

Swallow Roost Project *Newsletter*



This is the fourth edition of the Swallow Roost Project Newsletter. If you require further copies, then please contact Bridget Griffin at The Nunnery.

July 2006

Number 4

The Final Year!!

This is the final year of the Swallow Roost Project and we would like to take the opportunity to thank all participants for their hard work over the last four years, collecting data at their Swallow roost sites. For this season we have details of an extra feature to record on your juvenile Swallows, which should assist in distinguishing between early and late broods and which will add a fascinating extra dimension to the project - see page 6 for more details.

The roost season is nearly upon us - some roosts may start forming in early July. Pat Smiddy emailed recently to say "Mid to late July would be a late start at my site. In fact I believe I could catch birds there at the very end of June; I will be trying that this year. Perhaps this is exceptional, but by mid July a lot of Swallows would be missed!". So it may be worth paying a visit to your site soon to see how things are progressing. Let's make this final year really count!



Tommy Holden

Results 2005

Over 13,000 Swallows were caught and ringed at roosts in 2005, again beating the previous year's total, although we did have five new sites join for 2005 (see Table 1).

The grand total since the start of the project is 38,778 juveniles and 4,505 adults ringed. We have 224 recoveries of Swallows that were either first ringed at a Swallow roost or recaptured at a roost since the start of the project. The maps below show the movements for all recoveries of Swallows ringed and found in Britain and Ireland (Fig 1) and those for birds ringed in the nest and found in Britain and Ireland (Fig 2).

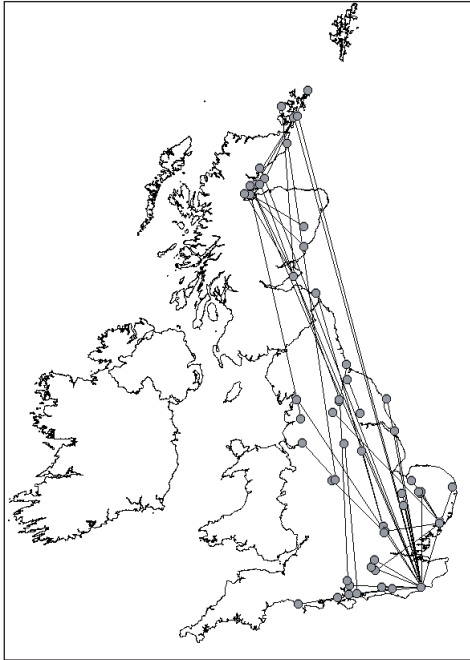


Figure 1. Movements of Swallows ringed or recovered at Swallow Roost Project sites in 2002-2005.

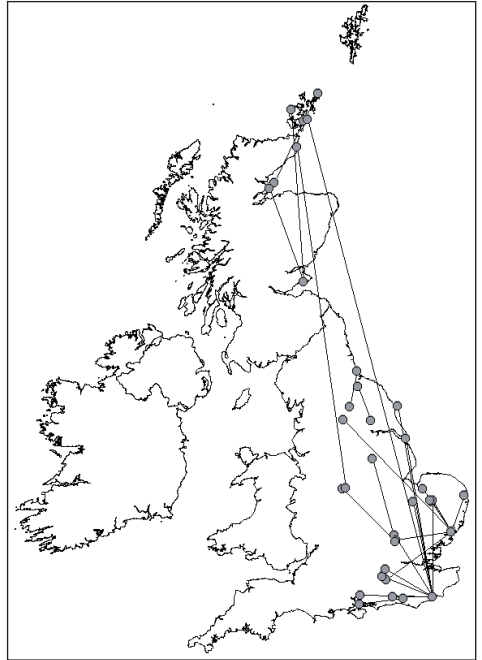


Figure 2. Movements of Swallows ringed as pulli and recovered at Swallow Roost Project sites in 2002-2005.

Details of some interesting recoveries are listed below, including a foreign control, caught at Shotley in Suffolk.

| | | | |
|---------|----|------------|---|
| FPP | 4 | 25.01.2004 | Bloemfontein: 29° 2'S 26° 25'E (South Africa) |
| GA80383 | R | 09.09.2004 | Shotley: 51° 59'N 1° 15'E (Suffolk) 9,336 km NNW |
| P715212 | 1 | 11.07.2003 | Bossack, Tankerness: 58° 57'N 3° 58'W (Orkney) |
| | 4F | 07.09.2004 | Graemshall Loch, Holm: 58° 53'N 2° 54'W (Orkney) 8 km SSE |
| T025613 | 3 | 04.09.2004 | Graemshall Loch, Holm: 58° 53'N 2° 54'W (Orkney) |
| | X | 02.07.2005 | Bossack, Tankerness: 58° 57'N 3° 58'W (Orkney) 8 km NNW |
| R740353 | 3 | 24.07.2003 | Loch Achnaclloch, Ardrross: 57° 43'N 4° 15'W (Highland) |
| | X | 22.07.2005 | Hill of Fearn, East Ross: 57° 46'N 3° 58'W (Highland) 18 km NNE |

The last three examples above are interesting in that they highlight the faithfulness of juveniles to their natal area.

