spring 2010

the dormouse monitor

the newsletter of the national dormouse monitoring programme

people's trust for **endangered species**

INSIDE

Welcome

Earlier in the year we sent out the 2010 recording forms and guidelines, if you didn't receive these please contact susan@ptes.org or call 020 7498 4533.

The 2009 data is currently being entered onto the NDMP database, if you haven't as yet sent in your 2009 records please do so now. We will bring you a report on the data in the next issue of *The Dormouse Monitor.* A preliminary look at the data shows that 2009 proved to be a good dormouse year with many monitoring sites having higher than usual dormouse numbers. And there was encouraging news from Adrian Hutchings at Crab Wood in Hampshire, with dormice being found in the boxes again after a five to six year absence. Many thanks to Adrian and his team for persevering with the nest box checks.

We are hoping that the long cold winter will have benefitted the dormice and that 2010 will bring even higher numbers, so we look forward to receiving your box check forms later this year - please don't forget to use our online system if you haven't tried it yet - just visit www.ptes.org/dormousemonitoring.

Best regards

Nida Al Fulaij
& Susan Sharafi

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The scientific work is based at Royal Holloway, University of London.

The Dormouse Monitor is compiled by Nida Al Fulaij & Susan Sharafi.

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Forest dormice in the Russian foothills

The forest dormouse's range is the largest in the dormouse family. The species lives in deciduous and mixed forests with shrubby cover. It is found across central and southern Europe, Asia Minor and the Iranian Plateau in central Asia over to the Altai Mountains. In Russia the species is found right up to the Ural Mountains and the Caucasus.

Historical references to the forest dormouse can be found in Aristotle - where the scientist characterised the species' hibernation process – and in ancient Roman naturalist's texts too.

Little is known about forest dormice in their native range in Daghestan, Russia. Work in neighbouring Georgia and Azerbaijan has shown that their numbers are low and unstable in these countries, with populations being fragmented. Dr Magomedov asked PTES for a grant to help him get more information about the status of the species in Daghestan, particularly in light of the fact that their preferred habitat – scrub cover – has been reduced by human activities.

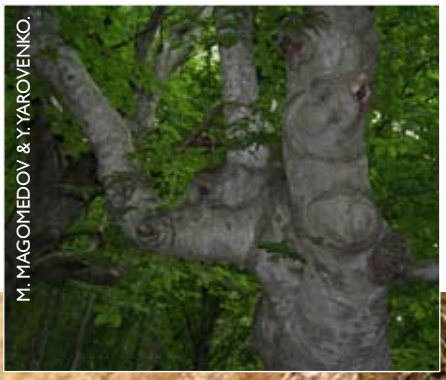

M. MAGOMEDOV & Y.YAROVENKO.

Dr Magomedov and his team hoped to study the population structure and dynamics of the forest dormice in the area and find out more about the threats they faced and how to look after them in future. They also wanted to get local people actively involved in monitoring the animals and helping to conserve them too. The zone they were working in was the foothills of Daghestan, about 20% of the whole area covering over 10,000km^2. It's a temperate region with temperatures dropping to about 1°C in winter and reaching on average 21°C in the summer.

Over 100 trap nights, 52 forest dormice were caught. The earliest one was picked up in mid April, the latest on 20th September. The highest numbers of animals were caught in areas furthest from towns and human activity and with the greatest amount of shrubby cover.

More work is needed to get further information about the species in the area. However, Dr Magomedov and his team concluded that many human activities are impacting on the area, and therefore the species, in particular forestry and fires. There is also a high level of construction in the area consisting mostly of private dwellings. Unfortunately much of the logging and clearance that is being carried out, is being done so illegally. So now the team plan to focus on mitigating these factors in co-operation with the Ministry of Environment and Protection of Daghestan (MEPD). Their priorities will be to recommend that local administrations prevent further habitat loss within the vicinity of settlements, that they also carry out a proactive planting programme and that they ensure that environmental education and training is widely available, especially for young people.

We will keep you updated with the project in the future.


M. MAGOMEDOV & Y.YAROVENKO.


ELIANA SEVIANU

The forest dormice (below) were found nesting in various trees and shrubs, including hollows in hornbeams (left) and shrubby cover (above.)

Tributes to Michael Woods

Sadly Michael Woods, a dedicated dormouse conservationist, died earlier this year. Two fellow dormouse enthusiasts pay tribute to him and his work. He will be greatly missed.

Ecologist, friend and colleague. I first met Michael more than thirty years ago, doing otter surveys in County Durham, and encountered him regularly at Mammal Society meetings over subsequent years where he became a good friend and colleague. It was several years later that we started to collaborate, trying to unravel some of the mysteries of this fascinating little animal.

