Dormice and Conifers in Wyre Forest - 2017 update

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Photo 1. Torpid Dormouse Phil Rudlin

After a successful breeding season in 2016 we were hopeful of finding good numbers of Dormice from Ribbesford in 2017, although after a wet and warm winter it is always difficult to predict the survival rates of any hibernating animal! Finding 9 animals in our first inspection of the 380 boxes was a steady start, but three of these animals were unchipped and likely to have been juveniles from the previous year which we'd missed. These figures don't include three dead young Dormice found in one of the boxes. This is highly unusual as this box was checked the previous October with no occupants. The best guess is that a female had a very late litter and moved them to this box in late autumn or maybe even gave birth there and then abandoned them. Of course she could have been predated or even died of sheer exhaustion as it could have been her second or even third litter! The following monthly inspections were very encouraging, and peaked in August with 35 animals. This is the highest single count since comparable data began in 2004, beating last year's July count by one. 65 young were found during the season, which also beats last year's record (see Fig 2). It is worth noting that these were the total numbers of juveniles found in boxes and not individuals. 35 Juveniles were micro-chipped, but some were too small to chip so may, or may not, have been found again. (19 young were found which were 7g or less and therefore could not be chipped).

38 fresh nests were found in boxes that weren't occupied during the survey season. It is not unusual to find empty nests as Dormice have up to 5 different nests within their home range and they can't be in all of them at once! However, it is always interesting to know they are in the area. Photo 2 shows an empty Dormouse nest predominantly woven with grass.

The total of 133 Dormice found in the 17ha research area was the highest since 2004 and well above the average of 75 over the last 14 years (see Fig. 1). A further 48 animals were found that were big enough to micro-chip - 13 adults and 35 juveniles (see Fig. 3). The adults

Fig. 1 Number of Dormice found by the month

	2004		2005		2006		2007		2008		2009		2010	
	Dormice	Fresh Nests	Dormice	Fresh Nests	Dormice	Fresh Nests	Dormice	Fresh Nests	Dormice	Fresh Nests	Dormice	Fresh Nests	Dormice	Fresh Nests
April	*	*	*	*	*	*	3	0	*	*	*	*	*	*
May	6	2	12	2	15	3	20	3	5	2	10	1	7	2
June	11	0	14	2	11	8	16	0	9	11	9	1	11	6
July	19	0	17	5	6	4	8	2	11	1	4	5	9	8
August	13	1	8	0	4	1	7	4	16	8	8	0	28	7
September	19	0	8	4	10	3	8	0	8	6	8	3	20	8
October	28	9	4	16	18	8	2	0	18	2	1	1	30	6
November	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Totals	96	12	63	29	64	27	64	9	67	30	40	11	105	37
	2011		2012		2013		2014		2015		2016		2017	
	Dormice	Fresh Nests	Dormice	Fresh Nests	Dormice	Fresh Nests	Dormice	Fresh Nests	Dormice	Fresh Nests	Dormice	Fresh Nests	Dormice	Fresh Nests
April	*	*	*	*	*	*	*	*	*	*	*	*	*	*
May	16	0	4	2	5	4	5	1	17	1	12	11	9	10
June	4	0	6	0	7	1	10	5	21	3	13	3	16	2
July	5	9	5	3	2	3	12	2	17	6	34	0	24	3
August	5	1	4	3	5	7	14	2	8	0	19	2	35	9
September	8	2	9	2	*	*	26	2	26	7	14	2	26	5
October	4	7	4	2	19	3	18	4	26	5	7	3	23	9
November	*	*	*	*	1	0	*	*	*	*	*	*	*	*
Totals	42	19	32	12	39	18	85	16	115	22	99	21	133	38

* Not surveyed

Fig. 2 Number of juveniles found

Year	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Juveniles	34	11	22	10	34	6	35	5	7	17	26	32	47	65

Fig. 3

Treatment No	No of Dormice chipped in 2004	No of Dormice chipped in 2005	No of Dormice chipped in 2006	No of Dormice chipped in 2007	No of Dormice chipped in 2008	No of Dormice chipped in 2009	No of Dormice chipped in 2010
1	4	0	3	1	0	2	8
2	7	4	12	5	11	2	2
3	13	3	9	4	2	3	4
4	8	3	0	0	2	2	4
Sausage	3	0	0	1	2	0	1
New plantation	Not surveyed	3	1	0	4	1	19
Unthinned area	0	0	0	0	3	1	1
Total	35	13	25	11	24	11	39

