autumn 2011

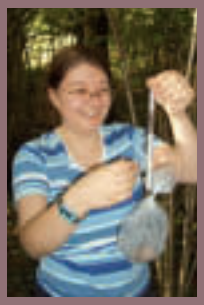
the dormouse monitor

the newsletter of the national dormouse monitoring programme

people's trust for **endangered species**

INSIDE

Welcome



It has been an eventful dormouse year starting off in March with the gathering of British dormouse workers at the Southeast Dormouse Conference hosted by the Kent and Surrey Mammal Groups. It was an inspiring and informative day where we heard about the many dormouse projects going on across the country. Then in September there was the International Dormouse Conference this time held in Saxony in Germany, with dormouse workers coming together from across Europe and beyond, as far away as Japan. The international conferences are held every three years, read more about this year's on page 8.

Dormice seem to have done exceptionally well in 2011. The great British weather being what it is, it makes it harder for dormice to cope with our usual wet cold summers and mild winters. This year with the warm dry weather over the summer the dormice were thriving.

Please do not forget to send in your 2011 records, you can either post your recording forms to us or enter your records online. But before you do this sit down with a cup of tea, relax and read *The Dormouse Monitor*. We hope you enjoy it.

Best regards

Nida Al Fulaij
& Susan Sharafi

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CORRECTION - apologies to Leo Gulbert. In the last issue the title of his project mistakenly said A30 Cornwall when the study was carried out on the A38 Devon.

People's Trust for Endangered Species
15 Cloisters House
8 Battersea Park Road
London
SW8 4BG

www.ptes.org
Tel: 020 7498 4533
enquiries@ptes.org
Registered charity number 274206

The National Dormouse Monitoring Programme is funded by PTES and Natural England.
The Dormouse Monitor is compiled by Nida Al Fulaij & Susan Sharafi.
Cover image kindly provided by Liam Bunce. Printed by 4 Print on environmentally friendly paper.

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Isle of Wight red squirrel & dormouse survey

The Hampshire and Isle of Wight Wildlife Trust (HIWWT), in partnership with PTES, undertook a wide ranging survey looking at the current distribution of two of Britain's most engaging and endangered mammals.

The woodland mammal fauna of the Isle of Wight is the envy of Europe. The ancient woodlands are home to a variety of bat species including barbastelle and Bechstein's and the island is one of only two counties in Britain where both red squirrels and hazel dormice are found in native broadleaved woodland (the other being Cumbria).

The aim of the project was to revisit woodlands that were surveyed over two previous winters in 1997/98 and 2002/03 to see whether the proportion of woods that are currently home to red squirrels and hazel dormice has increased or decreased, and take a measure of the management types within the woods to see what, if any, affect they may be having.

A total of 286 woodlands, all over 1ha in size, were visited over the winter of 2010/11 by a surveyor looking for signs of both species. Most commonly these were feeding signs but the surveyor also looked for nests and sightings of the animals themselves. If signs weren't found within one hour of searching then the species was deemed to be absent from the wood.

Without deer or grey squirrels, the Isle of Wight's woodlands are unique and important strongholds for British mammal biodiversity. This survey builds on the work by the Wildlife Trust, Forestry Commission, PTES and others to help and encourage appropriate woodland management in the island's woods.

The table (right) lists the results of the survey. Very encouragingly red squirrels appear to be doing well on the island in the absence of their grey cousins.

Additionally the type and character of each woodland was assessed. 137 or 52% of the woods were purely broadleaved. Most of the rest of the woods (108 or 41%) were predominantly broadleaved with some conifer. The remaining 16 woods (7%) were predominantly conifer with some broadleaved. The species composition of the woods was also recorded.

The occurrence of oak and hazel in half of the woods surveyed reflects the nature of much of the native woodland on the island and no woods surveyed were wholly coniferous. Large plantations of beech and pine are found scattered across the island and support red squirrels at greater densities than native broadleaved woods.

Active management (considered to be underway if there were signs of felling, thinning and tree planting) has been shown to occur in the majority of woodland on the island which is encouraging for the future of woodland here. Hazel and sweet chestnut were found in over a quarter of all woodland and one fifth of woodland was found to be coppiced. This will help a wide range of other wildlife which requires active coppice to continue to thrive.

Since the first survey of red squirrels on the Isle of Wight in 1996/97, occupation of sites has increased by 19%. This is good news and reflects the work of organisations such as the Forestry Commission and the Hampshire and Isle of Wight Wildlife Trust who are actively encouraging the increase of new woodland through land advice and grant aid. Since 2000, the introduction of the JIGSAW grant has seen an increase in native broadleaved woodland of over 200ha (12%) on the Island.

As evidence for red squirrels was found in 90% of woodland, it appears that this species is found wherever its preferred food plants grow (hazel and pine) with management not appearing to play a significant role in its presence or absence. The figures were also analysed to see if active management appeared to have an effect on hazel dormice. 35% of woodland with dormice showed signs of active management. However, though the number of woodlands that are actively coppiced has increased since 2003, the occupation of sites by hazel dormice has fallen by 4%. The short and long-term effects of coppicing have been well studied on the island and it is not believed that this fall is an immediate cause for concern.

Richard Grogan, HIWWT

Survey	1997	2002	2010
No. of woodlands	249	277	286
Red squirrel present	71%	86%	90%
Hazel dormouse present	n/a	69%	65%
Neither species present	29% (RS only)	10%	7%


SIMON HENZELL THOMAS

Planting nuts to detect dormice

At our main Derbyshire monitoring site we have found dormice and evidence of breeding every year since they were reintroduced in 2005. However, numbers are generally low (though we recorded 48 on one box check in 2006). As well as dormouse nests without dormice, we have also occasionally found a dormouse-opened hazel nut in nest boxes. In all, 41% of boxes have had a positive record of some kind (dormouse, nest or nut) since we started. However, nest box occupancy tends to fluctuate across different parts of the site from year to year. Occasional dormouse-opened nuts on the ground in areas with no sign of box use provides evidence that dormice are present but are not using the boxes for nesting.

To try and increase the number of positive records, we left two hazel nuts in 120 nest boxes during a general maintenance and cleaning session in February 2011. We reasoned that these nuts could provide a food supply in case of early emergence, since in the recent run of warm springs we have found dormice in boxes during mid-April, when normal food sources are rather limited (the site is almost 250m above sea level).

In May we found dormouse-opened nuts in eight boxes and in another three since then, including in two boxes first put up this year in new areas of the site. None of these boxes contained a nest or other signs of dormouse occupancy. A bank vole had opened the nuts in one box, but none had been eaten by wood mice. With a positive rate of just over 10% we consider the experiment successful and we will use this as a supplementary monitoring technique each year from now on in all the boxes.

We bought the hazel nuts in shops at Christmas. These were much larger than the nuts growing on site and were no doubt imported from continental Europe. The oversized nuts posed a problem on two occasions when several attempts had been made to reach the nut. Once the animal (or animals) had attempted nine holes before eventually getting into the nut (right). Dormice usually eat the nuts whilst they are still green on the tree but seem happy to eat shop-bought ones too!

Dave Mallon & the Derbyshire Dormouse Team

NIDA AL FULAIJ, DAVID MALLON

PTES intern project update

I am excited to have embarked upon a survey and monitoring project of the hedgerows and small woodlands that surround Rhos Cefn Bryn Wildlife Trust reserve in Carmarthenshire. I am very grateful to the People's Trust for Endangered Species for awarding me an internship grant, making this conservation work possible.

The project aims to establish the landscape context for a well-studied population of dormice within the reserve. I have assisted at the reserve for the past two years collecting data for the NDMP. The small hazel copse is only 0.3ha.

A recent study carried out by Dr Lizzie Wilberforce and Robert Jones Parry of the Wildlife Trust of South & West Wales, with LBAP funding, assessed the potentially weak areas of connectivity in the area. They also looked at good linkages and areas of potentially suitable habitat by using aerial photography. I will be ground truthing key linkages and surveying and monitoring woodlands and hedgerows for dormouse activity. Dr Lizzie Wilberforce will supervise and I will project coordinate.

