	-	2
Sedge Warbler	-	1	-	2	1	1	-	-
Reed Warbler	9	36	26	43	33	32	30	31
Lesser								
Whitethroat	15	32	10	27	13	17	6	7
Whitethroat	5	5	16	21	23	10	7	3
Garden Warbler	24	43	26	42	34	38	26	32
Blackcap	178	163	152	202	279	209	153	147
Chiffchaff	30	98	77	128	47	29	54	54
Willow Warbler	35	46	38	83	26	50	17	10
Spotted								
Flycatcher	-	1	-	-	-	-	-	-
Goldcrest	-	17	2	11	16	10	1	5
Long-tailed Tit	34	35	19	17	42	9	4	57
Marsh Tit	2	1	1	1	4	1	-	-
Blue Tit	39	58	73	73	105	33	30	39
Great Tit	23	31	32	44	53	22	17	31
Coal Tit	-	-	-	-	-	-	1	-
Treecreeper	9	5	6	10	11	8	3	3
Magpie	-	-	-	-	-	1	-	-
Jay	1	2	-	-	1	-	-	1
House Sparrow	-	9	-	1	1	-	2	-
Chaffinch	6	10	5	2	8	5	6	3
Linnet	-	-	2	-	-	-	-	-
Goldfinch	-	-	-	-	2	1	5	1
Greenfinch	7	32	8	9	36	8	10	5
Siskin	-	2	-	-	-	-	-	-
Lesser Redpoll	-	-	-	-	1	-	-	-
Bullfinch	16	33	26	28	67	33	29	23
Reed Bunting	1	3	2	7	10	2	2	4
<b>Total</b>	<b>617</b>	<b>855</b>	<b>682</b>	<b>898</b>	<b>1045</b>	<b>657</b>	<b>503</b>	<b>577</b>

Table 5. The number of birds retrapped during 2014 which were previously caught during 2007-2013.

	2007	2008	2009	2010	2011	2012	2013
Wren							1
Dunnock	1				2		2
Robin							4
Nightingale						1	
Blackbird					1		
Garden Warbler					1		
Blackcap			1		1		
Willow Warbler							3
Long-tailed Tit			1	1	3	1	
Blue Tit				1	3	3	1
Great Tit					2	1	3
Treecreeper						1	3
Goldfinch							1
Bullfinch						1	4

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 2007-2014 the effort has been largely constant, but it is likely to have varied considerably in the autumns. We have quantified the effort expended, by recording the total time and total length of nets set up, during the summer and autumn since 2011 to allow a simple comparison, Table 6. The reduced number of birds caught overall during 2014 is simply explained by reduced ringing effort during the autumn and early winter of 2014.

Table 6. Post-CES ringing effort 2011-2014.

	Cumulative Hours	Cumulative Net Length
2011	62.5	1704
2012	37	990
2013	38	1464
2014	27	432





## Recoveries

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, the most interesting being Blackcap D097120 recaptured by a ringer in Ceuta, the Spanish enclave on the North African coast.

Most Blackcaps which breed in the UK winter in Spain or Portugal, but an unknown proportion winter further south as far as West Africa (Wernham et al 2002). This will have one of these birds seeking winter warmth, and recaptured during its migration north in the spring.

Age codes:

- 3      hatched during calendar year of ringing
- 4      hatched before calendar year of ringing, but exact year unknown

## Blackcap

D097120	4M	06/07/2013	Paxton Pits Nature Reserve, Cambridgeshire
	R	08/04/2014	Punta Blanca, Ceuta, North Africa 1862km SSW 276 days
D097195	3M	29/08/2013	Paxton Pits Nature Reserve, Cambridgeshire
	R	12/04/2014	Sussex Farm, Burnham Market, Norfolk 100km NE 226days
Y291505	3M	27/08/2011	Priory Country Park, Bedford, Bedfordshire
	R	27/09/2014	Paxton Pits Nature Reserve, Cambridgeshire 18km NE 3 yrs 31days

## Chiffchaff

EEA248	3J	29/06/2013	Paxton Pits Nature Reserve. Cambridgeshire
	R	28/09/2014	Rye Meads, Hertfordshire 56km SSE 1 yr 91days

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](http://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.

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### **References**

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Paxton Pits, 3 May 2014. Image © Katie Fuller