Treatment No	No of Dormice chipped in 2011	No of Dormice chipped in 2012	No of Dormice chipped in 2013	No of Dormice chipped in 2014	No of Dormice chipped in 2015	No of Dormice chipped in 2016	No of Dormice chipped in 2017
1	0	1	1	5	0	1	6
2	4	0	5	3	6	12	11
3	2	2	1	1	0	1	0
4	3	7	5	3	9	1	12
Sausage	1	2	6	3	5	3	4
New plantation	3	4	4	15	4	12	15
Unthinned area	0	0	0	0	0		
Total	13	16	22	30	24	30	48

Fig. 4

Treatment No	No of individual Dormice found 2004	No of individual Dormice found 2005	No of individual Dormice found 2006	No of individual Dormice found 2007	No of individual Dormice found 2008	No of individual Dormice found 2009	No of individual Dormice found 2010
1	4	1	3	4	3	3	9
2	9	9	14	11	13	3	5
3	16	10	13	9	4	11	5
4	9	4	3	1	4	2	6
Sausage	3	0	2	1	2	0	2
New plantation	Not surveyed	3	1	0	4	1	26
Unthinned area	0	0	1	2	3	2	2
Total	41	27	37	28	33	22	55

Treatment No	No of individual Dormice found 2011	No of individual Dormice found 2012	No of individual Dormice found 2013	No of individual Dormice found 2014	No of individual Dormice found 2015	No of individual Dormice found 2016	No of individual Dormice found 2017
1	4	1	1	6	2	1	7
2	9	1	7	4	9	15	14
3	0	3	1	1	4	2	1
4	3	11	11	6	13	3	14
Sausage	2	1	6	6	6	8	4
New plantation	7	4	6	19	14	19	21
Unthinned area	1	1	0	0	0	0	0
Total	26	22	32	42	48	48	61

were either yearlings, born the year before, or possibly older. However, it is impossible to age them without permanent marking, such as micro-chipping.

Although 133 animals were found in 2017, we know from micro-chipping that some of these were found on multiple occasions. By identifying individuals we know there were at least 61 different Dormice in the area. This figure is worked out from the individuals chipped during the year or recaptured from previous years. It includes juveniles which were big enough to chip, but not those which were too small to chip, as they may have been found again later in the year and chipped, therefore duplicating results. This is a very encouraging sign as it is well above the average of 40 over the last 14 years (see fig. 4). 13 animals were recaptured from previous years. Although other figures from 2017 have been the highest on record the number of recaptures is just about the average of 13.5 (see Fig. 5). This suggests that the winter may have taken its toll on some hibernating animals and the survival rate was poor, but the ones that did survive were healthy and had an exceptional breeding year. It has been interesting to see the trend over the last 14 years. If

Fig. 5 Number of Dormice found per site

Treatment No	Dormice found 2005	Re captures from previous years	Dormice found 2006	Re captures from previous years	Dormice found 2007	Re captures from previous years	Dormice found 2008	Re captures from previous years	Dormice found 2009	Re captures from previous years
1	4	1	4	1	9	2	1	1	3	0
2	23	4	28	9	20	7	36	6	12	3
3	26	5	28	10	21	12	11	3	17	7
4	6	1	2	2	2	1	4	2	5	1
Sausage	0	0	0	0	5	0	10	0	0	0
New Plantation	4	*	2	1	7	0	5	1	1	0
Unthinned area	0	0	1	0	2	0	3	0	2	1
Total	63	11	65	23	66	22	70	13	40	12

Treatment No	Dormice found 2010	Re captures from previous years	Dormice found 2011	Re captures from previous years	Dormice found 2012	Re captures from previous years	Dormice found 2013	Re captures from previous years	Dormice found 2014	Re captures from previous years
1	19	1	7	3	1	0	1	0	15	1
2	13	3	14	2	2	0	8	3	4	1
3	8	1	0	0	3	2	1	0	1	0
4	11	2	3	0	18	3	14	5	19	1
Sausage	2	1	6	2	3	0	7	0	15	4
New Plantation	50	7	10	5	4	0	8	1	31	3
Unthinned area	2	1	2	1	1	1	0	0	0	0
Total	105	16	42	13	32	6	39	9	85	10