I am asking permission of the landowners to gain access and have already surveyed one farm and installed nest tubes. It has three small wooded areas with some promising dormouse habitat and good hedgerow connectivity.

I have installed nest boxes in a copse opposite Rhos Cefn Bryn and have seen two juvenile dormice residing in an old nest box. The landowner of the copse has given me full access to his farmland and I will liaise with more landowners in the area.

The ultimate aim of the study is to ascertain whether the existing viable population is in fact isolated, or if it has enough connections through the hedgerow corridors to other populations in small woods. During the four month period I will be collating and analysing all the evidence.

Richard Pond
Wildlife Trust of South & West Wales


LIAM BUNCE

Little Linford box check October 2011

Arriving at a wood shrouded in mist, with the thermometer registering only 6°C, we thought that there would be few helpers willing to turn up. How wrong we were. With nearly 40 arriving it was the busiest box survey of the season and, with the following results, hopefully no one went home disappointed.

In previous years the October check has often yielded the highest number of dormice and this was the case this year. A total of 42 adults were found in the boxes, weighing between 14g and 32g. Most Octobers we find the occasional nest of young that must struggle to gain sufficient body weight to sustain the winter months but this year there were none. There were 72 dormice nests, some of them old, but 17 new ones constructed since the September survey. In the adjacent Gayhurst Wood we also found a further five adult dormice (and the first wood mouse of the site).

It wasn't just dormice that were attracted to our boxes; 40 wood mice were also recorded and a single pygmy shrew. For the second month running no bats were found.

This year's results have been very encouraging with at least three months providing the highest totals since 2004. We have had 14 breeding nests during the season holding a total of at least 50 young. This has been the thirteenth year monitoring the dormice, and all the other occupants of the boxes, an exercise only made possible with the continued help of fellow volunteers. We are very grateful to see so many people each time and hope next season you will again join us. Thank you all for your support .

Finally we would like to mention the special achievement of young Ella Cooke, an enthusiastic naturalist and photographer, who has helped with the box surveys for several years. This year she gained a Highly Commended in the 12–18 year old section of the British Wildlife Photography Awards with a photograph of a nest full of young, hungry great tits taken during this year's May box check. Congratulations Ella!

John Prince, Paul Manchester and Tony Wood
Little Linford Dormouse Group


KAREN BIGMORE

Hazel dormice through Irish eyes

This story begins in July last year, when I packed my life into my car and left Irish soil to embark on the first (somewhat daunting) step of my career in conservation. After a nerve racking telephone interview I was offered a position as a full time volunteer with the National Trust (NT) and Quantock Hills AONB service. Based at Fyne Court in Somerset the post involved shadowing rangers from both organisations and learning practical countryside management and wildlife surveying skills.

Once I arrived, one of the first things I spied in the NT ranger's office was a collection of photos on a notice board from volunteering projects. I spotted some containing ridiculously cute mice with large dark eyes. Being new to all things natural, and to England, I had never seen or even heard of a dormouse before. After a bit of research I realised that we don't have this wonderful species in Ireland - I was keen to learn more!

By that stage, the NT rangers had been monitoring dormice for the past three years in a woodland nearby. The boxes are checked four times a year in May, June, September and October. When the time came for the dormouse checks in September I got the chance to assist the licensed handlers (Steve and Vanessa). I had heard a lot about these little mice and couldn't wait to find out more, first hand! If the photos were anything to go by, I was in for a real treat! The dormice didn't disappoint. I had a wonderful introduction to them, learning from very knowledgeable people about the life cycles and breeding habits of these shy creatures - and to top it all, I got to meet them up close.

Whilst assisting with the checks I became curious to find out more. Were numbers increasing? Was there a trend over the past three years? Was there a particular part of the woodland they preferred? With advice from the rangers I came up with a plan to plot and analyse the data from the nest box checks. Over the winter, I decided to create a digital map (using a GPS) of the nest boxes. With this I could visually plot the results of the nest box checks and, with some analysis, hopefully answer some of my questions!

Dormouse numbers

The 3.8ha deciduous woodland in the Quantock Hills contains 95 dormouse nest boxes which were put up in 2007. I started by looking at the pre-peak breeding figures. In June 2008 five adult dormice were found and, following a warmer than average winter and spring (1.5-2°C higher), numbers dipped to two in June 2009. The higher temperatures may have caused the dormice to wake early from hibernation, when suitable food sources may have been unavailable. Following a colder than average winter (1.5°C lower) in 2009, numbers climbed back to six in 2010. The colder temperatures may have kept dormice in hibernation until a more suitable time, when food resources were more abundant. I was slightly disappointed with these figures, but on further reading I learned that dormice exist in low numbers even in the most suitable conditions. With a national average of between 1.75 and 2.5 adults per hectare, that would equate to between six and nine adults in our woodland – we weren't far off! This woodland also has extensive connectivity to surrounding wooded areas through hedgerows so I assumed our dormice were dispersing further onto the Quantock Hills.

Taking a closer look at the

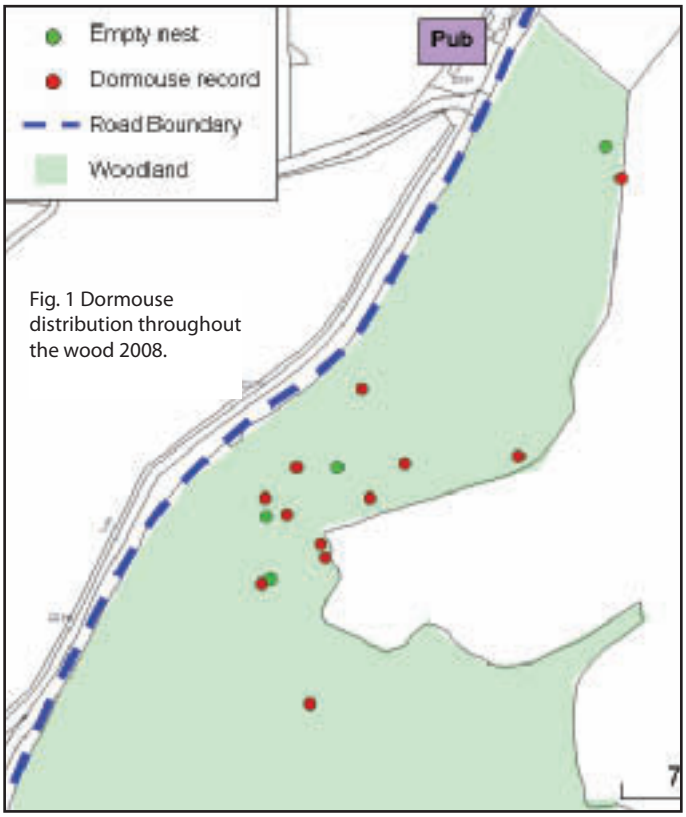


Fig. 1 Dormouse distribution throughout the wood 2008.