As ecological consultants, we were particularly concerned about the relationships between dormice and developers. It was our job to advise when, where and how dormouse surveys should be carried out and we began to realise that it was more often than we had thought. A spur to the Southwest Dormouse Project, which we planned and oversaw together, was finding dormice on the beach! Well, almost. Michael found that they were living in low growing scrub on the shingle ridge at Slapton Ley (see page 8). Separated from more conventional woodland habitat by several hectares of water and from the sea by a road and 50m of shingle, the dormice found themselves right under the path of a proposed road diversion.

The project revealed many of Michael's best characteristics. Not a trained scientist himself he had a very clear grasp of what science is for and how systematic study can reveal important information. He managed to obtain grants to buy 1,600 of the recently devised dormouse nest tubes, he inspired a team of volunteers to take part, helped devise the survey protocol, made sure that the whole show kept on the road and played an important part in writing up the results.

In recent years we have regularly exchanged news, views, information and ideas about dormice as well as other mammals. Subscribers to the NDMP discussion forum will know that he was always willing to share information and he made frequent contributions - pertinent, informative and based on a wealth of practical experience. He also ran a highly successful series of courses on dormice and would help out anyone who needed advice or guidance.

Michael seemed to excel in so many fields: he was a first rate naturalist, a teacher, writer, photographer and even a good chairman and manager. He played a major role in the work of the Mammal Society, where he was on council for over twenty years, ending his term of office as chairman less than a year ago, several months after he was diagnosed with Motor Neurone Disease. For many years he was chair of the youth group - whose meetings and expeditions were renowned for their fun and laughter as well as their quality. Taking over as chair of the society at a difficult time in its history, he successfully steered it through the appointment of its first Executive Directors. He was also instrumental

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in encouraging the development of local groups to foster the involvement of the substantial number of non-professional members who wanted to make a contribution to the understanding of mammals and their conservation.

In the dormouse world, he made a considerable number of friends amongst those involved in conservation in the UK and internationally as well, culminating in him running the 7th International Dormouse Conference in the Mendips, which many readers will remember with affection. The organiser of the 8th conference, Sven Buchner, recently wrote to me saying "We lose, with Michael, a wonderful friend. He had tremendous personal magnetism and sense of humour. Michael's interests were broad. I appreciated his huge knowledge, for instance on keeping hazel dormice, the ecology of many species and practical conservation. Whenever I had a special question on raising dormice or I had to puzzle out a difficult ecological problem Michael could help."

I will miss him too. I last saw him in early December 2009 a few weeks before he died. Confined to a wheelchair, and needing a great deal of help and care from his wife Frankie, his sense of humour was undiminished and his smile and mischievous eyes still revealed the Michael that we all knew so well.

Paul Chanin

Michael first came into my consciousness as leader of the Mammal Society Youth group. This involved producing special newsletters and an exciting and adventurous summer camp. Managing the group was always going to be a struggle as too few 'youths' could be assembled in one place at the same time from a nationally distributed organisation. Nevertheless, he managed it well and there are quite a few ex-'youths' who owe a lot to this early support and stimulus.

Michael was a Mammal Society council member for over 20 years and stood for election as chairman when my term ended. This was probably the first contested election we ever had as opinions were deeply and equally divided over the principle of appointing an 'amateur' (i.e. non-professional) as chairman instead of an academic or full-time professional mammalogist. Discussions dragged on and Mike put up with it stoically. In the end Mike withdrew his candidature to avoid a divisive election, a generous act that was immediately scorned by his opponent, who went on to break the Society's invaluable link with the PTES. Michael finally succeeded him six years later, but soon was hampered by illness.

He very much wanted to host the International Dormouse Conference during his tenure as Mammal Society Chairman. This he did in 2008, in spite of his increasing disability, some six years after first proposing the idea. The meeting was attended by representatives from more than a dozen countries, ranging from Britain to South Africa and Japan. It was an informal and enjoyable success that relied heavily on Michael and his resources. Such meetings have done a lot to promote interest in dormice across Europe and beyond. I was pleased to see Michael at meetings in London last year, despite his increasing frailty. Clearly he was not giving up and was still watching badgers on CCTV in his garden just before he died in January.

His father, Doug Woods, had been one of the key pioneers of dormouse conservation and research, based in Somerset. Following Doug's lead, Michael also contributed strongly to the promotion of dormouse conservation by operating one of the captive breeding centres that supplied the animals for reintroductions across the country.

He took up the idea of using inexpensive 'nest tubes' as a tool for conducting dormouse surveys that avoided the high cost of wooden nest boxes. He carried out the experiments to determine how many tubes were needed, and for how long, in order to obtain statistically reliable results - a vital piece of practical information for use in the field. This is significant because Michael was a freelance consultant running a business, not supported by research grants. But he was anxious to ensure that his professional advice was soundly based on real facts and good research.

