

Reed Warbler recapture rates at the Wicken Reedbed

This set of tables adds a further year (2012) of data to my previous analyses of Reed Warbler captures, concentrating as before on returning adult birds.

Whole Fen New Bird totals

	2010	2011	2012
New adults	147	175	155
New juveniles	528	687	314
Controls	4	5	3
	679	867	472

This first table shows the totals of new Reed Warblers (thus excluding any previously Wicken-ringed birds) ringed in the three years. This is just a reminder of the overall picture. Catching activity was pretty uniform over the period, so the large variations show genuine differences between the years. 2011 was a notably 'good' year, and 2012 an exceptionally 'poor' one. The 2010 total falls almost exactly, mathematically, between; and probably represents an 'average' year.

The remaining tables are confined to catching at the Reedbed (as opposed to the whole Fen), and to adult (age-code 4) birds, excluding juveniles.

The Reedbed is defined as site-codes FR and K, all of which are close by the Reedbed ringing hut, and are all within 200-300 metres of each other.

Reedbed adult totals

	2010		2011		2012	
Total captures	211		302		249	
Different individuals	166		213		180	
of which						
Returning	36	22%	72	34%	41	23%
New	128		139		137	
Controls	2		2		2	

The striking feature here is the high proportion of returning adults in 2011; over a third of the individuals caught that year were previously Wicken-ringed. Thus the successful 2011 season may have coincidentally been a good year for productivity/successfully fledging young, which just happened to follow a good year for overwintering survival. This isn't something we had been aware of. The number of new adults (including controls) was remarkably consistent at 130-141 across the three seasons. This new-to-Wicken component will obviously comprise some passage birds.

I have commented previously on how – despite 600-900 feet of net deployed during thirty or so catching sessions – so few birds get retrapped. If we exclude returning adults, 72-85% of the birds were captured just the once. This is mainly explained by the presence of passage birds. But of those which were retrapped, and thus presumably resident for the season, most were still also only retrapped just once, and very few indeed were retrapped twice or more.

Reedbed same-year retrap rates

New adults and controls excl returning adults

	2010		2011		2012	
Different individuals	130		141		139	
Caught just once	110	85%	110	77%	100	72%
Retrapped	20		31		27	
Retrapped once	14	11%	21	15%	16	12%
Retrapped 2x	5		5		9	
Retrapped 3x	1		3		2	
Retrapped 4x			2			

You would expect a higher retrap rate with the returning adults, the majority of which would be resident breeding. To some degree this is true, but despite all the catching effort, 61-71% of returners avoided being caught more than once. This may, of course, be the downside consequence of constant-effort catching, or at least of nets always being set in the same places. Bearded Tits are notoriously difficult to catch, in my experience, because they approach nets so slowly – reed-stem by reed-stem – until they see the net. Reed Warblers are possibly often the same. In fact with the retrap rates of returning adults being so low and still with so many only caught the once, it is not surprising that birds appear to be absent, and skip a year or two, when they

are actually probably present. This pattern is clearly shown in the returning adult charts (in a separate document). Only one or two birds, no doubt unluckily nesting very close to a net-ride, were caught frequently.

Reedbed same-year retrap rates

Returning adults

	2010		2011		2012	
Different individuals	36		72		41	
Caught just once	25	69%	51	71%	25	61%
Retrapped	11		21		16	
Retrapped once	5	14%	12	17%	9	22%
Retrapped 2x	6		5		4	
Retrapped 3x			2		2	
Retrapped 4x			1			
Retrapped 7x					1	
Retrapped 8x			1			

The final tables show the age distribution of these returning adults.

Reedbed retraps from previous years

plus missed, known to be alive, caught subsequently

	2010		2011		2012
Ringed in 2011					18
2010			43	4	12
2009	17	10	17	1	6
2008	8	3	4	1	2
2007	6	1	2		
2006	2		1		
2005	2	2	5		3
2004	1				

All birds are shown. Due to the small sample size the age at ringing has not been differentiated. Thus the 43 birds first ringed in 2010 and retrapped in 2011 comprise birds first ringed both as adults and juveniles. Since, however, the majority of birds newly ringed in any year are juveniles, the likelihood is that most of the 43 were in their second calendar year. This might suggest that the exceptional 2011 breeding season was helped by strong overwintering survival of young birds.

The figure in italics shows the number of individuals not caught in that year, but known to be alive because they were caught in a subsequent year. The number of these reinforces the view that it's very likely that many returning birds escape capture in any one year. The true measure of the scale of this will only be revealed when we have seven or eight years of return data tabled at this level of detail. In the absence of colour-ringing sightings only then will we have a clear picture of true comparative year-on-year overwinter survival.

The same data can be expressed in age cohorts.

Reedbed retraps from previous years by age

plus missed, known to be alive, caught subsequently

	2010		2011		2012
At least one	17	<i>10</i>	43	<i>4</i>	18
At least two	8	<i>3</i>	17	<i>1</i>	12
At least three	6	<i>1</i>	4	<i>1</i>	6
At least four	2		2		2
At least five	2	<i>2</i>	1		
At least six	1		5		
At least seven					3

Comments welcome.

Michael Holdsworth

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