Table 1. Number of juvenile & adult Swallows ringed as part of the Swallow Roost Project 2002-2005.

| ROOST SITE | 2002 | | 2003 | | 2004 | | 2005 | |
|--|--------------|------------|--------------|--------------|---------------|--------------|---------------|--------------|
| | Juvs | Ads | Juvs | Ads | Juvs | Ads | Juvs | Ads |
| ENGLAND | | | | | | | | |
| SOUTH | | | | | | | | |
| Slapton, Devon | 773 | 69 | 1,192 | 41 | 989 | 54 | 156 | 3 |
| Abbotsbury, Dorset | 135 | 5 | 73 | 2 | 517 | 6 | 560 | 12 |
| Titchfield Haven, Hants | 281 | 15 | 336 | 25 | 75 | 2 | 0 | 0 |
| Farlington Marshes, Hants | 193 | 42 | 312 | 84 | 236 | 23 | 17 | 1 |
| Winchester, Hants | 0 | 0 | 38 | 3 | 2 | 0 | 0 | 0 |
| Icklesham, Sussex | 1,884 | 153 | 1,090 | 296 | 1,642 | 174 | 706 | 592 |
| Pitsea Marshes, Essex | 109 | 17 | 70 | 7 | 0 | 0 | 32 | 7 |
| Harty Marshes, Kent NO ROOST | - | - | 0 | 0 | 0 | 0 | - | - |
| Cotswold Water Park, Wilts (new 05) | - | - | - | - | - | - | 627 | 86 |
| EAST | | | | | | | | |
| Shotley, Suffolk | 374 | 41 | 231 | 29 | 680 | 46 | 745 | 111 |
| Levington, Suffolk | 265 | 7 | 29 | 1 | 169 | 0 | 903 | 22 |
| Orford Ness, Suffolk | 27 | 0 | 166 | 24 | 20 | 4 | 49 | 0 |
| Codicote, Herts | 299 | 36 | 84 | 6 | 150 | 27 | 71 | 11 |
| Santon Downham, Norfolk (resigned 04) | 192 | 22 | 10 | 1 | 0 | 0 | - | - |
| South Lopham, Suffolk | - | - | 88 | 14 | 272 | 23 | 530 | 53 |
| Sizewell, Suffolk | - | - | 26 | 5 | 60 | 2 | 9 | 3 |
| Wiggenhall St Mary, Norfolk | - | - | 48 | 1 | 0 | 0 | 0 | 0 |
| Cantley Sewage Works, Suffolk (new 05) | - | - | - | - | - | - | 886 | 188 |
| CENTRAL | | | | | | | | |
| Swadlincote, Derbyshire | 344 | 85 | 40 | 1 | 224 | 44 | 0 | 0 |
| Rodbaston College, Staffordshire | - | - | 1 | 0 | 0 | 0 | - | - |
| Much Marcle, H & W | 68 | 2 | 82 | 20 | 0 | 0 | 0 | 0 |
| Chelmarsh Reservoir, Shropshire | - | - | 10 | 0 | 10 | 2 | 35 | 1 |
| Burton Moor, Derbyshire (new 05) | - | - | - | - | - | - | 408 | 37 |
| Canons Ashby, Northants (new 05) | - | - | - | - | - | - | 45 | 4 |
| NORTH | | | | | | | | |
| Ribchester, Lancs | 65 | 5 | 59 | 6 | 36 | 3 | 34 | 2 |
| Little Givendale, N Yorkshire | - | - | 418 | 40 | 495 | 74 | 247 | 56 |
| Denaby Ings, S Yorkshire | - | - | 300 | 23 | 106 | 13 | 0 | 0 |
| Pocklington Canal, Humberside | 141 | 11 | 135 | 7 | 5 | 2 | 0 | 0 |
| Gressingham, Lancs (new 05) | - | - | - | - | - | - | 1,574 | 58 |
| IRELAND | | | | | | | | |
| Pollardstown Fen, Kildare (resigned05) | 294 | 17 | 281 | 28 | 0 | 0 | - | - |
| Youghal, Cork | - | - | 489 | 54 | 529 | 69 | 641 | 81 |
| Arklow Marsh, Wicklow | - | - | 261 | 18 | 30 | 1 | 0 | 0 |
| Oxford Island, Armagh (resigned 05) | - | - | 196 | 5 | 109 | 12 | - | - |
| Pallas Lake, Offaly | - | - | - | - | 90 | 28 | 147 | 28 |
| SCOTLAND | | | | | | | | |
| Graemshall Loch, Orkney | 354 | 15 | 980 | 51 | 651 | 52 | 368 | 15 |
| Kilconquhar, Fife | 372 | 46 | 1,751 | 182 | 2,781 | 143 | 1,577 | 160 |
| Castlandhill, Fife | 202 | 39 | 0 | 0 | 0 | 0 | - | - |
| Castle Stuart, Highland | - | - | 109 | 17 | 248 | 56 | 622 | 118 |
| Loch Brora, Highland | - | - | 61 | 4 | 28 | 2 | 125 | 2 |
| Pitglassie, Highland | - | - | 187 | 14 | 92 | 15 | 162 | 30 |
| Loch Achnacloich, Highland | - | - | 190 | 45 | 1,076 | 125 | 703 | 110 |
| Black Isle, Highland | 148 | 7 | 156 | 22 | 0 | 0 | 0 | 0 |
| WALES | | | | | | | | |
| Llangorse Lake, Powys | - | - | - | - | 115 | 2 | - | - |
| TOTAL | 6,520 | 634 | 9,499 | 1,076 | 11,437 | 1,004 | 11,979 | 1,791 |

