

# Seeing the Wood(peckers) for the Trees!

Our experiences of studying Lesser Spotted Woodpeckers in the Wyre and surrounding woodlands 2007 - 2009

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## Introduction

Lesser Spotted Woodpeckers *Dendrocopos minor* have declined by 73% and retracted in range dramatically in the UK since the 1980s (Hewson et al. 2007, Gibbons et al. 1993) and are now red listed Birds of Conservation Concern (Eaton et al. 2009) and a UK Biodiversity Action Plan Species. Despite the massive declines and concern over their future status in the UK, our knowledge of this elusive woodpecker is generally poor and so action to halt and reverse the declines is difficult. In response to this, scientists from the RSPB embarked on a Lesser Spotted Woodpecker field research project in woodlands in and around the Wyre Forest between 2007 and 2009.

The project had three broad aims which were all dependent on gaining sufficient data (no easy task when working on such an elusive species that spends the majority of its time high in the canopy!):

1. To establish what makes a Lesser Spotted Woodpecker wood at a broad scale and why some woods are occupied and others seemingly not.
2. To establish areas within occupied woods most favoured by Lesser Spotted Woodpeckers for foraging and nesting.
3. To study Lesser Spotted Woodpecker breeding ecology and establish current levels of nest survival and causes of failure.

We worked in three areas of the country in our initial project year (2007) – The New Forest, Sheffield and the Wyre. These are all locations where Lesser Spotted Woodpeckers remain at relatively high densities. Our desire to work in the Wyre was based on evidence from the Bird Atlas (Gibbons et al. 1993) and county bird reports that Lesser Spotted Woodpeckers were still numerous in the area; and the local expertise of

Rosemary Winnall who had brought the Wyre to the attention of RSPB's woodpecker expert, Ken Smith, after her work in the 1980s on the woodpeckers of Rock Coppice (Winnall 2001). After one year it was clear that the Wyre was a superb place to work and there were plenty of woodpeckers to find so for the remaining time we based all our field data collection in the region.

Our woodpecker surveys commenced in March each year and followed a trialled and tested method – spending vast amounts of time in the woodlands and hoping for the best! We were fortunate in the Wyre that Lesser Spotted Woodpeckers were present in almost every block of forest and surrounding woods surveyed (75% 20/27). This contrasted with our other study areas in Sheffield and the New Forest where occupancy was 29% and 54% respectively. In fact, we found so many woodpeckers in the Wyre we had to extend our survey area to include more unoccupied woods in order to address our first project aim!

At a broad scale (and including all study regions) we found that Lesser Spotted Woodpeckers were most often found in woods and woodland blocks with an open, mature, oak dominated, structure. However, the strongest variable predicting the probability of occupancy was the area of broadleaved woodland within 3km, implying that in England Lesser Spotted Woodpeckers are now most likely to be found in highly wooded landscapes. This comes of little surprise given the large territories Lesser Spotted Woodpeckers are known to have in the winter (Wiktander et al. 2001) and this is probably one of the reasons the Wyre remains such a good area for the species. This part of the work is described in detail in Charman et al. (2010). In the Wyre, Lesser Spotted Woodpeckers are associated with many habitats, including old orchards, alongside streams (Figure 1), wet woodland, mature oak stands and gardens. It is likely that they are flexible in their use of habitats – they just prefer large amounts of it.



Figure 1. Lesser Spotted Woodpeckers are found in a variety of areas in the Wyre, including alongside streams where they often use alders, and orchards where there is often a large amount of dead wood for nesting.

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At a fine scale (Charman et al. 2012a), we found that Lesser Spotted Woodpeckers chose areas with a greater amount of deadwood as foraging locations within woods. When foraging, the species predominantly used oak to feed (usually gleaning insects from the surface) and most foraging trees were alive (despite choosing areas with more deadwood!). Forage heights were very high (mean 13 m and in the upper third of the tree) and Lesser Spotted Woodpeckers always foraged on small branches during our observations.

