DORMICE AND CONIFERS IN WYRE FOREST – 2003 UPDATE

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This year marks the third and most crucial year so far of the long-term study into Dormice survival in conifer plantations. Over the last 8 years we have been collecting as much information on the distribution and population dynamics of Dormice in Ribbesford wood as possible. This 95 Ha block of woodland (FC owned) is predominately mixed conifer, although it still retains relic ancient semi-natural characteristics.

Over the last two years Forestry Commission Research department has been heavily involved in a more in depth study, including radio tracking and dropping analysis. When this national project first started its main aim was to "devise various methods of thinning conifers that sustain the local Dormouse population in the short and medium term". This has now altered quite dramatically due to the government's decision to look at all PAWS (Planted Ancient Woodland Sites) and prioritise those to be reverted back to native broadleaves. Wyre Forest has come out as a high priority to revert. Therefore the main project aim is now to find out the "best method of reverting coniferous plantations back to native broadleaves, while maintaining Dormice populations". This is a dramatic shift in policy and is fortunate in its timing as a few years later and all our work would have been wasted!

During the spring and summer of 2003 a huge effort has gone into finding as many Dormice as possible around the 17 Ha research area within Ribbesford. Inserting a "small" microchip between the shoulder blades identified every animal found (Plate 1). In the future these animals can be traced by using a microchip reader. Unfortunately the machine can only read the chip close to hand (Plate 2).

Plate 1

In the autumn radio tracking took place again, this time just to find out where they were hibernating.

The extra effort this year was a prelude to starting experimental management techniques during the autumn and winter. Four different operations were carried out:

Plate 2

Treatment 1 - (Hand cut with chainsaws and forwarder extraction - autumn) Small areas of conifers were felled (approx 20mx20m) to create small glades within the crop. The idea being that these would regenerate naturally in years to come and would provide viable habitat for Dormice by the time of the next operations in 5 years. (Plate 3)

Plate 3

Treatment 2 - (Harvester operation with forwarder extraction – winter) As treatment 1.

Treatment 3 - (Harvester operation with forwarder extraction - autumn). Two Larger areas of conifers were felled (approx 0.3 Ha). This replicates the normal coppice size in the broadleaf scrub habitat, which Dormice favour. Again this should regenerate naturally in years to come and would provide viable habitat for Dormice by the time of the next operations in 5 years. (Plate 4)

Treatment 4 - (Harvester operation with forwarder extraction - Winter) Normal thinning operation removing 30-35% according to standard thinning tables.

Plate 4

On the face of it, it would seem that a huge machine like a harvester (Plate 5) would be the last thing that we would want grinding its way through the forest. Especially in the winter, when Dormice are hibernating on or just below ground level. However, the advantage of the machine is that it is able to reach approximately 6m away from itself to fell a tree. In all cases operators need to fell every 7th row of trees , to give them access. A man with a chainsaw will walk up to every tree, stamp around its' base to ensure there is no dirt to blunt his saw. He will then fell the tree and walk up and down the trunk to "sned" all the branches off and then cut it to the required length. His mate will then drive down the rack, grab the timber and stack it on the trailer behind. This is what research is calling a "large footprint".

Plate 5

A harvester operation on the other hand will travel down every seventh rack and be able to "reach" into the crop, fell, sned and bring the timber close to the rack without causing much ground damage to the rest of the crop. This is what research is calling a "small footprint". In other words it is not necessarily the weight or size of your boot that counts – but how often you stamp it!

To try to establish this theory research personel have been putting tennis ball sized "Oasis Balls" randomly within the crop trying to establish what percentage ground damage there is for each operation. Twelve balls are laid in a grid formation 1m apart. (Plate 6) They are designed to replicate a Dormouse hibernation nest at ground level.

Plate 6 – after operation

One of the important decisions that had to be made was the time of year these operations could be carried out. Traditionally conservation work for Dormice has always been undertaken during the winter while the animals are in hibernation. However, part of this experiment was to find out what the Dormice do while felling is going on around them. One animal was radio-tracked close to felling operations and seemed quite happy in his box while chainsaws were working around him. He must have had a shock during the nights as his territory changed quickly! The one advantage Dormice have during the autumn is that they are able to move away from danger. However, during hibernation they have no chance.