Treatment No	Dormice found 2015	Re captures from previous years	Dormice found 2016	Re captures from previous years	Dormice found 2017	Re captures from previous years
1	4	2	1	0	14	1
2	26	3	38	3	25	3
3	6	4	2	1	2	1
4	35	4	14	3	41	2
Sausage	1	1	13	4	13	0
New Plantation	43	9	31	7	38	6
Unthinned area	0	0	0	0	0	0
Total	115	23	99	18	133	13

* Not surveyed prior to 2005

Photo 2. Dormouse nest made with a lot of grass Phil Rudlin

you look at chart 1 the number of captures each year shows some significant variations, whereas the actual individuals confirmed is more constant. This is far more accurate and therefore useful information, but shows the importance of micro-chipping which is the only way of following animals with any degree of certainty over a long period of time.

We have now been micro-chipping for 16 years (the first animal was chipped in July 2002) and have therefore followed some individuals for a number of years. Of the 13 recaptures this year, 7 were over a year old, the oldest of which was 5, chipped as an adult in October 2013. This male was therefore likely to have been born in 2012 (see Fig. 6). Dormice can live up to 5 years old, although this is first we have found to reach this age. 2 of these individuals were found on 4 visits, 1 on 3 visits, 2 on 2 visits and a further 2 on 1 visit. These 7 animals were therefore seen on 17 occasions and could have been recorded as individuals were it not for micro-chipping. (Boxes are inspected 6 times - monthly from May-October).

Reminder of research aim, treatment methods and areas:

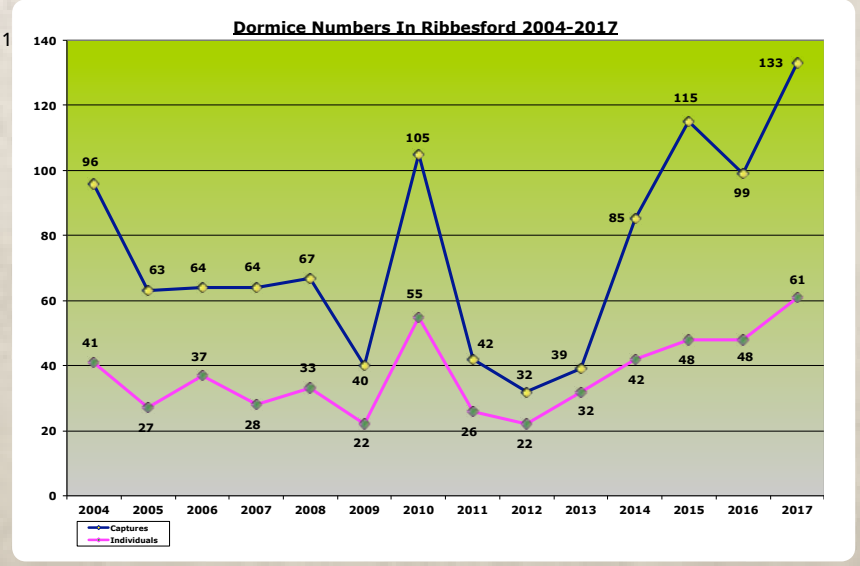
The aim of the research project, which began in 2000 in a 17ha area of Ribbesford, was to find the best method of reverting coniferous plantations back to native broadleaves, while maintaining Dormice populations. Four treatment types were used and compared:

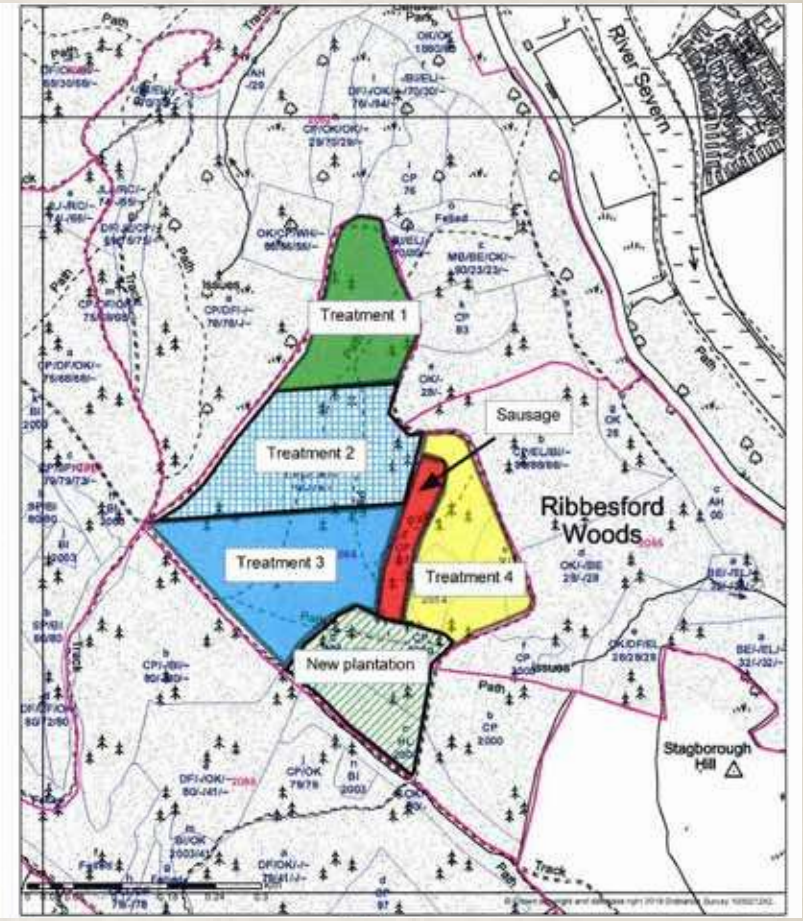
Treatment 1 - (Hand cut with chainsaws and forwarder extraction – autumn / winter). Small areas of conifers were felled (approx 20mx20m) to create small glades within the crop. The idea being that these would regenerate naturally in years to come and would provide viable habitat for Dormice by the time of the next operations in 5 years time. This operation was carried out during autumn/winter of 2003/04. (This area was combined with treatment 2 in 2009/10 as finding chainsaw operators to fell trees proved impossible!) Half this area was clearfelled in 2015/16.

Fig. 6 Micro-chipping history

Micro-Chip number	Date micro-chipped	Age when micro-chipped	Sex	Number of boxes used	Number of recaptures	Approximate age in 2017
75150	Oct-13	Adult	Male	6	7	5
75466	Jul-14	Adult	Male	5	12	4
77863	Oct-13	Juv	Female	5	6	4
16126	Sep-14	Juv	Female	5	14	3
86640	Sep-14	Juv	Male	6	10	3
75362	Jun-16	Adult	Male	4	7	2
76383	Oct-15	Juv	Male	4	3	2

Chart 1





Treatment 2 - (Harvester operation with forwarder extraction – autumn/winter). Method as treatment 1 carried out during autumn/winter of 2003/04, 2009/10 and half of this area clearfelled in 2015/16.

Treatment 3 - (Harvester operation with forwarder extraction - autumn/winter). Normal thinning operation removing 30-35% according to standard thinning tables. This was carried out during autumn/winter of 2003/04, 2009/10 and 2015/16.

Treatment 4 - (Harvester operation with forwarder extraction - autumn / winter). Two larger areas of conifers were felled (approx 0.3ha). This replicates the normal coppice size in the broadleaf 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 time. Carried out during autumn / winter of 2003/04, 2009/10 and 2015/16.

Sausage: Area of failed Corsican Pine which has good structure, with oak, birch and bramble. It is so named as it resembles a sausage shape on the map!

New Plantation: Area planted with Corsican Pine and European Larch in 2000.

