Dormice and Conifers in Wyre Forest 2015 update

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After good numbers of Hazel Dormice, *Muscardinus alvellanarius* were found in 2014 it was with great interest that we began the surveying in Ribbesford Wood again. Despite another wet and mild winter the spring of 2015 was warm and relatively dry. It was therefore encouraging to find 17 animals on our first visit, in May. This was a great start to the season and was the best since 2007, when 20 were found. (See Fig 1) The following 5 monthly inspections of 380 boxes revealed good numbers. Although there was a slight blip in August, when only 8 were found, the year finished well with 26 found in both September and October. 115 animals were found over the six visits, which is the best overall figure since comparable data began in 2004.

2015 was also a good breeding year, with 32 juveniles found. However, this is only the fourth highest count since 2004. (See Fig. 2) It is also worth noting that these were the total numbers of juveniles that were found in boxes and may not be individuals. 17 Juveniles were micro chipped, but some were too small to chip so may, or may not, have been found again. (2 litters were found with young weighing 1.5g and 1.7g each respectively!) Unfortunately there were also 3 new born found dead in two different boxes. Presumably their mothers had died or abandoned them, for some reason. One youngster also escaped!

22 fresh nests were found in boxes that weren't occupied during the survey season. It is not unusual to find empty nests as they 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.

The total 115 Dormice found in the 17ha research area was far better than in recent years and well above the average of 68 over the last 12 years. A further 24 animals were found in the research area that were big enough to microchip - 7 adults and 17 juveniles. (See Fig. 3) The adults were either yearlings, born the year before, or possibly older. However, it is impossible to age without permanent marking, such as micro-chipping. Although 115 animals were found in 2015, we know from micro-chipping that some of these were found on multiple occasions.

From this information we know there were at least 48 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 an encouraging sign as it is well above the average of 34 over the last 12 years.

Fig. 1

	2004		2005		2006		2007		2008		2009	
	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
June	11	0	14	2	11	8	16	0	9	11	9	1
July	19	0	17	5	6	4	8	2	11	1	4	5
August	13	1	8	0	4	1	7	4	16	8	8	0
September	19	0	8	4	10	3	8	0	8	6	8	3
October	28	9	4	16	18	8	2	0	18	2	1	1
November	*	*	*	*	*	*	*	*	*	*	*	*
Totals	96	12	63	29	64	27	64	9	67	30	40	11

	2010		2011		2012		2013		2014		2015	
	Dormice	Fresh Nests	Dormice	Fresh Nests	Dormice	Fresh Nests	Dormice	Fresh Nests	Dormice	Fresh Nests	Dormice	Fresh Nests
April												
May	7	2	16	0	4	2	5	4	5	1	17	1
June	11	6	4	0	6	0	7	1	10	5	21	3
July	9	8	5	9	5	3	2	3	12	2	17	6
August	28	7	5	1	4	3	5	7	14	2	8	0
September	20	8	8	2	9	2	*	*	26	2	26	7
October	30	6	4	7	4	2	19	3	18	4	26	5
November	*	*	*	*	*	*	1	0	*	*	*	*
Totals	105	37	42	19	32	12	39	18	85	16	115	22

* Not surveyed

Fig. 2

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

(See fig. 4) 23 animals were recaptured from previous years, which is the equal best since 2004. (See Fig. 5)

We have now been micro-chipping for 13 years and have therefore followed some individuals for a number of years. Of the 23 recaptures this year, 5 were over a year old. (See Fig. 6) 18 of these were chipped in 2014, 11 as juveniles. This is an encouraging 52% survival rate for juveniles, (21 Juveniles chipped in 2014) especially as we know from previous records that we don't find some animals every year, so there may be some more of these to find in the coming years!