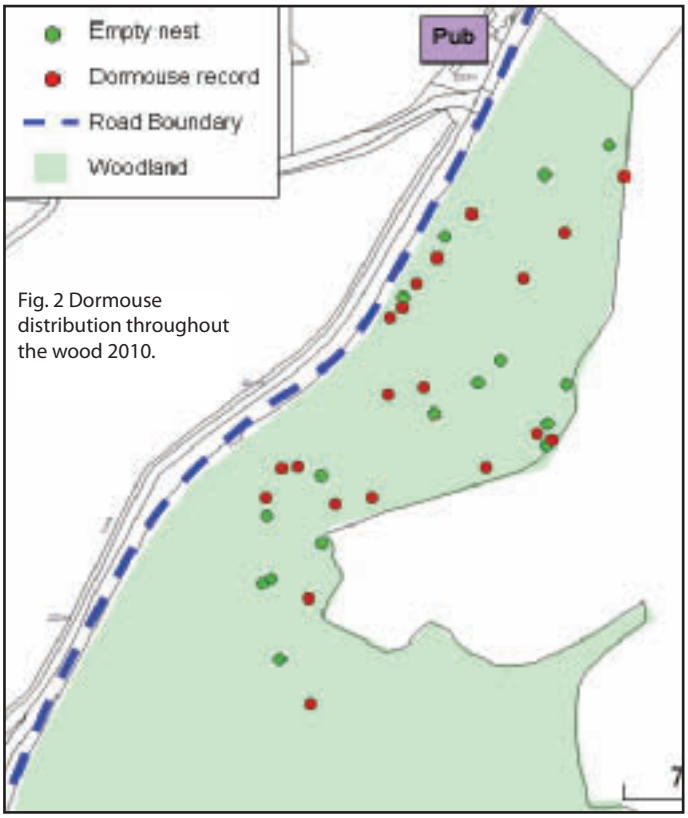


Fig. 2 Dormouse distribution throughout the wood 2010.

dormouse numbers, after the peak breeding season I became more confident that our dormice were thriving. Over the first two years of monitoring, dormouse numbers in September remained constant with 10 in 2008 and 11 in 2009. Then all of a sudden, dormice numbers rocketed by 100% with a total of 20 dormice found in September 2010. Excellent news.

JENNIFER LYNCH

Dormice weight

I was curious to know if our dormice were healthy in terms of weight – which I had learned was an important indicator of food availability and their chance of surviving hibernation. The juvenile dormice provided the most interesting results. In the first two years, the average weight of the juveniles found in October was below 10g. This was concerning as they were below the recommended 12-15g needed to survive their first hibernation. This may have contributed to the lack of increase in numbers in the first two years. Low and behold, the checks in October 2010 showed the new young had reached an average weight of 16g. This was excellent news and made me hopeful for higher numbers the following year.

Dormouse distribution

After deciphering GIS software I came up with maps illustrating where the dormice (and empty nests) were found throughout the woodland. The maps show where dormice were found across the year - combining results from the four checks. In 2008 (Figure 1) dormice were found in a section in the centre of the woodland close to the eastern boundary (grassy field). In the northern corner (near the pub) we also found some dormice. By 2009 the dormice had started to appear in boxes in other parts of the woodland and by 2010 (Figure 2) they had truly made themselves at home - dispersing throughout the woodland. The dormice appeared to have spread north towards the pub - that's where I would be! They also appeared to have moved westerly very close to a busy road (to our surprise) and further into the centre of the woodland. It was a real eye opener to see the results plotted on a map, to get an understanding of their movements.

Once I had made sense of the data and answered my questions, I held an information evening in March for other local National Trust and AONB volunteers and staff with the help of Steve, a National Trust ranger and licensed handler. After a lot of reading and practising I presented my findings along with an introduction to dormouse ecology. I was a nervous wreck! I was presenting in front of a room full of people about a topic that I knew nothing about six months earlier. The night was a success (so I was told). A HUGE thank you to all who attended, helped out on the night and brought their home-baked goodies. Although it was a challenge, I thoroughly enjoyed it.

The findings from plotting the data will hopefully inform the NT with regard to further management of the site. Sections of the woods have been brought back into active coppice rotation by the NT over the past 10 years, one of which had fruited in 2010. There are plans to investigate the surrounding hedgerows, putting up extra dormouse boxes to identify dispersal routes – more questions to answer!

Since then I've had the opportunity to assist with dormouse checks on another site on the Quantock Hills with the AONB service. In May I was delighted to help Andy and Shelley and get another opportunity to handle dormice under the supervision of a licensed handler. One torpid dormouse even seemed to cuddle up to my thumb in his adorable sleepy state (above). What an amazing experience!

I have really enjoyed the opportunity to get involved in dormouse monitoring, and I would like to thank everyone who has allowed this to happen. I'm hoping to get more involved in mammal surveying and research in the future and maybe ask (and answer) more questions. If you have any questions or comments please get in touch with me.

Jennifer Lynch
jenny.lynch9@gmail.com

Eighth International Dormouse Conference

It was incredible that this was the 8th international gathering of people interested in, researching and trying to conserve dormouse species around the world. The very first conference was also held in Germany, initiated by Heiko Müller-Steiss who was studying dormice in Bavaria at the time. Then there were only 15 people, including Pat Morris and Paul Bright, who had done so much to advance our understanding of the species. This year over 100 people came to Saxony to talk about dormouse ecology and conservation, share ideas and experiences and meet fellow enthusiasts. Since that first conference they have been held every three years in a different country, including Italy, Croatia, Turkey, Hungary, Poland and the most recent one which was organised by the late Mike Woods in Somerset. Pat Morris is now the only person who has been to all the conferences.

The 8th conference was organised by Sven Büchner and Dr Herman Ansorge of the Senckenberg Museum in Görlitz, the main sponsors of the conference. It was held at a magnificent baroque conference centre, belonging to a group of Cistercian nuns founded over 1 000 years ago, whose home, St Marienthal (www.kloster-marienthal.de) has been on the present site, just outside the small town of Ostritz, for nearly 800 years. The present convent buildings date from the late 17th century and are built on the bank of the River Neisser which, since the end of WWII, has formed the boundary between Germany and Poland. To maintain the convent, what were the enormous farm buildings have been converted into excellent meeting rooms, offices and a restaurant, with other associated buildings providing accommodation for delegates.

Those who attended the conference came from 17 different countries, all over Europe and as far afield as Japan, South Africa, Mongolia and Russia. We had a welcome party on the first evening which was followed by two days of talks. On Saturday evening we were taken on a guided walk of the surrounding area, had a workshop on "nut hunts" throughout Europe and had a chance to read posters which were on display throughout the meeting.

The papers presented were very varied and, although dominated by the hazel dormouse (*Muscardinus*) and edible dormouse (*Glis*), included something on almost all the species of dormice. It is clear that the use of PIT tags is becoming more widespread and this means that analysis of data on the behaviour and age of individual animals is now possible. Several speakers presented evidence of barriers to movements of dormice and other small mammals of the forests, ranging from roads to ski-pistes. However, there were at least two papers giving evidence of hedges acting as linear corridors for their dispersal in landscapes with very small areas of woodland and of successful dormouse bridges over roads. The subjects of other papers ranged from analysis of DNA samples to the geological history of extinct dormouse genera. It was clear that the relatively informal gatherings of dormouse researchers at these conferences have enabled a lot of ideas and information to be exchanged and stimulated an ever-widening range of research on these interesting mammals.

On the Sunday there was

NIDA AL FULAIJ/ PAT MORRIS

a field trip to see a number of woodland sites, mostly on hill tops surrounded by wide open fields, in the eastern part of Saxony where various dormouse projects and monitoring programmes are in progress. In the afternoon we went to Görlitz and were taken on a guided walk around that beautiful historical city, much of which has now been restored after the neglect of the GDR (German Democratic Republic) period. We were then shown around the Senckenberg Museum of Natural History and, after a welcoming address by its director (the museum had been closed to the public), we were provided with a delicious supper of local delicacies in the museum.

On Monday, back at the convent, we had another day of talks and awards were presented for the best paper and the best poster, followed by a discussion of where the next conference might be held. There was relief and happiness when Helle Wilhelmsen cheerfully offered to organise the 2014 conference in Denmark.

It was a very enjoyable and sociable conference with everybody meeting old friends and making new contacts. It is amazing to think that so many people could be brought together from such a variety of far-flung countries to discuss dormice. It is also important that a large group of people care so much about such relatively small species that they are willing to devote time and energy to talking about them, learning about what other people are doing and making the effort to share ideas and make new plans for the future.