Unthinned area: Area adjacent to research site, on other side of forest track. 15 boxes erected in 1993 and a further 20 in 2005

Conclusion

This has been an exceptional year for Dormice in Ribbesford with record numbers found and, more importantly, individuals recorded and micro-chipped. In recent years numbers seem to have been on the increase, so maybe our management techniques are proving beneficial to them. However, as the figures show, numbers of animals are not evenly spread over the research area. Numbers have recovered in treatments 1 and 2 after half of both areas were clearfelled in 2015. A bonus was to find two litters in treatment 1 which was the first sign of breeding in this area for some time. One of these occupied boxes is on the very edge of one of the small clearfells worked in 2009, which has no connections with the remaining woodland within the research area after the work in 2015. However, it is connected to the undisturbed woodland on the other side of the forest road, via touching tree crowns deliberately left during operations. Therefore the Dormice may have recolonised from outside the research area. The standard thinning area (Treatment 3) remains almost devoid of animals, except around the

margins, close to treatment 2 or the 'sausage' where disturbance has been minimal and there remain good connections to the remainder of the woodland (see map). Treatment 4 has bounced back again with good numbers after two larger areas were clearfelled in 2015. Most of these animals are now to be found in the 4 areas of scrub created in 2003 and 2009 which are now good viable habitat for Dormice. Both the 'Sausage' and 'New Plantation' remain fairly stable as expected, as neither has been disturbed during the research period.

I would like to thank Roger Trout and Andy Bucklitch again for their continued effort and support in monitoring and micro-chipping over the last 17 and 7 years respectively.

I would also like to thank all other volunteers who have helped check the 380 boxes, for their sterling efforts in assisting with such a valuable project – without them it would be extremely difficult to maintain this level of monitoring, which will hopefully continue for the foreseeable future.

Wyre Forest records

With such a successful year in Ribbesford we might have expected similar results in the boxes in other parts of Wyre Forest. However, although animals were found in all the sites, numbers were down on previous years.

A small plantation of 14 year old Scots Pine on Longdon Orchard is now an established Dormouse site with records for the fifth year. 3 adults were found in June, 3 adults in July, 1 adult and 1 juvenile in August and 2 adults in September.

35 Dormice boxes have been *in situ* around Park House since 1997. Records have been few and far between, but an adult male was found again in the same box in August and September.

An extra 10 boxes were erected on Wimperhill in July 2013 in a fenced area adjacent to an historical site. A quarter of an area of conifer plantation was clear felled in 2006 and the site fenced to allow natural regeneration to establish. It is now a tangled web of birch, oak, Douglas Fir, bramble, heather, honeysuckle, etc. No signs of Dormice have been confirmed on this site since May 2003, well before the conifer was felled. However, an adult male and female were found here in 2016 and one male in 2017 so the signs are good!

30 boxes were checked in a 19 year old Corsican Pine plantation at Button Oak. This has also become an established site in young conifer. 3 adults were found in July, 3 adults in August and 3 adults and 2 juveniles in September.

The only other established site in Wyre Forest itself is towards the western end of Dowles Brook, recorded by David and Brenda Rea. 20 Dormice boxes are checked twice a year. This has been a frustrating site over the years and 2017 was no exception! A male and female were found in a box in July which was great, but no animals were found in October when we were hoping to find some youngsters. On a positive note though we did find 2 other boxes with fresh Dormice nests in them which is encouraging, although it was frustrating to find them unoccupied!!

It is worth noting that no animals were found in any of the Wyre Forest sites in October. This is unusual as we would usually expect this time of year to be the best chance of finding animals as the juveniles are moving out of the mothers home range to find their own way in life and a suitable hibernation site. Sometimes it is just pot luck to find them in a box as Dormice will have a number of nests sites so they could just be somewhere else. However, the animals found in September were a very good weight, many close to the 30g needed for a successful hibernation. So maybe they just went to sleep early and avoided the boxes in October!

Three of the above sites are in conifer plantations which will be reverted back to native broadleaves in the future. Recommendations from the research work carried out in Ribbesford are being put into practice at both Button Oak and Wimperhill. The areas have been divided up into 3 and 4 sections respectively and worked on a five year rotation so that not all of the sites are worked at the same time. Small 0.3ha areas are being clearfelled and replanted with oak and will be managed as coppice in the long term, thus keeping the Dormice happy at least!

Photo 3. Torpid Dormouse Phil Rudlin