Swallow Feeding Survey: 15,000 Swallows and one summer

Chas Holt and Ian Henderson from BTO Habitats Dept report on results from the BTO Swallow Feeding Survey.

Although prone to marked annual fluctuations, people are often surprised to hear of a lack of evidence for a long-term decline in UK Swallows (Robinson *et al* 2003). That said, there are concerns over the vulnerability of Swallows to changing patterns of land-use brought about by modern-day farming practices. There are also indications that numbers of Swallows have declined in intensive arable regions.

In 2004, the Swallow Feeding Survey was aimed at gathering nationally representative data on foraging habitat selection by breeding birds. Volunteers visited over 3,000 survey points within 750 tetrads ranging from Shetland to the Channel Islands (Fig 3). Foraging data were gleaned from over 15,000 Swallows.

Foraging patterns and mixed landscapes

The survey showed consistency across the UK, particularly in the association foraging Swallows have with cattle and to a lesser extent horses. In all regions of the UK, including the arable east of England, this relationship held. This relationship is known from localised studies in the UK, Denmark and Italy. It clearly has wide geographic relevance and in the UK has important ramifications for population changes at a regional level.



Figure 3. Swallow Feeding Survey coverage – each dot represents a 2 km x 2 km tetrad.

Swallows were not associated with grassland *per se* or dung therein, but with the presence of livestock itself; they are seeking flying insects directly associated with cattle or horses.

Yet Swallows are versatile. In areas where no livestock were present the Swallow Feeding Survey found preferences for mixed farming landscapes containing small amounts of arable land. Open arable land was the least favoured land cover type and all crops were under-used compared to grassland (Fig 4), but again Swallows here consistently used hedges with mature trees, which are thought to provide concentrations of flying insects, particularly in poorer weather. Although immediately less

apparent, it appears that the loss of mixed farms with cattle, and simplified landscapes in some regions, as in the east of England, may have reduced the quality of farmland for foraging Swallows. This conclusion fits well with the differences in breeding population trends for this species where increasing populations in the pastoral west of Britain have compensated for declines in the arable east.

Robinson R.A., Crick H.Q.P., Peach W.J. (2003)
 Population trends of Swallows *Hirundo rustica* breeding in Britain: There are regional and habitat differences, but no long-term decline in numbers. *Bird Study* **50**, 1-7.