In all cases the most important factor was to maintain as much connectivity as possible. Dormice do not like to travel along the ground as they are far more vulnerable to predation. Therefore it was vital to keep arial routeways available after the operations. In the areas of small clearfells the aim was to ensure that there were always links between them. On paper this looked easy. However in the real world it was not so straightforward. There are always areas of natural failures within any crop and where these occurred it was difficult to maintain this connection. All the treatments (except 3) had to have access and extraction racks, which meant that every 7th row was cleared. In time these racks would close in again as the crowns expanded. However in the short term it would normally mean that access for Dormice would be limited in these areas and they may have very "linear" territories. To try to solve this problem the forwarder driver was asked to pull the "odd" tree across to rack on his last sweep. (Plate 7)

These operations have been replicated in three areas to compare different sites. They appear to be quite dramatic – devastating in fact! (Plate 8 and 9 show how the habitat has changed) It is difficult to know how Dormice can survive after such changes. 49 animals were micro-chipped during 2003. I wonder how many we will find in 2004? We are fortunate in Ribbesford that Dormice are found throughout the woodland. This experiment is only being carried out in a small area of it, therefore if

these operations do cause a dramatic effect on the population the remainder of the wood will act as a donor site. The next few years will be vital for Dormice in PAWS woodlands – not just in this area but nationwide. There are many people in the Forest industry that are looking for Ribbesford to provide answers. Lets hope we can provide the industry with best practice guidance – rather than how not to do it!

Plate 7

Plate 8 (before operations)

Plate 9 (after operations)

There are currently 275 boxes in the research area, which have been placed in a grid system at 20m intervals. Many of these boxes are deep inside the conifer plantation and some have now been used. Dormice do seem to have a preference for the edge habitat. Most occupied boxes away from the forest edge seem to be close to more open habitat, usually an area of failed conifer, which has become bracken dominated. One area of Corsican Pine, which was planted in 1995, has had 10 different Dormice from just 15 boxes. This area is in the centre of the research plot and has not been disturbed. Therefore the mice should remain happily in this habitat and move into the thinned areas as they become viable.

2003 records

A total of 500 Dormice boxes are now in Ribbesford. Each box was checked for occupancy every month from May to November. Overall it has been a reasonably good year for Dormice. A total of 116 animals have been found, although through micro chipping & fur clipping we know that there were at least 84 different individuals – 58 adults and 26 juveniles. However, if we just look at the original 300 boxes, which have been monitored since 1996, the picture is not so rosy. Fig 1 shows that the October count was the worst so far. Fig 2 shows total number found this year is the third lowest. It is difficult to shed much light on why this might be. Populations can certainly fluctuate within the most perfect of habitat. Ribbesford is changing. The conifer is growing out of its "thicket" stage and the canopy is thinning naturally. There is a certain amount of luck involved in finding a Dormouse "in residence" as it may have up to 10 day resting sites and we are only inspecting the boxes one in every 30 days – not good odds really! I was worried about the boxes within the research area as they were exposed to more disturbance than I would have liked. Boxes here were being inspected more often to find as many individuals to chip as possible. Members of the research team spent a great deal of time in this area marking out the small clearfells and placing out the oasis balls. This may have had an effect on Dormice using the boxes. This did not, however seem to have any effect as the boxes outside the research area had similarly poor occupancy. Perhaps it was just a bad year. We shall see in 2004!

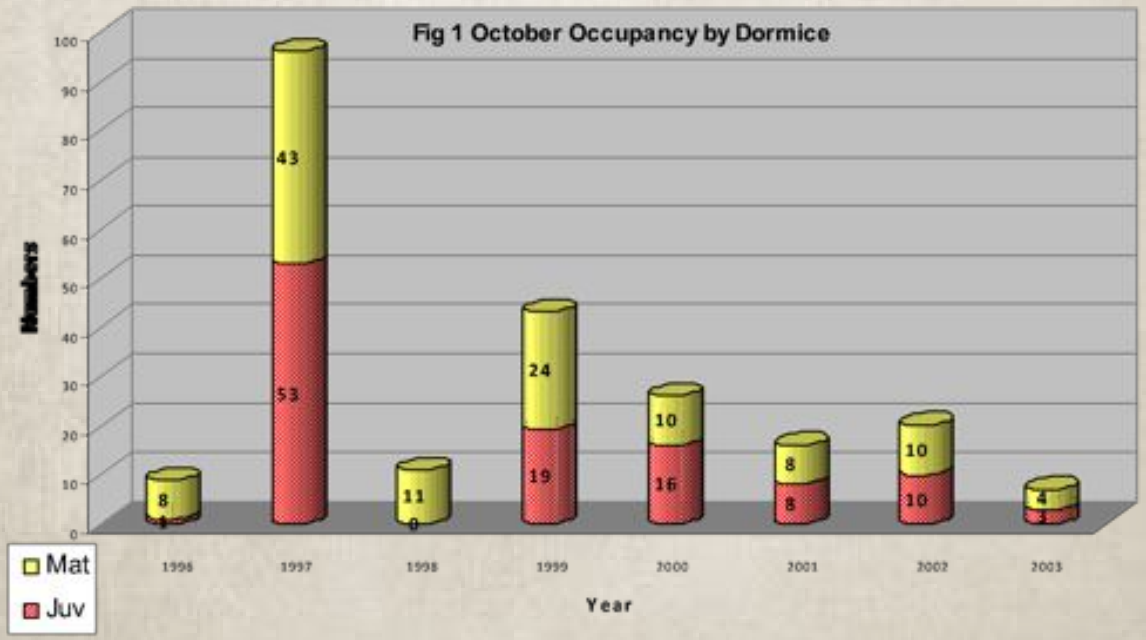
One interesting discovery was a Dormouse with a short tail in a box. This would not normally be of particular interest as mice often have shorter tails, usually resulting from a close shave from a predator! However this particular individual had a distinctive thick, "furry" tail. I have only ever seen a tail such as this once before. It was from a male Dormouse I called "stumpy" who I followed for a number of years. The last time I saw him was in September 1997, in box number 225. (Plate 10) This May an "identical" male was found in box