Lesser Spotted Woodpeckers can be very vocal in the pre-breeding season, calling and drumming up until about mid April when they turn into one of the most elusive species to find in the UK. From this point on, fieldwork became much more challenging! We kept revisiting areas where woodpeckers had been observed early in the season in the hope of finding nest cavities. It was a case of cold searching areas, hoping for a glimpse of a bird, inspecting all possible nesting locations, looking for little piles of sawdust under trees (signifying a hole above somewhere!) and straining our necks to find a hole the size of a 50p piece at heights of up to 26 m. After much searching, we managed to find 18 nests in 13 different woods (or areas of woodland) across the

three years. Five nests were found in old orchards (it was significantly easier to locate nests in orchards compared to mature oak stands!), although these were associated with areas of mature woodland where the birds usually went to feed.

In terms of habitat selection, Lesser Spotted Woodpeckers were choosing open areas with more dead trees and a mature structure as nesting locations within woods. Figure 2 shows the frequency of use of different tree species for nest cavities. Cavities were usually high (except in orchards) and usually in a dead branch. Table 1 gives details of nest tree characteristics

Once nests were found they were closely monitored remotely and using nest cameras (Figure 3) to record breeding success and adult behaviour at the nest sites. Of the 18 nests, 10 were successful and eight failed for a variety of reasons. Breeding parameters are reported in Table 2 and causes of nest failure in Table 3.

Across the wider project, overall we found that Lesser Spotted Woodpeckers are currently experiencing low breeding success in England (Charman et al. 2012b). Nest survival is around 52% in comparison to 83%

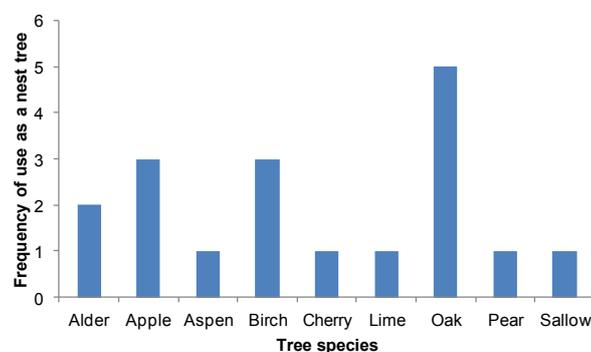


Figure 2. Frequency of use of different tree species for nesting.

Table 1. Characteristics of nest trees and holes in the Wyre Forest and surrounding woodlands

Cavities monitored	Nest tree height (mean, m)	Nest tree diameter at breast height (mean, cm)	Proportion of nest trees dead	Cavity height (mean, m)	Cavity height relative to tree height	Proportion of cavity locations in a branch	Branch length (mean, m)	Branch diameter
18	13.6 (15.6 excluding orchards)	37.4	56%	8.1 (9.5 excluding orchards)	0.62 (0.66 excluding orchards)	61% <small>all dead</small>	3.0	24.2



Figure 3. Cavity inspection cameras were used to monitor all but the highest nests. Images such as the above were used to measure clutch and brood size and to age chicks to predict fledging date. Older chicks could even be sexed in the cavity from the amount of red on their heads. Steve Dodd.

reported previously from the UK (Glue & Boswell 1994). The number of chicks fledged from successful nests is also lower at 2.8 compared to previous work in the UK reporting 4.2 (Glue & Boswell 1994) and also work on the species on the continent (Wiktander et al. 2001). We have found nest survival to be linked to provisioning rates, indicating that food supply may be limiting. The commonest cause of nest failure is loss of an adult and subsequent starvation of chicks. It is commonplace in Lesser Spotted Woodpecker breeding ecology for the female to desert and leave the male to sole parental

care. However, this strategy can only work if the male is able to compensate for her loss by increasing his feeding rate. In our study, males appeared unable to do this, particularly in cold wet weather (one of our study years was during the 2007 flooding in the Wyre and we lost one nest to flooding along the Dowles Brook).