Mary Morris

German dormouse study

ALL IMAGES NORA WUTTKE

Throughout its range the hazel dormouse has been found to use nest boxes. From April to October 2010 we looked for evidence of hazel dormice in different types of bird nest boxes and nest tubes in the Erz Mountains (Saxony, Germany). Both nest boxes and nest tubes were used during the active season. According to other studies by Paul Chanin and Michael Woods in the UK and Rimvydas Juškaitis in Lithuania, the highest density of dormice was found in nest boxes in September. Dormice used the bird nest boxes for breeding in, as well as sleeping, whilst in nest tubes we didn't find any evidence of breeding nests.

Wooden nest boxes made for tits, with an entrance hole of 28 to 32mm, were the preferred nest box types, whilst those made for starlings, with a larger entrance hole of 45mm, seemed to be avoided, possibly because starlings are very competitive. Then, in contrast to previous years, in September 2010 two dormouse nests were found in starling nest boxes. One nest was woven into an abandoned nest of a starling. The use of starling nests by hazel dormice has not been recorded before. However, as summarized in Juškaitis, some authors have reported finding dormouse nests built into the nests of wrens, thrushes, warblers, magpies and carrion crows.

Nora Wuttke, Germany, nora.haselmaus@googlemail.com

NDMP 2010 - a closer look at dormouse we

We only have a few mammals that hibernate in Britain: bats, hedgehogs and hazel dormice. The word comes from the Latin *hiberna* for winter and refers to a process that some mammals employ to pass the coldest months in a dormant state. It makes sense for small animals to hibernate as they have high metabolic rates that require a high food intake to maintain. By dropping their body temperature to almost that of their surroundings, it eliminates the cost of keeping their bodies warm. The surprise is not why some small mammals hibernate but why more don't – pygmy shrews must have a hard time finding sufficient food over the winter.

Over-winter weight loss

As part of the NDMP we ask monitors to record the sex, weight and age of dormice. Over a year the weight information can provide an interesting insight into the population age structure and possibly the survival rates over hibernation. A study carried out by Rimvydas Juškaitis in Lithuania determined that the average weight lost by dormice during hibernation was 33%. We looked at the weights of all the animals found on the October NDMP site visits in 2009 and determined what weights we would expect the animals to be the following spring, based on a 33% weight loss. The majority of animals weighed between14-22g and these were assumed to be 'adults' although in reality were probably a combination of adults and juveniles (Fig. 1). Males on average weighed slightly more (19.58g n=526) than the females (19.17g n=451). This is substantially less than weights recorded in Lithuania where Rimydas Juškaitis found the average weight of males in October was 32.5g (n=95) and is possibly indicative of a species on the edge of its natural range.

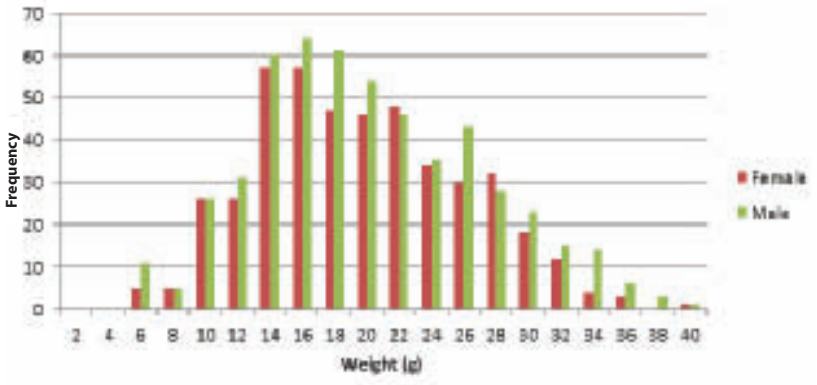


Fig. 1 Frequency distribution of male and female dormouse weights in October 2009.

Cold winter

The winter of 2009/10 was the coldest winter since 1978/79 with a lot of snow at the beginning of the year. The temperature in January was 2.4°C below average and it was therefore a bit of a surprise to find a dormouse active in Briddlesford on the Isle of Wight on 23rd January 2010 while the boxes were being cleaned out. It wasn't until March that dormice were next found when a 16g male was recorded at Bunch Lane in Surrey, a 22g female was recorded at Combe Bottom in Surrey and a 26.2g male was recorded at Goblin Coombe in Somerset.

If these animals lost 33% of their weight over the winter they would have gone into hibernation at approximately 24g, 33g and 39g respectively. If a 33% weight reduction is applied to all the dormice found in October 2009, it gives an indication of the expected weight distribution in spring assuming that there is no mortality in the population over winter (Fig. 2).

The expected pattern of dormouse weights post hibernation varies substantially from the actual dormouse weights recorded in May 2010. On average the animals we found in May were 4g heavier than predicted. This would suggest that in Britain there is either a high winter mortality in animals that weigh between 8-12g, less weight is lost in hibernation or there is a rapid weight gain post hibernation. It is possible that less weight is lost during hibernation due to Britain's generally mild winters but a rapid weight gain is unlikely due to lack of food availability. It would be interesting to carry out a study on marked animals in the UK to determine if our dormice lose a similar percentage of their body weight during hibernation or if the figure differs substantially from those dormice in Lithuania.

Apart from some early litters born in May (which account for the lightest dormice found in May 2009) there is a very small 10g weight class (pre-hibernation weight 15g) and a much larger 12g weight class (pre-hibernation weight 18g). This reinforces the

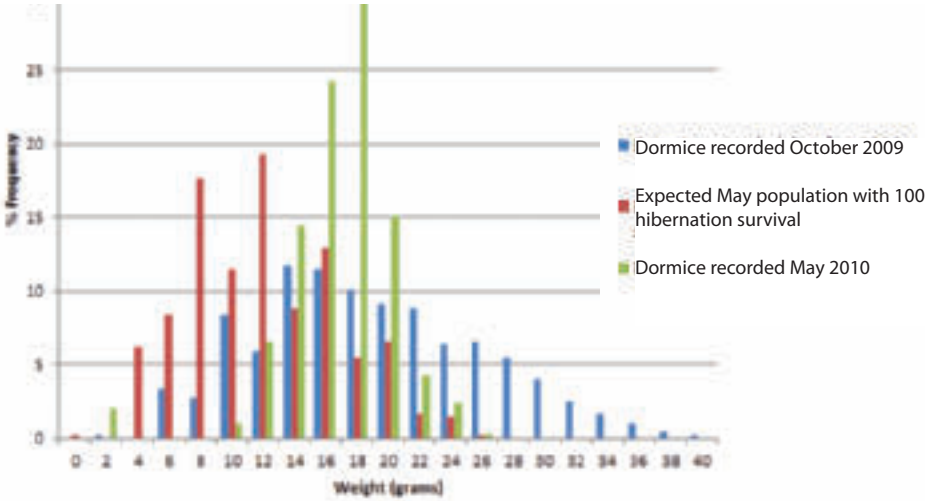


Fig. 2 Percentage frequency distribution of recorded and expected dormouse weights in October 2009 (n=1 115) and May 2010 (n=305). As dormice are thought to lose about 33% of their bodyweight during hibernation, this was subtracted from the weights recorded in October to give an expected weight distribution in May. This condenses some of the weight classes and shifts the distribution.

eights and hibernation

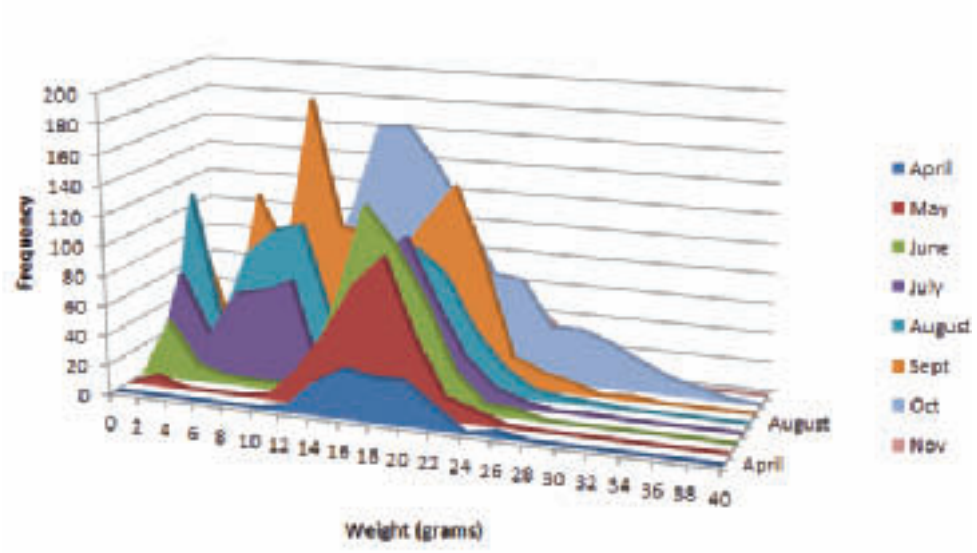


Fig. 3 Dormouse weight distribution by month, adjusted by number of sites where dormice were recorded.

idea that the minimum weight that animals need to obtain in autumn to survive hibernation is 15g, but this should be considered an absolute minimum and perhaps we should consider that a more realistic weight that pre-hibernating dormice need to reach to ensure surviving hibernation would be at least 18g.