224. (Plate 11) Coincidence? This year's Dormouse was found on all five visits to the area and used just two boxes – 224 and 225. The first Dormouse also used just two boxes 225 and 228.
In the wild Dormice have a life expectancy of just 4-5 years. If this mouse was the same one then he would be at least 8 years old, unlikely then. It is more likely that the short tail is not a result of an injury but is, perhaps genetic. This years Dormouse I suspect is an offspring of the first and has taken over his territory!

Plate 10 – July 1997

Wyre Forest mainblock has for the four years been very disappointing. No signs of Dormice were found below Park House. Although a few Piperstrelle Bats have been found in the boxes – at least something is using them! All the boxes have now been removed along the Dowles Brook, above Rudds Bridge. When these boxes were first erected the area was quiet and undisturbed, just a deer path running along the Brook. Now it is a well-used track and the boxes were being disturbed far too often. Even most of the Bluetits deserted! Just one animal was found again in the Wimperhill site, a female two out of four visits. They seem to be just hanging on in this area of thick conifer and although I haven't found any signs of breeding for a number of years I suspect their stronghold must be somewhere close by – yet to be discovered!

Plate 11 – May 2003



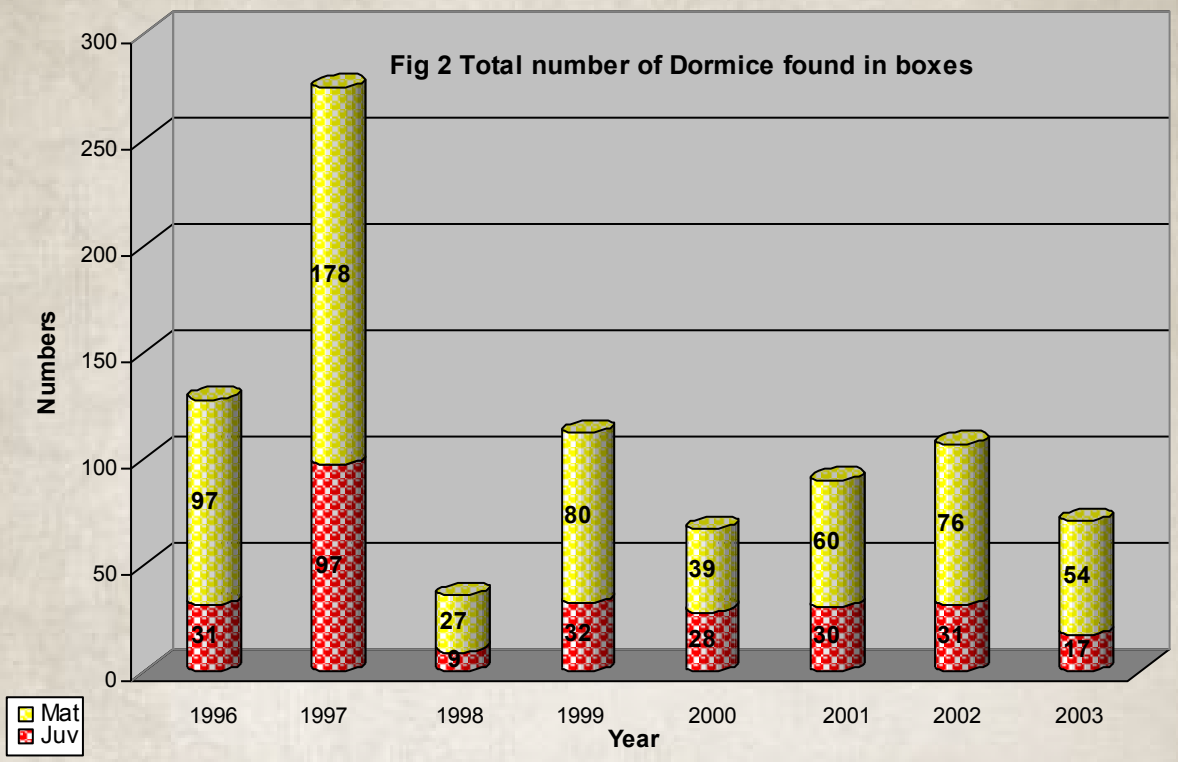


Fig 2 Total number of Dormice found in boxes
Numbers
300
250
200
150
100
50
0
97
31
178
97
27
9
80
32
39
28
60
30
76
31
54
17
1996
1997
1998
1999
2000
2001
2002
2003
Year
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