One interesting point about the survey figures is that, despite it being the best overall count since comparable records began, it was not the best for individuals or juveniles. This is mainly due to one animal being found on all 6 visits and seven animals

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
1	4	0	3	1	0	2
2	7	4	12	5	11	2
3	13	3	9	4	2	3
4	8	3	0	0	2	2
Sausage	3	0	0	1	2	0
New plantation	Not surveyed	3	1	0	4	1
Unthinned area	0	0	0	0	3	1
Total	35	13	25	11	24	11

Treatment No	No of Dormice chipped in 2010	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
1	8	0	1	1	5	0
2	2	4	0	5	3	6
3	4	2	2	1	1	0
4	4	3	7	5	3	9
Sausage	1	1	2	6	3	5
New plantation	19	3	4	4	15	4
Unthinned area	1	0	0	0	0	0
Total	39	13	16	22	30	24

Fig. 3

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
1	4	1	3	4	3	3
2	9	9	14	11	13	3
3	16	10	13	9	4	11
4	9	4	3	1	4	2
Sausage	3	0	2	1	2	0
New plantation	Not surveyed	3	1	0	4	1
Unthinned area	0	0	1	2	3	2
Total	41	27	37	28	33	22

Treatment No	No of individual Dormice found 2010	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
1	9	4	1	1	6	2
2	5	9	1	7	4	9
3	5	0	3	1	1	4
4	6	3	11	11	6	13
Sausage	2	2	1	6	6	6
New plantation	26	7	4	6	19	14
Unthinned area	2	1	1	0	0	0
Total	55	26	22	32	42	48

Fig. 4

Fig. 5

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
1	4	1	4	1	9	2	1	1
2	23	4	28	9	20	7	36	6
3	26	5	28	10	21	12	11	3
4	6	1	2	2	2	1	4	2
Sausage	0	0	0	0	5	0	10	0
New Plantation	4	*	2	1	7	0	5	1
Unthinned area	0	0	1	0	2	0	3	0
Total	63	11	65	23	66	22	70	13

Treatment No	Dormice found 2009	Re captures from previous years	Dormice found 2010	Re captures from previous years	Dormice found 2011	Re captures from previous years	Dormice found 2012	Re captures from previous years
1	3	0	19	1	7	3	1	0
2	12	3	13	3	14	2	2	0
3	17	7	8	1	0	0	3	2
4	5	1	11	2	3	0	18	3
Sausage	0	0	2	1	6	2	3	0
New Plantation	1	0	50	7	10	5	4	0
Unthinned area	2	1	2	1	2	1	1	1
Total	40	12	105	16	42	13	32	6

Treatment No	Dormice found 2013	Re captures from previous years	Dormice found 2014	Re captures from previous years	Dormice found 2015	Re captures from previous years
1	1	0	15	1	4	2
2	8	3	4	1	26	3
3	1	0	1	0	6	4
4	14	5	19	1	35	4
Sausage	7	0	15	4	1	1
New Plantation	8	1	31	3	43	9
Unthinned area	0	0	0	0	0	0
Total	39	9	85	10	115	23

* Not surveyed prior to 2005

Fig. 6

Micro-Chip number	Date micro-chipped	Age when micro-chipped	Sex	Number of boxes used	Number of recaptures	Approximate age in 2015
59716	Oct-13	Adult	Male	4	6	3
75150	Oct-13	Adult	Male	4	3	3
77863	Oct-13	Juv	Female	4	4	2
80944	Oct-13	Juv	Male	7	10	2
86427	Aug-13	Juv	Male	6	9	2

found on 5 visits. Without micro chipping these could have being mistaken for 41 different animals, instead of 8! These were 6 males and 2 females, using 28 different boxes which would have made it very difficult to narrow it down. (One of these animals was found in a different box on all 5 occasions he was recorded. He was chipped in September 2014 and has been found on every inspection since!)

Phase 3 - Experimental Planted Ancient Woodland Sites (PAWS) restoration

The third phase of the experimental harvesting operations began in October 2015. Treatments 1 and 2 were both divided in two and all conifers removed from them. It was decided that carrying on with small clearfells in these areas was impractical. The remaining areas of conifers were so fragmented that getting a large harvester to cut the trees and avoid the original felled areas, which are now good Dormice habitat, would be impossible. This may be a useful method when using small machinery or chainsaws, but not large modern machinery. This meant that the remaining half of each area would be totally undisturbed, but will be cleared of conifers in five years time. By this time the current areas of clearfell should be viable Dormice habitat and therefore the disturbance to the area will be minimalised. Treatment 3 was thinned again, removing 30-35% according to standard thinning tables. All conifers were removed from two further 0.3Ha areas in treatment 4. This will leave just two more areas to fell in five years time, when all conifers will be removed. All other areas within the research area were left undisturbed, allowing plenty of peace for any Dormice in residence.