Litters of young

The weight distribution of all dormice across the NDMP sites in 2010 shows an interesting if expected pattern (Fig. 3). Only five sites were checked in March and all recorded dormice. Two of these were torpid and not sexed but the other three were all male. The average weight of the males declined between March and April either due to lack of food or effort expended by breeding. 27 sites recorded a total of 37 dormice in April with the minimum weight at 12g and the maximum weight at 26g between the weight classes.

By the end of April the first litter was recorded at Roundsea in Cumbria and by mid-May more young litters were found at one of the reintroduction sites, Chambers Farm Wood in Lincolnshire. Further litters were recorded at Bunch Lane in Surrey on 25th May and at Harpers and Lords Grove on 30th May where the weight of the young were estimated at 1g and hence may only just have been born.

By June, which was a warm and sunny month in 2010, breeding was well underway with two distinct peaks in the weight distribution – young of between 2g to 6g and adults 12g to 26g. In July the two age classes had increased to three, litters still being born, animals at either the greys eyes shut or eyes open stage and adults. Over 100 sites were checked in one of the coolest Augusts for nearly 20 years and the weight distribution still shows three distinct peaks. The average male weight also decreased between July and August and this again could be due to lack of food or due to breeding effort. As the female weight increased in the same period it is more likely to be the latter suggesting that the frequency with which dormice produce two litters may be more prevalent than previously thought. In September and October the weight classes begin to merge and there is an increase in the higher weight classes as dormice begin to gain weight to prepare for hibernation. This supports Rimvydas Juškaitis' theory that it was impossible to age dormice in the autumn months by weight alone.

Ian White
Dormouse Officer
PTES

It is important for the NDMP that monitors do not just record the presence of dormice. Sometimes it is difficult to record young as it would cause too much disturbance to the nest but their age can be determined as either pinks or greys eyes closed. As they get older, but before they are weaned, they are at the eyes open stage but the coats could be either grey or brown. These youngsters will lose heat quickly so it is important to weigh and sex (if possible) them quickly. The hardest group to age are the juveniles and adults. The juveniles are those that have not been through a hibernation and are likely to have more grey in their coat and have a less furry tail. As the adults age, their coat becomes more sandy brown in colour and the tail seems to become bushier. It is important to try to ensure that all the biometric data asked for in the NDMP is recorded accurately in the field.

NDMP 2010 - an overview

Thanks to all of you, the National Dormouse Monitoring Programme continues to grow. There are now 253 sites in the NDMP, more than twice as many sites as were monitored in 2000. And, incredibly, we are now monitoring between us almost 19 000 dormouse nest boxes each year. The table (right) shows how many sites are being monitored in each county. Kent and Devon are very well represented, but there is a good spread of sites now across the dormouse range. If you would like to monitor a new site or know of someone who does please get in contact as there are plenty of known dormouse populations that are not yet within the NDMP. Please send an email to susan.sharafi@ptes.org.

Number of monitoring sites per county in 2010

Kent	51	Monmouthshire	6	Powys	2
Devon	24	Dorset	5	Cardiff	2
Surrey	19	Greater London	4	Bedfordshire	2
Somerset	18	Wiltshire	3	Shropshire	2
East Sussex	16	North Yorkshire	3	Gwynedd	1
Hampshire	10	Denbighshire	3	Lincolnshire	1
West Sussex	10	Worcestershire	3	Derbyshire	1
Suffolk	10	Cambridgeshire	2	Cheshire	1
Herefordshire	9	Isle of Wight	2	Caerphilly	1
Gloucestershire	9	Buckinghamshire	2	Nottinghamshire	1
Cornwall	8	Carmarthenshire	2	Flintshire	1
Essex	7	Warwickshire	2	Berkshire	1
Staffordshire	6	Newport	2	Cumbria	1

2010 Records

- Sites monitored: 253
- Visits made: 1 432
- Dormice recorded: 6 156
- Sites with no dormice recorded during box checks: 40
- Nest boxes monitored: 18 673
- Boxes looked in 96 892 times over the year
- Males recorded: 2 103, females recorded: 2 002 and 2 051 sex unidentified
- Young recorded: 2 278
- Most number of dormice found on one visit: 107 in September at Bontuchel, Denbighshire in 232 nest boxes
- Heaviest dormouse found: 38g male in October at Bontuchel, Denbighshire
- Most number of dormice in one box: 10 in October at Vernditch, Hampshire, 1 adult and 9 juveniles
- Dead dormice recorded: 83
- Most number of boxes checked in one day: 383 at Heslett and Peter Wood, North Yorkshire
- Dormice found in torpor: 708 (4 in March, 40 in April, 148 in May, 230 in June, 52 in July, 19 in August, 9 in September, 166 in October & 40 in November)

Elaine Hurrell remembered

Lilian Elaine Hurrell was born eighty three years ago in the family home at Down Park, Yelverton. She went to Gunnerside School and distinguished herself on one occasion by arriving with a particularly special flower. It was the large delicate bloom of a lotus, the exotic tropical water lily, which had opened in the greenhouse pool at Down Park for the very first time.

After finishing school Elaine went to Froebel training college in Hertfordshire in a huge country mansion called Offley Place. The principal, Dorothy Venour, was especially interested in natural history and used to take her students out for walks to identify flowers, insects, birds or just to watch the sunset. It was discovered that a considerable number of swifts were nesting in the roof at Offley Place and Elaine was one of a few of the students who acquired special permission to scramble about in the roof space to record details of their numbers and breeding success. The celebrated Dr David Lack was also intensively studying the large colony of swifts in the tower of Oxford University Museum of Natural History. Miss Venour and two students were invited to visit the colony. Elaine used to describe how alarming it was to discover that the only access was by way of a very high, rather unstable and absolutely vertical metal ladder and then through a trap door. Both the Oxford and Offley swift colonies have now been monitored for over sixty years.

Later on, Elaine returned to her family home, Moorgate, when her parents needed more care. There was invariably a different project underway involving subjects as diverse as grey seals, dippers, pine martens, ravens and otters. Moorgate was surely the only place with a swimming pool that had an Atlantic grey seal living in it! The pool was originally built in 1953 to celebrate Queen Elizabeth II's coronation. It was to become used far more by aquatic mammals than by humans. Atlanta occupied it for 13 years.

Elaine's father wrote various natural history books and Elaine followed by writing some of her own. Then one autumn an event occurred that was to determine Elaine's prime natural history interest for the rest of her life. A female dormouse with a late brood of young was rescued in the 1950s and it was necessary to take them into care as the young were thought too small to survive the winter. Her father noticed that these captives opened hazel nuts in a distinctive way. She published this observation in her *Sunday Times* book *Dormice* in 1962 as "a distinction that could be useful in the field". To their delight they found similarly opened hazel nuts in the Moorgate woodland and also in nearby Lady's Wood, which was subsequently given to the Devon Wildlife Trust as their first nature reserve.

