

Hamsterley Forest Bat Boxes.

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Hamsterley Forest is one of the Forestry Commission's public forests, with open access on foot, bicycle and horseback. It is managed to be both productive and useful to the community; being rich in wildlife, both plant and animal. Located in County Durham, the 2000ha is mainly coniferous plantation with some elements of ancient semi-natural woodland, which provides habitat in abundance for bats but limited roosting opportunities.

The changing use of Hamsterley Forest and other factors have led Durham Bat Group (DBG) to rethink the bat boxes within the forest. Our boxes are nailed onto trees at a height of c.3m. In order to check them this has involved the use of ladders and harnesses, a somewhat long and tiresome task and at times positively dangerous.

DBG has over the last couple of years been converting our boxes onto a hanging system whereby the boxes are hung on hooks and moved with a pronged pole, so no more ladders and harnesses. We are also taking the opportunity to re-position the boxes into comparable groups and to move them away from the regularly used public paths (making it safer). Over the coming years we plan to build on the results we have achieved so far.

DBG has had bat boxes in Hamsterley Forest for over 20 years; this study analyses the boxes from 1999 to 2011. One hundred and nineteen bat boxes were erected over five separate series, using 84 oak boxes and 35 concrete boxes. Over time more boxes have been installed and some have been removed or fallen into disrepair giving a total of 238 separate positions for boxes.

Boxes have been checked on an annual basis providing data for 55% of the total number of boxes, 981 of 1770. The number of checks on each bat box range between two and 12 (average 5.2) per box (see Figure 1). Boxes were checked during the summer at a point in time when bats potentially had young with them. In 2012 it was decided to check later in the year to prevent disturbance to females with young. Data from 2012 onwards has been excluded due to the change in timings.

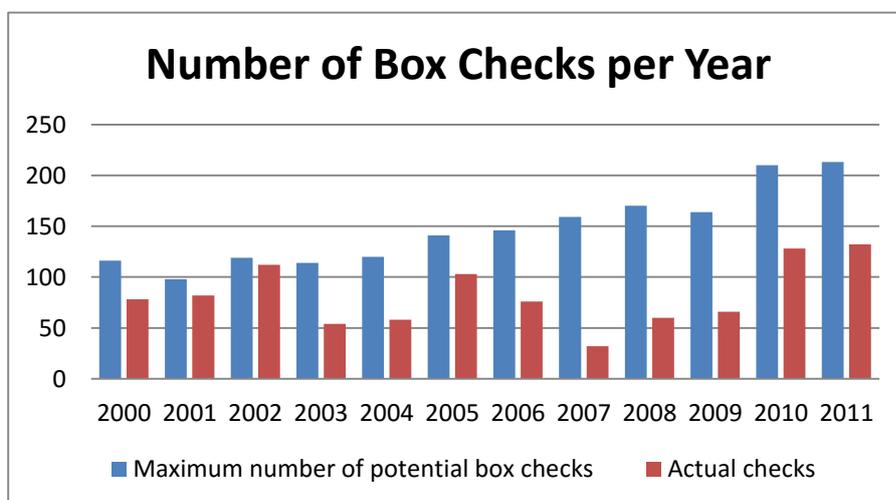


Figure 1 Number of box checks per year.

We have found that our bat boxes are used by bats and birds. Fifty five per cent of the boxes installed have had some activity within them, giving 451 hits on boxes; bird:bat use ratio was 39:6, with boxes having both bat and bird evidence. Bird use was identified by the presence of nests, no actual birds were recorded. Bat use was confirmed by either the presence of bat droppings or the presence of a bat/s. A total of 270 boxes had evidence of bat use, 85 boxes (31%), had bats in residence: 185 boxes (69%), had bat droppings.

A total of seven species of bat have been identified as using the boxes - whiskered/Brandt's bat *Myotis mystacinus/brandtii*, Natterer's bat *M. nattereri*, noctule *Nyctalus noctula*, common pipistrelle *Pipistrellus pipistrellus*, soprano pipistrelle *P. pygmaeus* and brown long-eared bat *Plecotus auritus* (see Figure 2). The joint occupancy boxes, ie those boxes having two bat species at the same time, contained; whiskered bat/soprano pipistrelle, Natterer's bat/noctule, 2x Natterer's bat/soprano pipistrelle.

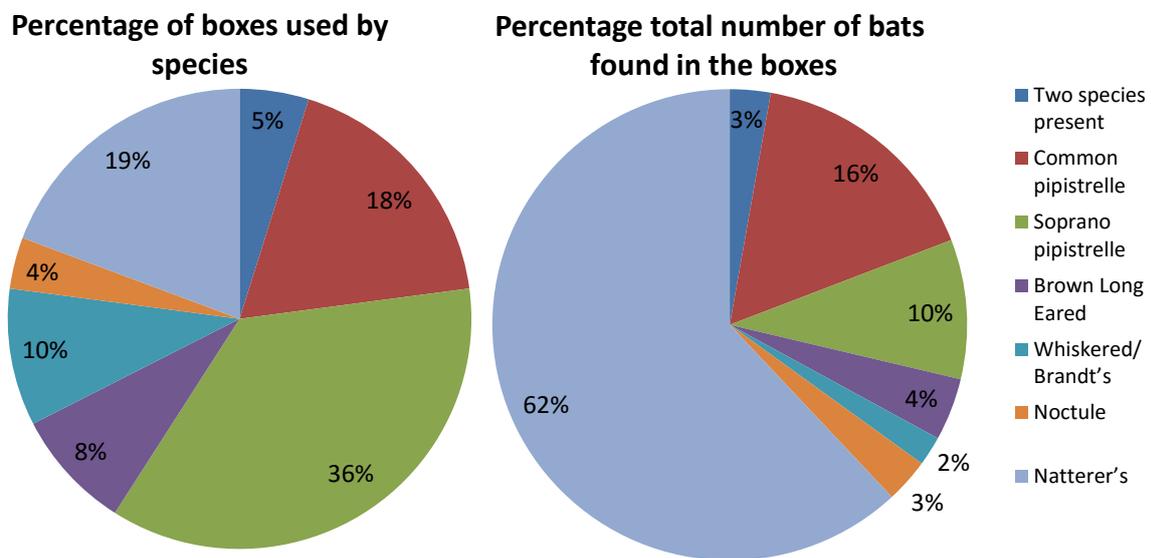


Figure 2 Percentage of boxes used by species, percentage total number of bats found in the boxes.

How many bats found in each box varies from species to species. Individual whiskered/Brandt's bats and soprano pipistrelle were the mode per box for these species, but 68 Natterer's bat were found in a single box with an average of 15 Natterer's bat per box.

Data recording varies from year to year and between recorders. For example not all bats were sexed. Of the 39 soprano pipistrelle, 20 were sexed as male, the remaining were not sexed. Of the 246 Natterer's bats all but 28 were within maternity roosts, this indicates that different species use bat boxes for different reasons.

Planned future work will look at how the bats use different areas of the forest, to ascertain if there is a variance in bat species using different areas.

Any other suggestions would be happily investigated and we would welcome any additional help.