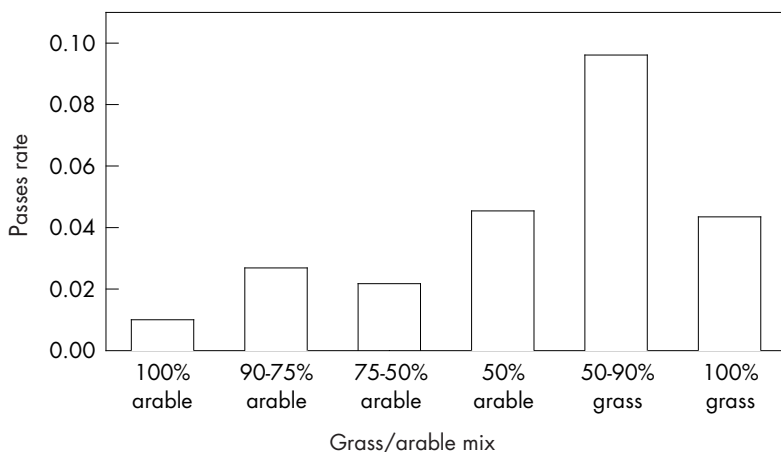


Figure 4. The rate of foraging passes per hectare ('activity – density') of Swallows in relation to different proportions of habitat composition.



Tommy Holden

The Ebbaken Swallow Project

The Ebbaken Swallow Project was born from the enthusiastic ringing activities of an Italian bird ringer, Pierfrancesco Micheloni. In collaboration with the Italian Ringing Scheme an extensive ringing program was set up to ring Swallows across their southern European breeding grounds, in the hope of finding out more about where this population overwinters. In 1995 they received details of 100's of rings from dead Swallows found at Ebbaken Boje, east Nigeria. Many of the rings found were from birds ringed by Pierfrancesco and his colleagues. Pierfrancesco was intrigued to know why so many birds were dying in this part of Nigeria and so he arranged a visit to the village of Ebbaken Boje.

The village is situated next to grassland habitat where up to two million Swallows go to roost in the autumn. During the day the birds travel up to 60 km to feed over the forest canopy, returning to the grassland behind the village to roost in the evening. To the villagers of Ebbaken, the Swallow represented an important protein source

to supplement their diet, and they were catching as many as 200,000 birds annually. The birds were caught using an umbrella contraption made of palm fronds, coated with a forest-sourced "glue".

Pierfrancesco decided to stay in the village and work with the villagers to try to find ways of protecting the Swallows by a program of education and projects to provide alternative protein sources for the locals. As part of this, the village has been promoted as a tourist location for visiting bird watchers and bird ringers, and the villagers have been given training in bird ringing techniques. This is an ongoing project, which has had its ups and downs along the way, if you would like to read more then there is information at:

<http://www.charliesbirdblog.com/~charlie/ebakken/ebakken.html>

Information about bird migration to South Africa (SAFRING Ringing Scheme):

http://www.euring.org/about_euring/newsletter1/ringing_across_world.htm

Bridget Griffin

Scoring gape stage in juvenile Swallows

During 2005, after reading details of a study of scoring gape stages by the Swiss Ornithological Institute, we decided to record gape stage on all juveniles caught at our roost site at South Lopham, Suffolk. A short note on the Swiss study can be found in *Ringing & Migration* (volume 22, part 4, pp209-211 or visit http://blx1.bto.org/pdf/ringmigration/22_4/vonhirschheydt.pdf). The Swiss study, like the BTO Swallow Roost Project, forms part of the EURING Swallow Project. They devised a system to score the stage of development of the bill edges of juvenile Swallows to distinguish between early fledglings and later broods. The stages and their descriptions are given below:

- Stage 2** - Bill edges are yellow/whitish and strongly swollen up to two thirds or more along the length of the bill.
- Stage 1** - Bill edges are yellow/whitish and swollen only on the proximal third of the bill.

Stage 0 - Bill not swollen but completely narrow, blackish edges.

The yellow gape and swollen edges of nestling Swallows gradually regress as the fledglings become more independent. The purpose of the Swiss study was to attempt to quantify this process by scoring the gapes of retrapped young Swallows of known



Jill Pakenham

age. The results showed that birds with swollen, yellow/whitish edges to the bill (stage 2) were aged between 21-59 days at the most, whereas birds with completely straight black edges (stage 0) were all older than 43 days.

At South Lopham we caught and processed a total of 531 juvenile Swallows from early August until late September, with gape stages recorded for 461 individuals. We plotted the stages as a percentage per capture date and the results showed distinct peaks in the number of birds with a gape score of 2, indicating when broods may have fledged (Fig 5). You would expect to have a high proportion of birds with stage 2 gape scores during the early visits at the roost, however as our first visit was not until 10 August we had a much higher proportion of older juveniles with a gape stage of 0, these presumably being birds from the first broods. The peaks on 31 August and 22 September may indicate when the second and third broods were on the wing.