This observation was an important breakthrough. Dormice are shy and nocturnal so the chances of observing them in the wild are very limited. But the opened nuts provided crucial clues to the mammal's presence. Elaine along with Gill McIntosh, a colleague from Oxford, completed the first national survey of dormouse distribution in the UK through The Mammal Society. Their published findings in 1984 showed that dormice are largely found south of a line from Liverpool to the Wash. Elaine's work paved the way for the next three national nut hunts.


LESLEY AUSTIN

In 1992 Elaine began work in Andrew's Wood near Loddiswell, auspiciously site no. 1 within the NDMP and which is still being monitored. Site no. 256 was set up at Moorgate in 2001 and named Hurrell as a tribute to Elaine and her father's contribution to dormouse conservation. Without their innovation and passion our efforts to conserve dormice would have been so much harder. Elaine's contribution to the natural world was vast and inspiring. Luckily for us she has left a lasting legacy.

Tom Maddock

I first met Elaine in 1986 at her enchanting house, Moorgate, on the edge of Dartmoor. She was wonderfully encouraging and enthusiastic about studying dormice and indeed the whole natural world. She took us to the spinney in her garden where she found the fallen hazel nuts and identified the distinctive signs of opening by dormice. That discovery revolutionised our understanding of dormouse distribution and led to The Mammal Society dormouse survey and many more since. In turn, that led to the legal protection of dormice and their prioritisation as a species of conservation concern. Her contribution to dormouse conservation was fundamental and the work on the species that followed could not have been done without it.

We were working at several dormouse sites in Devon, conveniently close to Moorgate so we'd call by and update her. Much more enthralling though were Elaine's stories of Atlanta the seal and the pine martens her father kept at Moorgate. And she had lots of insightful ideas about dormouse ecology which I hope we put to good use. A kinder and more generous person you could not hope to meet.

Paul Bright, RHUL

Results of the third *Great Nut Hunt*

The first *Great Nut Hunt* was launched in 1993. It turned out to be the largest voluntary wildlife survey undertaken in Europe at the time. Nearly 6 500 people took part, identifying 334 new sites, confirming the presence of dormice in 29 counties across England and Wales. In 2001 PTES launched the second *Great Nut Hunt*, in order to find further new sites and also to revisit those found in 1993 to check whether dormice were still there. 1 296 people checked 476 sites and found 132 sites with positive signs of hazel dormice. 24 of those sites were ones found in the first *Great Nut Hunt* but, really encouragingly, a further 108 new sites were also found. This brought the total of known dormouse sites throughout the UK to just over 800; a fraction of the number of sites that the dormouse would have occupied a century ago. The second *Great Nut Hunt* confirmed the pattern of dormouse distribution that was highlighted in the original survey.

Many of these people also filled in habitat survey forms, providing information on the type of woodlands and management practices which seemed to be favoured by dormice in order to provide advice to other landowners so that they could replicate this land management and increase the amount of suitable habitat for the species.

Species responsible for gnawing the nuts	Number of nuts opened 1993	% of total nuts sent in 1993	Number of nuts opened 2001	% of total nuts sent in 2001	Number of nuts opened 2009/10	% of total nuts sent in 2009/10
Dormouse	1352	10	698	2	373	13
Wood mouse	1 190	9	2 682	7	450	15
Bank vole	1 091	8	3 218	8	255	9
Squirrel	8 323	63	31 092	78	1 792	61
Unidentified (not dormouse)		9	1 980	5	65	2
Total	13 171		39 670		2 935	

Results

The third *Great Nut Hunt* was carried out over the winters of 2009/10 and 2010/11. During the survey over 480 woodland or hedgerow nut surveys were carried out, in conjunction with a systematic survey of woodlands on the Isle of Wight where a further 186 sites were confirmed positive for dormice. Any participant that took part filled in a survey form and sent it, with up to ten chewed hazel nuts, to PTES for verification. Dr Pat Morris checked all of the nuts that came in. Of the 484 surveys carried out by the general public, 90 found evidence of dormice. Most of those sites are in the southwest but new dormouse sites were confirmed in Worcestershire, Shropshire and Wales. Interestingly, since the 1993 survey the participants have become more adept at accurately identifying which nuts were chewed by dormice (see table above). Substantially fewer nuts were sent in to be checked in the last survey. However, they correctly identified 20% of nuts, compared with 10% in 1993 and only 2% in

2001, which shows improved public awareness.
Only a quarter of the number of sites that were surveyed in 1993 were checked in 2001 (see table right). However, encouragingly slightly more were surveyed in the third nut hunt which shows that people have maintained their enthusiasm.
Interestingly the surveyors in 2001 sent in more nuts per person and substantially more nuts per site.

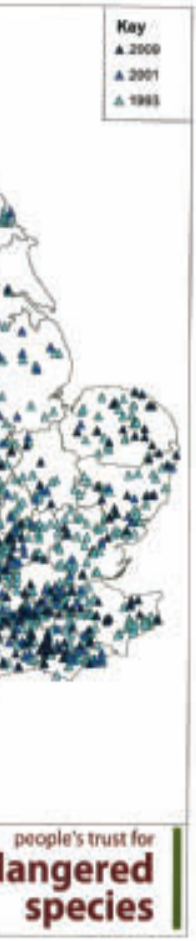
Of the sites that had been surveyed and found to have dormice present during the first two nut hunts, only 58 sites were resurveyed in 2009/10/11. Disappointingly only 21 of those sites showed evidence of dormice still being there, the other 37 yielded no positive results. However 2009 in particular was a poor fruiting year and consequently it may be that there were no recent signs to find even though dormice are persisting at the sites. Further work is needed to investigate whether those populations do still exist.

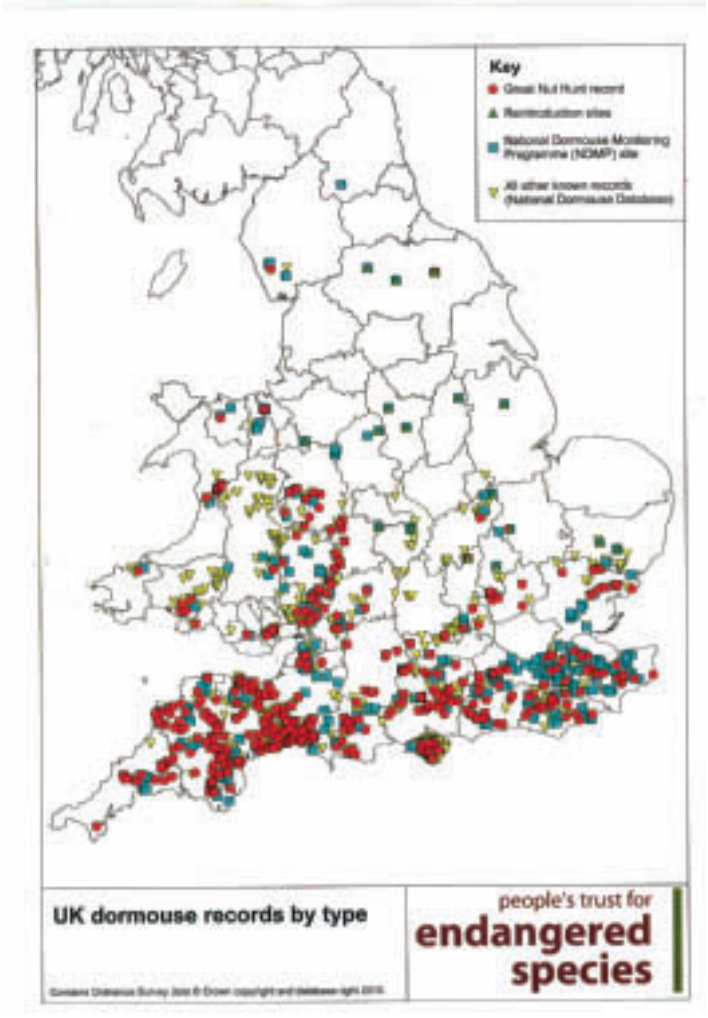
It is hard to tell from the results whether dormouse distribution has declined since the first *Great Nut Hunt* in 1993 or whether some of the negative results from previously known dormouse sites are due to other factors. The percentage of sites that were checked that turned out to have dormice present has stayed the same for all three surveys. And even though this was the third time the public were called upon to help, the interest and enthusiasm they showed has not declined over the years.