Over 250 boxes were removed from the site prior to these operations and will be replaced as near to their original position as possible in the spring. Most of the trees will have gone, of course, but the base of each tree was marked before the box was removed. (Photo 1) This should be still visible after felling and give us an idea where the boxes were. There is a surprising amount of broadleaves within the crop and, wherever possible, the boxes will be attached to these. (Photo 2) Where there are no trees, stakes will be used and boxes attached to them. The bramble, bracken and scrub will grow around them in time and we can monitor when they return, hopefully!

Photo 1 . Phil Rudlin

Photo 2 Phil Rudlin

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. 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!)

Treatment 2 - (Harvester operation with forwarder extraction – autumn / winter) method as treatment 1.

Carried out during autumn winter of 2003/04, 2009/10 and 2015/16.

Treatment 3 - (Harvester operation with forwarder extraction - autumn / winter) Normal thinning operation removing 30-35% according to standard thinning tables. 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 0.3 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. 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, Bramble. 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

2015 has been another good year for the Hazel Dormouse in Ribbesford. The trend for the woodland appears to be increasing over the last 4 or 5 years. It has been fascinating to follow some animals through their lives and see how the young disperse, sometimes large distances, for a small mammal, of over 300m. Without permanent marking, such as micro chipping, it would be impossible to know population sizes and social structures. Some of the animals use multiple boxes and others seem to have a preference for just one or two. Some use them regularly, others rarely. The methods of removing conifers have changed slightly over the years as we have learnt practical lessons during, and after each operation. However, it is encouraging to find animals in all areas of harvesting.

The 'New Plantation' seems to hold good numbers of Dormice and it is at the same age that most of the woodland was when Dormice were first discovered in Ribbesford, in 1994. It is still difficult to fathom why it is so good, as most of the bramble and understory has now been shaded out by the conifer plantation. Much of what remains is a dark tangle of branches, a great motorway for an arboreal acrobat, but seemingly little food availability, but what do we know! (See photo 3)

Finding good numbers in 2015 is an advantage going into the third phase of experimental operations. It will be very interesting to see the impact of the work in 2016. As the map shows, about half of the area will be unaffected by the felling so the Dormice will not be disturbed. However, some animals will wake up in the spring to a very different environment!

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 15 years and 5 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.

Photo 3 Phil Rudlin

Wyre Forest Records

A small plantation of 13 year old Scots Pine on Longdon Orchard is now an established Dormouse site with good records for the third year. 2 adults were found in May, 2 adults in June and September and 2 adults plus 1 Juvenile in October. Without micro chipping it is difficult to know how many individual animals this is, but it is at least 5 – 1 adult female, 3 adult males and 1 female juvenile. 5 other boxes also had empty nests in.

After a Dormouse was found in a very old box near Park House in 2013, most of the boxes were replaced. However, 1 animal was found in an old box in 2014 and another in the same box in 2015! 1 other old box also had empty nest in. None of the "new" boxes have shown any signs of Dormice occupancy, maybe they haven't "weathered" in yet!

An extra 10 boxes were erected on Wimperhill in July 2013 in a fenced area adjacent to a historical site. The conifer 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. – perfect-looking for Dormice! Unfortunately none were found again in 2015, but I am still hopeful!

30 boxes were checked in a 17 year old Corsican Pine plantation at Button Oak. This has also become an established site in young conifer. 3 adults were found in May, with 2 empty nests. 6 adults in June and 1 found in September.

The only other known 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, June & October. 3 juveniles were found in a box in October 2014. However, just an unused nest was found in October 2015, which was disappointing. This site seems to hold a very small population of Dormice and is difficult to monitor with any accuracy, but at least we know they are there and the woodland can be managed with them in mind. Hopefully the habitat will improve in the future and their numbers increase.