We also looked at the weights of these birds to see if there were any differences between the age classes suggested by the gape stages. We would expect the younger birds (stage 2) to have lower weights than their older siblings (stage 0) and Fig 6 highlights this quite clearly. This difference is more significant in the later catches at the end of September (Fig 7). On our last catch, birds with a gape stage of 0 (the oldest birds) were on average 1.2 g heavier than the youngest birds (stage 2).

Our analysis was on a fairly small set of data but it gives an exciting insight into the sort of results we could find if we had more data to work

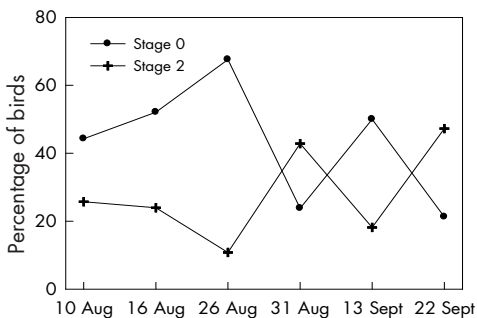


Figure 5. Percentage of juveniles at gape stage 0 & 2 per capture date.

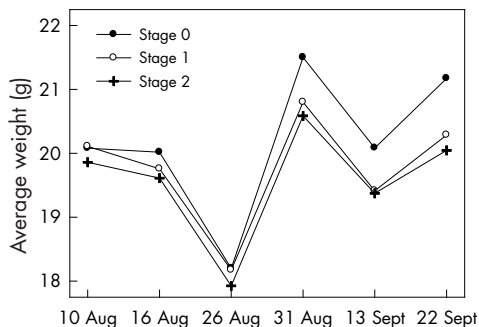


Figure 6. Mean weight per capture date for each gape stage.

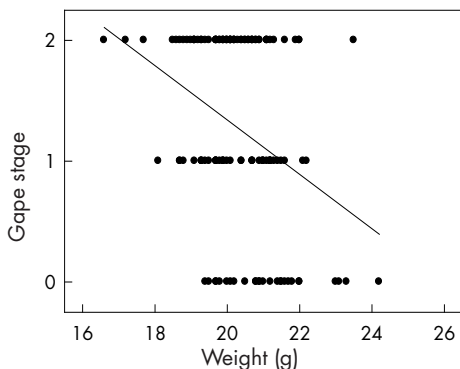


Figure 7. Weights of Swallows at each gape stage in late September.

with. So now YOU come in!! We are appealing for more gape data so please, if you can, record this at your roost catches this autumn. We found the scoring very easy to use and record in the field and we have enclosed a colour photo of all three gape stages for you to use. As there is not a 'gape' field in IPMR you will need to include the 'user5' field in your SRP field setup (you need to be on version 2.2 of IPMR, see back page for more news on IPMR). These user own fields are loaded onto the ORACLE database at BTO HQ, so if all Swallow project participants use the 'user5' field to enter their gape data we will be able to identify this extra data once loaded.

We hope that you can help!
Bridget Griffin & Rob Robinson

News Items

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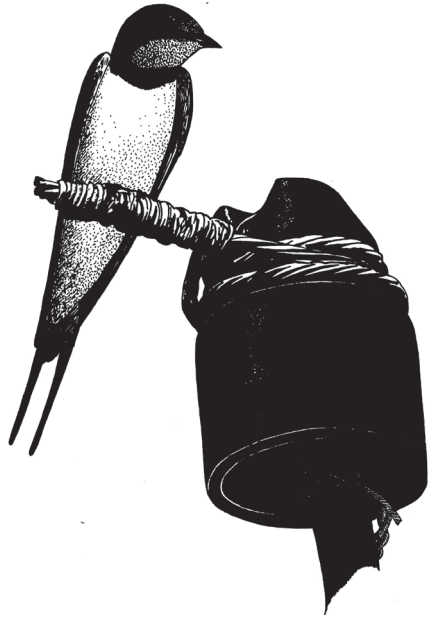
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More information on the Web at:
www.bto.org/ringing/swallowroostproject

IPMR version 2.2

Version 2.2 will be available soon and will include all the new ring sequences. This version will not have the electronic recovery feature. Mark has implemented the necessary programming work for electronic recoveries on the IPMR side of the process, and we are currently working on the final testing of the procedures at BTO before general release later in the year. We are very grateful for all the hard work from both Mark Cubitt and the v2.2 beta testers.

All Swallow roost participants need to upgrade to v2.2 before submitting their data for 2006.



Steve Carter