The weather was also a factor throughout the third survey where heavy snowfalls prevented many people from going out and finding nuts. But despite that, hundreds of people once again took part and helped us collect records to maintain an up to date map of dormice across the UK (right). This in turn ensures that we know where to focus our conservation efforts to try and protect this species for the future.

Nida Al Fulaij
Development Manager
PTES

	1993	2001	2009/10
Participants	6 500	1 296	1,098
Gnawed nuts found	172 644	41 024	16 915
Gnawed nuts sent for verification	13 171	39 670	2 935
Nuts thought to be gnawed by dormice sent for verification	13 171	39 670	1 911
Sites checked	1 725	476	484
% of sites checked that were positive	19%	28%	19%
Dormouse-chewed nuts	1 352	698	373
Sites positive for dormice	334	132	90
New sites positive for dormice	334	108	69
% of accurately identified nuts	10%	2%	20%
Number of nuts sent in per participant	2	31	3
Number of nuts sent in per site	8	83	6





Problems with plastic nest boxes

Gloucestershire Wildlife Trust's Lower Woods Nature Reserve in South Gloucestershire is over 700 acres in size and is probably the largest remnant of ancient woodland in the southwest. It is a traditional coppice with standards woodland and the Trust endeavours to maintain the coppice cycle over about 10% of this area. The dormouse surveys have been managed by Gef and Genny Lucena for the past seven years to monitor the effect of the coppice regime on dormouse populations and to compare this with the remaining high forest non-intervention areas. Initially five sets of ten boxes were installed in variously aged coppice coupes and in one high forest location. This was increased to seven sets of ten for the 2009 season.

It was decided to further increase the number of boxes to 100 for 2010 and 30 boxes made from recycled plastic were purchased. These appeared to have been well designed with good drainage and it was hoped would last much longer than wooden boxes. However, it became clear in their first season that many boxes contained very wet nests in the spring checks (bird and wood mouse nests, not dormouse nests). For the 2011 season we purchased wooden boxes and installed these close to the 30 plastic boxes. None of the companion wooden boxes in the three coppice coupes had problems with drainage but the plastic ones did with 21 out of the 30 boxes containing wet bird and wood mouse nests. The plastic boxes that had no tenants were dry so our conclusion was that condensation from the occupants was the problem rather than rain ingress.

We plan to remove all the plastic boxes and only use wooden ones from now on. Our experience with wooden boxes is that the latest from Wildcare (Survey Dormouse Box www.wildcareshop.com/Products_Detail.php?ProductID=79) is the best design. However, we have one reservation, which is that the sliding lid mechanism becomes jammed as the box swells with damp and needs modification of the positioning of the nails over which the metal brackets slide.

You can see the results of our survey to date by going to www.hawkesburycommon.co.uk and selecting Management of Commons/Ecology.

Gef and Genny Lucena
Gloucestershire Wildlife Trust

ROBERT GILBERT

Prisoner-made dormouse boxes

As we all know, nest boxes are an ideal way to monitor dormouse numbers. Last year 18 673 nest boxes were used at 253 sites as part of the National Dormouse Monitoring Programme. Several groups and companies now make these boxes and others are constructed by enthusiastic volunteers. Here at PTES we run a nest box fund to help people set up and maintain their monitoring sites with enough boxes so that the data being collected can be analysed within the NDMP. To meet an ever-increasing demand we decided to ask for help from an unlikely source.

In 2011, 1 092 dormouse boxes made by inmates at Doncaster Prison were distributed by PTES to 21 sites throughout England and Wales. Local plantation timber is supplied as cut planks to the prison where inmates manufacture dormouse boxes as part of a practical woodworking qualification.

Because the labour involved in making the boxes is kindly donated for free, it has saved the charity thousands of pounds which can be used towards conserving dormouse habitats and reintroducing new populations to England in the future.

Map of dormouse monitoring sites across the UK that have been supplied with boxes made by Doncaster Prison.

The nest boxes have been used to set up new dormouse monitoring sites in Somerset, Berkshire and Wales and they have been used to replace old boxes at sites where dormice have been released in Derbyshire, North Yorkshire, Buckinghamshire and Bedfordshire.The map (left) shows the wide area of sites that have been supplied with boxes made by Doncaster Prison.

Timber supply

Most of the timber used for the dormouse boxes is locally sourced larch. It has an excellent durability and isn't treated with a preservative. The woodlands that supply the timber are professionally managed and the trees are felled legally under an approved felling licence granted by the Forestry Commission.

When appropriate, the timber can be converted onsite using a Woodmizer mobile sawmill so reducing transport costs and both environmental impact and carbon footprint. When using the Woodmizer for the milling process, it involves taking the sawmill to the woodland where the trees are, and having an appropriate tractor and winch to move the trees to the mill for converting. The logs are then lifted by hydraulic arms onto the sawbench and an operator works the mill.

Another advantage of the Woodmizer sawbench is that minimal waste sawdust is created due to a blade thickness of 1.1mm with each cut. The amount of planks produced depends on the size of the tree and any waste wood can be used for firewood and sawdust used for pet bedding.

Other suppliers of top quality dormouse boxes include the Kent Mammal Group who make their own boxes from sustainably sourced British birch wood. For more information visit www.kentmammalgroup.org.uk or www.ptes.org/dormouse.

Surveying hazel dormice with tubes and boxes

Nest boxes were first used for studying dormice in the late 1980s and since then they have become a standard method for long-term studies, as well as being recommended as a means of habitat enhancement by increasing potential nesting sites. Nest tubes were described several years later and were originally used to catch and control the edible dormouse. A smaller version was later designed for hazel dormice and is now widely used in surveys to detect the presence of dormice.

Boxes are more expensive but more durable, so they are better suited to long-term studies and monitoring programmes such as the NDMP. Tubes are quicker and easier to deploy but are less robust, so are mainly used for short-term surveys, often in connection with development.

The results of the Southwest Dormouse Project show that the use of nest tubes by dormice varies throughout the year with peaks in May and September. There is also seasonal variation in nest box use which tends to be lower during July and August than in either May-June or September-October. Fiona Sanderson, who carried out her PhD on dormice at Royal Holloway, University of London, suggested that this variation indicated a preference for using natural nesting sites during periods when the use of boxes is low, but might also reflect differences in dormouse activity. Dormice forage more in the canopy in June and August and in the shrub layer during May and July but both tubes and boxes are normally placed low down. This makes them easy to reach by surveyors but further away from where dormice are active at those times. The Southwest Dormouse Project also recorded fewer dormice in deciduous woods than expected and it was thought that dormice in this habitat might be less likely to use tubes because natural nest sites are more easily found.

So, both box and tube use is influenced by season, nature of dormouse activity and by the presence or absence of suitable, natural sites as well as by dormouse abundance. However, to date, no direct comparison of the use of tubes and boxes in the same habitat has been published. During our four-year study of dormice living on and beside the A30 in Cornwall we used both, giving us the opportunity to make such a comparison.

Methods

Our study site stretched along 2km of the A30 in Cornwall, 5km north west of Bodmin. The road is dual carriageway with narrow strips of woodland and scrub, less than 20m wide, on the central reservation. The habitats consist of semi-natural woodland, plantation (broadleaved and coniferous) and scrub beside the road and on the central reservation. Some of this is continuous with dormouse habitat outside the highway boundary, but there are several isolated fragments of habitat which could not be reached by dormice without crossing the ground. This includes three separate sections on the central reservation of the A30.

