Birds of summer eaves

Many of you took part in BTO's House Martin Nest Study. In this article, Research Ecologist **Ian Woodward** discusses the concerns leading to the survey, what was discovered and how we might best help nesting House Martins

A young House Martin on the wing in Northumberland, ahead of its autumn migration.

Bird numbers in gardens generally peak during winter, with visitors from the UK or even from further afield taking advantage of the food generously supplied by Garden BirdWatchers. Gardens can be quieter in spring and summer as many birds return to the wider countryside to breed. For some Garden BirdWatch participants, however, spring sees the welcome return of 'their' local House Martins, birds that have wintered far to the south in Africa.

However, all is not well for House Martins. Data from the Common Birds Census and the BTO/JNCC/RSPB Breeding Bird Survey show an overall decline of 75% in England between 1967 and 2018. *Bird Atlas 2007–11* revealed strong declines in relative abundance in the south-east since the previous atlas 20 years earlier (though numbers had increased in Scotland). Concern about these declines was the impetus for the BTO's House Martin Nest Study, carried out in 2016 and 2017, which many of you lucky enough to have breeding House Martins nearby took part in.

The nest study proved very popular with over 4,500 nests monitored in each year of the survey, and 2,500 nests being watched in both years

The study was funded by generous donations to the House Martin Appeal and aimed to identify reasons why numbers were declining. Participants watched their selected nest(s) at least once a week and recorded all the breeding activity they saw, such as adults feeding young or young birds leaving the nest. Inevitably, some observers also recorded more unfortunate outcomes, witnessing nests collapsing, attacks by predators (including Great Spotted Woodpecker and Tawny Owl) or nests being taken over by other birds (usually House Sparrow).

The nest study proved very popular with over 4,500 nests monitored in each year of the survey, and 2,500 nests being watched in both years. These observations enabled us to assess the outcome of each nesting attempt and investigate factors that make the difference between success and failure. The results from our analyses were published in October 2020 in the ornithological journal *Ibis*.

POTENTIAL REASONS FOR DECLINE?

One of the aims of the nest study was to identify likely causes of the decline. This is crucial in order to propose actions to help benefit House Martins in the UK. Our study did not find any strong evidence that breeding performance is a key driver of the decline. In fact, breeding performance (defined as the proportion of successful nesting attempts) was higher in eastern regions where the declines are steepest. This suggests that other factors, such as adult and juvenile survival, may be driving the decline. However, we cannot entirely rule out breeding performance as a factor.

Earlier studies found that nests in the south of the UK raised more young than those at more northern latitudes. Whilst we found no difference between the north and south in terms of the proportion of successful nests, we could not ask volunteers to count the number of young in each nest as House Martin nests are not easily accessible. If climate changes have enabled pairs in the north to raise more young during each nesting attempt than used to be the case, then this might explain increases in Scotland. Moreover, it is possible that the number of young raised may have declined in the south-east. However, this remains entirely speculative and further research would be needed to confirm it.

Our results also suggest that fewer pairs may have attempted second broods than has been previously reported in England or Scotland. Whilst this could also help explain the declines in England, we need to be cautious as the historical

second brood rates were obtained using a different study method (researchers looking at the contents of nests) which may not be directly comparable – our methodology of observation from afar may have underestimated the actual number of second broods.

FUTURE STEPS?

Whilst the nest study helps us understand some of the factors affecting breeding success, some questions remain unanswered. Further research into adult survival rates and brood sizes would be helpful. However, these require specialised intensive study methods which cannot easily be carried out by volunteer citizen scientists, particularly for a species whose nests cannot be accessed easily.

Although the nest study has not enabled us to answer all our questions about House Martins, it is the first time that such a large scale national study has been carried out and it provides a useful baseline against which to compare future data. Whilst the apparent breeding success rate (81% of nests successful) seems high, other studies of House Martins show similar or higher success rates and we do not have a previous large-scale national study against which we can compare it. It is possible therefore that nest success rates have decreased in some parts of the country. Similarly we do not have any comparable data about the frequency of incidents such as predation or nest collapse, or the proportions of nests built on different types of substrate. Now that we have a baseline the value of running a similar study in future years is evident as we will be able to assess whether changes have occurred.

FIND OUT MORE

The results were published as a scientific paper and there is an article in the BTO membership magazine, both of which can be accessed from the BTO website. **www.bto.org/house-martin-nests-2016**

How can I help House Martins?

The study showed that birds using old nests (those remaining from previous years) or artificial nests were more likely to be successful, whereas pairs using nests on a PVC surface were less likely to be successful. The problem with PVC had been suspected anecdotally but not confirmed until now.

These findings suggest that home owners keen to support House Martins should consider putting up artificial nests, particularly if they have plastic PVC soffits. However, if a colony has been successfully using natural nests for many years, then these should be retained wherever possible. Clearly in these instances the surface is suitable for the nests to adhere to and the House Martins are managing to find local sources of mud from which to construct their nests.

If artificial nests are being considered at these sites, it would be best to replace nests slowly over a number of years rather than all at the same time. Artificial nests are sometimes ignored at a colony and we don't really know why yet, so replacing nests over time is advisable in order to check whether the birds will take to them.

Providing a source of mud is another useful thing that you can do to help.

IMAGES (CLOCKWISE FROM TOP LEFT) DAVID TIPLING, DAVID TIPLING, TOM STREETER , DAVID HUTTON