

Projective Objectives

The Nest Record Scheme (NRS) gathers vital information on the breeding success of Britain's birds by asking volunteers to find and follow the progress of individual birds' nests. The data collected for the Nest Record Scheme is used to produce trends in breeding performance, which help us to identify species that may be declining because of problems at the nesting stage. The Nest Recording Scheme data also allow us to measure the impacts of pressures such as climate change on bird productivity.

Chesworth Farm was entered into the Nest Record Scheme this year in an attempt to monitor some of the breeding birds on the Farm, in particular birds that used boxes such as Blue and Great Tits, Starlings and Jackdaws. The principle idea was to set up 10 Tit-type nest boxes and two Starling/Jackdaw boxes around the Farm and monitor them throughout the breeding season (March to August).

Stuart Card, Eddie Bew and I carried out four visits in total to each of the tit nest boxes to establish the following:

- Was the box occupied
- What species was using the box
- Accurate dates for:
 - nest building
 - nest completion
 - first egg laid
 - clutch size
 - incubation period
 - time to fledging
- Monitor growth rates
- Outcome (Success/Failure)



Figure 1 - Juvenile Great Tit

As the project develops each year we will be able to collate the data collected on each visit and look at population trends as well as potential pressures on breeding success such as climate change, weather, food availability and site disturbance.

The decision was also made to ring the juvenile birds (pulli) produced and the adults if present, when carrying out the nest visits. The process of ringing involves trained personal fitting a small metal ring around the leg of the bird. Each ring has an individual alphanumeric code on which allows us to identify that particular bird for the rest of its life. Ringing is carried out in an attempt to establish where the birds move to once they have fledged the nest and also gives us an insight in later years as to whether adult birds have any site fidelity to a particular nest box or whether their selection is random.

By fitting any adults that are using the boxes with rings we will also be able to draw conclusions as to the productivity of each individual bird. We hope to be able to present this data in the future with the continued development of the nest box study.

2014 Breeding Season

The breeding season started earlier than usual and was evident throughout the survey year. It appeared that most of the nesting activity was approximately two weeks in advance of previous years. It will be very interesting to see if this is a trend which carries on in the future or whether the damp, mild spring was what triggered this unusual behaviour.

The first visit to the boxes was made on the 11th April. At this stage we had eleven boxes occupied and one empty box. Nine of the boxes were in the process of having the nests built but two of the boxes were incredibly early and had single eggs in the nest.



Figure 2 - Great Tit Nest



Figure 3 - Blue Tit Nest

The second visit to the boxes was made twenty-eight days later on the 9th May. It was estimated that most of the birds would then be at the incubation stage and some may well have live young in the nest. From the pictures below you can see the immediate difference in Great Tit and Blue Tit nests. Great Tits on the Farm this year tended to line the nest with a mixture of Llama and Sheep wool whereas the Blue Tits used feathers, tennis ball fluff and dog hair.

As expected, many of the nest boxes were indeed at incubation stage and several had a mixture of unhatched eggs and very young chicks. We were not expecting however that two of the nest boxes actually had young in them big enough to be able to ring. In total we ringed one box of Blue Tits (9 young) and two boxes of Great Tits (12 young).

We also had the misfortune of finding a female Great Tit who had sadly died whilst incubating the eggs on her nest. This does occasionally happen as they rely on the male to bring them a small but vital amount of food during the 14-day incubation. The likelihood is that this female starved to death possibly because the male of the pair had been killed or had been predated.



Figure 4 - Great Tit Nestlings

The third visit was carried out on the 16th May, this visit was used to ring the rest of the nestlings which were too small on the previous visit. It also gave us the chance to be able to age the chicks and see how they were developing.

It was a pretty mixed bag in terms of success with some clutches seemingly growing well and starting to feather up and other broods looking a little worse for wear and underfed. On this visit we only found one box that had addled (unfertilised) eggs which was quite unusual for both Great and Blue Tits, as addled eggs are fairly common with both these species.

The final visit to the boxes was made on the 21st August. This visit is designed to see whether the young birds have fledged the nest and to monitor the amount of addled eggs and dead chicks. Sadly for reasons unknown to us it has been a very poor year for both Blue and Great Tit breeding. This has not been reflected nationally so far but I suspect may well be linked to the warm weather meaning they nested earlier and the caterpillars they feed their young on were simply not available at the time the young needed them.



Figure 5 - Blue Tit Juvenile

Summary

In summary of the twelve boxes erected, eleven were occupied. Six were taken by Blue Tits and five by Great Tits. I suspect the lack of mature trees with natural holes in the study area was why the uptake was so high. It would suggest that providing even more boxes around the Farm may well further enhance the strength of the local population.

This year a total of sixty-four young fledged their respective nest boxes. There were 52 Blue Tit nestlings and 29 Great Tit nestlings ringed, as is expected not all of these birds made it to fledging which is reflected further in the table below. This has been a fantastic start to the Nest Record Scheme and we have also managed to ring a number of the adult females whilst they were incubating by carefully lifting them off their eggs. The table below explains in detail the successes and failures of the 2014 breeding season for the two species we found in the nest boxes:

	Eggs Laid	Eggs Hatched	Infertile Eggs	Dead Young	Fledged Young	Success
Blue Tit	55	52	3	7	45	82%
Great Tit	38	29	9	10	19	50%

Of note both of the Starling/Jackdaw boxes which were in the study were inhabited by a pair of Great Tits and a pair of Blue Tits respectively. This is very unusual for them to nest in such a large box with a large entrance hole. It will be interesting to see if these boxes are occupied by Tit sp., in the future.

I would like to take this opportunity to thank the Friends of Chesworth Farm for their sponsorship of the rings which have been used on all the young birds this summer. This is a vital aspect of the project that would not be possible without the ongoing support of the Friends group. I would also like to thank Eddie Bew for his carpentry skills and maintenance of the nest boxes.