

Sand Martin 1960s

Title

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Description and Summary of Results

In the autumn of 1958 a small team of ringers in metropolitan Essex trapped nearly 1000 migrant Sand Martins *Riparia riparia* as they passed along a narrow insignificant river bordering an urban sewage farm. Several of these birds had been ringed at distant colonies, and the following three years saw big increases in the numbers of Sand Martins trapped and retrapped at colonies and passage sites. Up to 1958 the species had had a very poor recovery rate (around 0.25%), but it was realised that co-operative work by ringers on such a highly social species could increase recovery totals dramatically. So a formal Enquiry was set up in 1962 with free rings offered for the species. As a result the recovery rate rose to 2.5%, most being live recaptures between ringers ('controls' in ringers' parlance). In the later stages similar interest in the species was shown in other parts of Europe and there was a corresponding increase in foreign recoveries as well.

The active promotion of Sand Martin ringing in Britain ended in 1968 because it seemed sensible to assimilate the data already to hand before committing further staff time to processing more. By then ringing totals had increased by 421700 since 1958 and recoveries by 10400. There was therefore a huge volume of data collected and as it was before the advent of computers to do the necessary analyses these took a long time.

In the event this 1968 cut off was very unfortunate, as there was a major population crash over the following winter, which went largely undocumented since ringers (with few exceptions) were no longer visiting colonies.

During the course of the Enquiry ringers caught birds at over 2000 breeding colonies, but the bulk of the data came from about 400 which were worked regularly.

Recovery analyses showed that, in autumn, birds oriented mainly east of south. Adults largely moved directly but juveniles generally spent several weeks exploring a wide area around their natal colony before starting to move south. Birds moved on through western France and Spain, but in spring, they were more spread out to the east. Birds from the same areas in Britain (often from the same colonies) associated together on passage, and probably in winter quarters too.

The spring return was much faster than the autumn exodus, with much less time spent at passage sites. Recaptures indicated that first year birds arrived at colonies on average 2-3 weeks later than experienced birds. Most birds returned to the same colony in later years with about 2% young birds and 0.5% adults breeding more than 100km from their original colony, and more females moving than males. The catchment areas of the autumn roosts differed from site to site but remained characteristic from year to year.

The analysis of recoveries of birds found dead produced mean mortality estimates of 77% for first-year birds and 65% for older birds -- in good agreement with two other studies based on live recaptures at colonies.

Methods of Data Capture

The Sand Martin can be trapped for ringing in large numbers at colonies, roosts, feeding and passage sites. All such sites were used during the enquiry.

Ringers working colonies generally erected mist nets at night in front of burrow entrances to catch the birds as they emerged the following morning. The technique was found not to affect subsequent breeding success provided that trapping did not start until the birds had settled in at the colony; the instructions to ringers were not to start until 15 May. Hence the 'breeding season' was designated as 15 May to 21 July, after which long-distance juvenile movements increased.

Autumn roosts were occupied continuously for 2-3 months (July-September), and some of them were very large when at their peak: in August 1968, the Fenland (Norfolk and Cambridgeshire) roost was estimated to contain 2 million birds. This was probably exceptional, and the well-studied roost at Chichester (Sussex) had an annual peak during the Enquiry years of about 50000 birds. The most productive catches were made in the evening, by erecting nets beside the roost site (usually in a *Phragmites* reedbed). Trapped birds were extracted quietly after dark, without disturbing those within the roost.

In contrast, spring roosts were generally very transitory, and few were worked. Most Sand Martins evidently returned direct to colonies.

Purpose of Data Capture

To find out more about the numbers and migration routes of the Sand Martin using ringing at breeding colonies and roosts.

Geographic Coverage

All of the UK.

Temporal Coverage

The main enquiry period was the breeding season and autumn migration period of 1962 to 1968 although for the analyses recoveries from outside this period were included.

Other Interested parties

The original enquiry was organised and run by the ringing scheme of the BTO and ringers were helped by the supply of free rings for the purpose. The analysis and writing up were funded in part by the Nature Conservancy Council and the Turnstone Fund of the BTO, and the publication of the resulting papers in *Bird Study* was aided by a grant from the Royal Society.

The ringing scheme was funded substantially at the time (and remains so) by the Nature Conservancy Council and its successor body.

Organiser(s)

Chris Mead (staff member of the Ringing scheme) with help especially from Edward Cowley.

Current Staff Contact

archives@bto.org and ringing@bto.org

Publications

The main results were published in a single issue of *Bird Study* as:

- 1) Mead, C.J. & Harrison, J.D. 1979. Sand Martin movements within Britain and Ireland. *Bird Study* 26: 73-86;
- 2) Mead, C.J. & Harrison, J.D. 1979. Overseas movements of British and Irish Sand Martins. *Bird Study* 26: 87-98;
- 3) Mead, C.J. 1979. Colony fidelity and interchange in the Sand Martin. *Bird Study* 26: 99-106;
- 4) Mead, C.J. 1979. Mortality and causes of death in British Sand Martins. *Bird Study* 26: 107-112.

There were four more Sand Martin papers in the same issue of *Bird Study* (volume 26 part 2) although these were not specifically part of the enquiry: a) E. Cowley on population trends; b) A.K. Turner & D.M. Bryant on growth of nestlings; c) D.R. Waugh on diet; and d) R.A. Morgan with an analysis of BTO Nest Record cards.

Available from NBN?

No.

Computer data -- location

The recovery information collected is incorporated into the overall ringing and recovery database.

Computer data -- outline contents

All recovery data are stored with all the other similar data in the database.

Computer data -- description of contents

See above.

Information held in BTO Archives

2 Archive Boxes and 4 Transfer cases containing data and letters specifically relating to the enquiry.

Notes on Access and Use

Other information

Notes on Survey Design

Specific Issues for Analysis