Great Spotted Woodpeckers *Dendrocopos major* are often blamed for the decline in Lesser Spots. We made a big effort to try and get to the bottom of this. We found no difference in Great Spotted Woodpecker

Table 2. Details of breeding parameters from Wyre Forest nests

Year	Mean clutch size	Mean brood size	Mean number fledged (all nests)	Mean number fledged (from successful nests)	Mayfield nest survival
2007	4.7	4.3	1	3	41%
2008	6	4.3	1.8	2.3	84%
2009	5.2	4	1.2	2.3	66%

Table 3. Details of nest success and causes of nest failure in the Wyre

Year	Nests found	Number of successful nests	Cause of nest failures
2007	6	2	Loss of an adult followed by starvation of chicks = 4 Loss of a nest tree = 1
2008	6	5	Loss of an adult followed by starvation of chicks = 1
2009	6	3	Predation = 2 ? = 1
Total	18	10	Commonest cause of nest failure = Loss of an adult followed by starvation of chicks

density between woods with and without Lesser Spotted Woodpeckers. Great Spotted Woodpeckers were responsible for two nest predations in the Wyre (one directly and one where they probably drilled a secondary hole and enabled the chicks to be predated by a Jay *Garrulus glandarius*) but were not the dominant cause of nest failure. We recorded many interactions between the species but no negative correlates with breeding success. Any true effects could be quite subtle and further work is needed.

Going forward, we suggest our results detailing habitat requirements for foraging and nesting at the two scales are used in management planning for habitat management and creation to benefit Lesser Spotted Woodpeckers. Poor breeding success relating to food and weather is harder to influence but may be buffered through the provision of high quality habitat.

We have written up our work as three papers (these are available as pdfs on request from the author). Through our three years of data collection in the Wyre we feel we have greatly added to the understanding of Lesser Spotted Woodpecker ecology in the UK and it is our hope that conservation action to address the decline can be developed on the back of this. Hopefully, the Wyre will remain a Lesser Spot hotspot for many years to come and we would encourage sightings to be submitted through BirdTrack [www.birdtrack.org](http://www.birdtrack.org) and any nests located submitted to the BTO Nest Record Scheme – every piece of data counts and it will all help to conserve this wonderful species.

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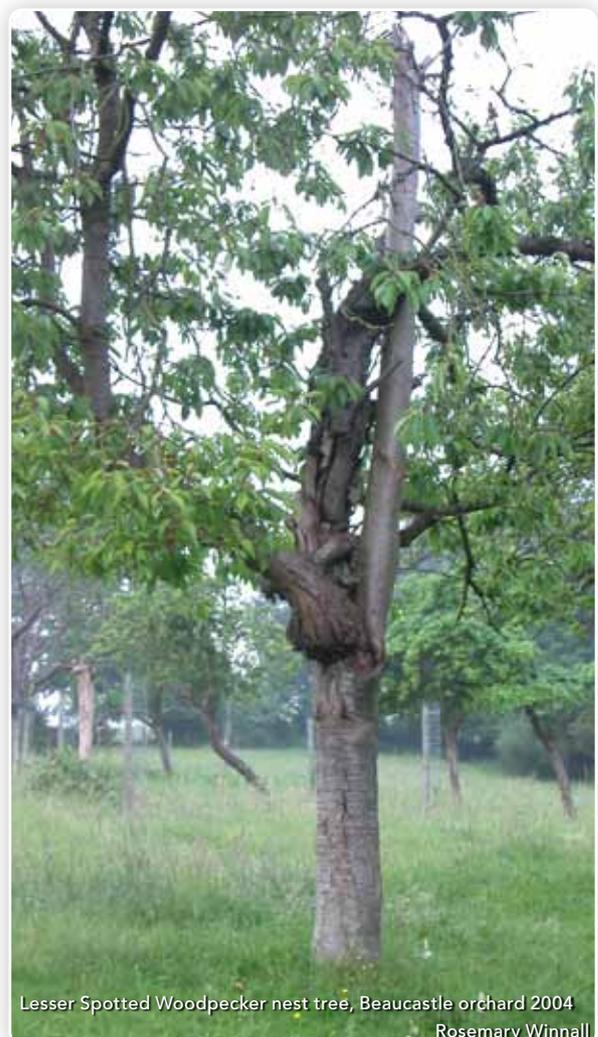
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Lesser Spotted Woodpecker nest tree, Beaucastle orchard 2004  
 Rosemary Winnall