Nine fragments of dormouse habitat were used for the study, two on the north side of the road, four on the south side and three on the central reservation. We put up 100 dormouse nest boxes, spaced at intervals of 30m along the length of the road. In the hope that it would increase the chances of finding dormice we also installed 200 tubes, interspersed with the boxes. Thus there was either a box or a tube every 10m. As boxes are easier to fix to vertical stems and tubes to horizontal branches, the sites used were not identical but the range of tree and shrub species selected for each was determined by what was available and they were broadly similar.

Boxes and tubes were installed in March 2007 and checked monthly between April and October until 2010. We marked the dormice with PIT tags enabling us to recognise individuals.

Results

Excluding dependent young,

ANNE & STEVE TOON

s: a comparison

a total of 110 dormouse 'captures' were recorded and 62 individual animals marked. Thirteen dormice were found in tubes and three of these were also caught in boxes. The other 10 were only ever found in the tubes. No animal was caught more than once in a tube, although 19 were caught more than once in a nest box. A high proportion (69%) of the dormice in tubes were found in just two months: four in April 2009 and five in May 2010. We found that nests in boxes were frequently used over a number of months (maximum five) sometimes by a number of different dormice. Tubes were only occupied in the month a nest was first recorded but on two occasions, when some tubes were checked on consecutive days, a different animal was present on the second day.

A further 17 dormouse nests were recorded in tubes with no dormice present. Combining dates when tubes were occupied with dates when these nests were first detected provides a sample of 30 dates for tube occupation to compare with records of dormice found in boxes. We found that the seasonal pattern of use does differ between boxes and tubes. Tubes were mainly used in April and May with a second peak in September, but were not used in June and July. Boxes were occupied throughout the year but with a distinct peak in May. These differences are statistically significant. No juvenile or breeding dormice were found in tubes. Overall, taking into account the higher number of tubes, we were nearly 20 times more likely to find a dormouse in a box than in a tube.

Nevertheless 10 dormice (16%) were only found in tubes and might not have been recorded if tubes were not used.

Discussion

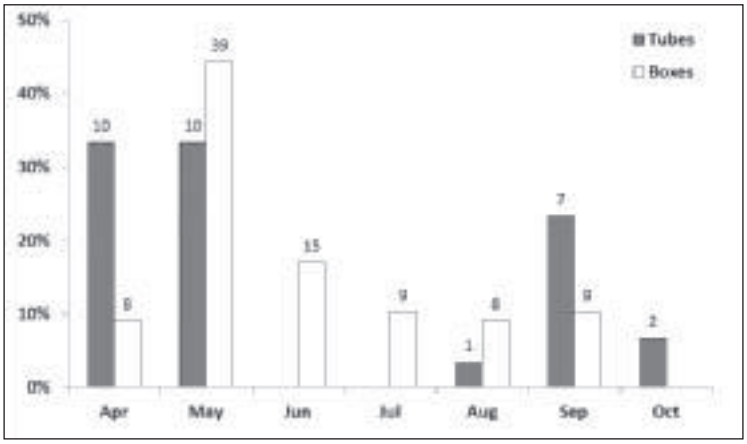
Although we did not provide a direct choice experiment by placing tubes and boxes side by side, we conclude that where both tubes and boxes are available, dormice are more likely to use the boxes for most of the year. The peak in tube use in the spring may reflect the fact that dormice have just emerged from hibernation. At this time they do not require a nest site suitable for breeding, and may prefer to use a smaller cavity which can more quickly be filled with nesting material. Since three dormice were caught in both boxes and tubes, it is not necessarily the case that different individuals show a preference for one or the other.

In our study, dormice could choose between boxes, tubes and natural nest sites. Where the choice is between tubes and natural nest sites, tube use might be greater, particularly in habitats where natural cavities are scarce.

Our results show that dormouse nest boxes and tubes do not sample populations in the same way, and since 10 of the 62 dormice we marked were never recorded in boxes at all, we have shown that boxes do not detect all the animals present in an area.

Given the much higher proportion of boxes that were used, the question arises as to whether it is sensible to use tubes as a standard method for detecting the presence of dormice. In practice, tubes are much lighter and cheaper than boxes and quicker to install and check. These are significant advantages for short-term studies where intensive sampling over large areas may be necessary. We also developed an established and accepted protocol for tube surveys which allows us to calculate survey effort and permits the setting of a criterion for 'adequate survey', but not for boxes. We think that tubes should continue to be the standard method for the time being but there would be no harm in putting up a few nest boxes as well to increase the chances of detecting dormice. In very small areas where there is not sufficient space to put up the standard number of 50 tubes, installing next boxes instead might be a useful alternative strategy.

PAUL CHANIN



TOP: Near the eastern end of the study area with the central reservation on the left. BOTTOM: Seasonal variation in box and tube use. The figure above each column is the number of 'captures' that month.

Acknowledgements: the work was supported by the Highways Agency, Enterprise Mouchel and English Nature. We are grateful to Ursula Digby and Matt Pickard for their contributions.

Paul Chanin & Leonardo Gubert

This is based on a paper published by The Mammal Society in its online journal *Mammal Notes*. This is free to view at the Society's website (www.mammal.org.uk) in the 'Science & Surveys' section.

News

A CAUTIONARY TALE

While clearing out the remains of birds' nests from dormouse boxes the day after torrential rain, I noticed one empty dormouse box dangling from a hazel bush with the lid off. Examining the wet, interior of the box I removed what I thought was a large slug onto the ground; it felt cold and slimy. On a closer look it seemed like a partially decomposing dormouse so I picked it up for a more detailed inspection. A slight movement and the sound of snoring emanating from this soggy ball convinced me I was witnessing the death throes of a very sick dormouse; its body was writhing and it seemed to have lost the use of its back legs. I put it in a cloth bag and left it in the warm interior of my car and, over the space of an hour, a miraculous change came over it. The black wet fur changed to the familiar sandy colour and its movements became more coordinated; it became more active and began purposefully scuttling around the bag. A mossy nest was hastily prepared in an adjacent dry box and the dormouse was re-housed. I am left wondering if this animal would have survived if I had not intervened but perhaps they are a lot more resilient than we give them credit for.

Bob Francis

BOB FRANCIS

20 the dormouse monitor

MOREwoods FUNDING SCHEME

MOREwoods for Dormice builds on the successful *Hedgerows for Dormice* project that PTES ran from 2007 to 2010. The Woodland Trust and PTES are working together on a pilot project in the counties of Surrey, West Sussex, East Sussex and Hampshire to help create new woods for dormice. The Woodland Trust will be offering grants of up to 80% of the costs of new woodland creation schemes that link or extend existing dormice habitat in these counties. The money could help to plant a woodland or hedgerow to link existing isolated woods, create a woodland within a hedgerow complex or plant a new hedge to link existing hedgerows. The typical size of scheme MOREwoods for Dormice could support would typically be between 0.5 and 3 hectares. Although currently this is a pilot project for 2012 within three southern counties, if it proves successful the project may be extended in future years and to a wider geographical area. For more details and to apply for a grant please call 0844 245 7018 or email woodlandcreation@woodlandtrust.org.uk.

RASPBERRY-EATING DORMOUSE

We were walking to the Post Office and I was looking at some raspberries in the bank. I thought I saw a mushroom, so I watched it for a little bit. I thought that mushrooms shouldn't grow on raspberries, so I watched it for a little while, then it moved and it was a mouse. It was eating raspberries and hanging upside down.

We were all very excited to see the dormouse so close and were able to watch it for at least 15 minutes while it fed. We were within three metres of it all the time. Eventually it hid behind the raspberry plant (not the wild variety, but one that must have escaped from a nearby garden) and we headed home. When we got home Gramps had a look at the pictures and said he thought it was a dormouse. Thank you for letting us know about the dormouse. I would like to know more about them.

Elliot (8) & Clair (Elliot's Mum)

ELLIOT & CLAIR

ELLIOT & CLAIR