He also arranged dormouse seminars and training days especially for ecological consultants. In conjunction with Warren Cresswell, Mike built an experimental dormouse bridge in his garden, later scaled up to cross a real road in Cheddar. This was part of our ongoing campaign to highlight the issue of habitat fragmentation and the need for linkages to retain habitat integrity at the landscape level. (I hope to be reporting on this issue in Japan later this year, including reference to Michael's experiments with dormouse bridges). From time to time he also wrote useful articles in the press, bringing mammals to the attention of a wider public.

Despite not being a professional mammalogist, Michael contributed a great deal and, like his father, managed to move things on in an unobtrusive but very effective manner.

Pat Morris

Michael worked hard to ensure that mitigation was carried out where possible, and was instrumental in trialling dormouse bridges.

Request for wild dormouse bodies

Whilst the discovery of a dead dormouse, or even an incident that results in a dormouse's death, is always distressing, some good can come out of these animals' deaths. Much can be learnt from scientific analysis of a dead dormouse, which can inform conservation work, so helping to safeguard the species' existence. Two such studies are the ongoing post-mortems carried out by Paignton Zoo and the population genetics project being conducted by the University of Exeter, Cornwall Campus, a three-year project funded by the PTES.

Paignton Zoo have been collecting dormouse bodies and storing them for five years now. Therefore, along with their valuable post-mortem research and the genetics work carried out by Liverpool University, suitable samples will also be used for the newer genetics project. Additionally, in the future should other research projects require such samples, they will have access to a large collection of tissues, making every dormouse even more valuable to present and future studies.

The population genetics study is comparing the genetic diversity of dormice throughout south west England, in order to investigate the dispersal behaviour of dormice and how this corresponds to habitat connectivity. This is particularly important as habitat fragmentation is a major threat to dormice. Most of the samples for genetic analysis are hair samples taken from living dormice during normal NDMP monitoring sessions. However, a small tissue sample from a dead dormice can also be used for genetic analysis, almost whatever decomposed condition it may be in. The more samples from different dormice that can be obtained, the more accurate the inferences, so to the researchers every sample is of great value. Post-mortem examinations can give information on:

- disease threats to dormice
- detection of emerging diseases
- morphometric data and how it varies with age, sex and time of year
- the types of parasites that are found and the normal parasite burden
- the presence of zoonotic infections and what precautions dormouse workers should take to avoid being infected.

Stored samples may in the future be used for retrospective studies on the presence of viruses. Teeth and eyes can be used for aging. Not all this information can be obtained from each dormouse; it is dependent on the freshness of the body and the amount of money we have at the time for the work. Some results may take a couple of months to come back from laboratories, so if you are waiting for feedback please be understanding if we don't get back to you straight away.

With two studies now interested in making the best out of a bad situation there is even more reason for anyone who finds a dead dormouse, under whatever circumstances, to collect and send off the body for scientific research. Post-mortems are more sensitive to time delays, and so we ask that the body is sent to Paignton, and then a separate sample will be taken and sent off for the genetic analysis. However decomposed the body, we appeal that you do send it on, as even if it is not suitable for post-mortem there is a good chance it maybe useful for genetics and who knows what else in the future!

RACHEL GARTHWAITE

When submitting dead dormice please provide the following information if possible:

Name and contact details of the finder

National grid reference and/or address of the site where the dormouse was found

Habitat type the dormouse was found in e.g. hedgerow, deciduous woodland, garden or, in case of captive dormice, conditions under which it had been kept

Events surrounding the death, if known, e.g. brought in by a cat, found dead in a nest box with newly born young, extreme weather conditions, evidence of predators in vicinity

Any other information known about the dormouse that might be relevant

How to send your dormouse:

- *Wrap the dormouse in kitchen paper or cotton wool*
- *Put the wrapped dormouse in two securely sealed plastic bags*
- *Place the bagged dormouse in a cardboard roll to prevent crushing during postage*
- *Put an ice pack or ice in a sealed plastic bag around the dormouse and wrap absorbent tissue around it*
- *Put in an envelope marked 'PATHOLOGICAL SPECIMEN. HANDLE WITH CARE' and send to: 'Dormouse post mortems', Ghislaine Sayers, Paignton Zoo, Totnes Road, Paignton, Devon TQ4 7EU*
- *Send as 'next day guaranteed delivery' to arrive on a weekday*
- *Refrigerate (Do NOT freeze) your dormouse if there is a delay before posting. Freezing the dormouse will prevent us from carrying out histology but if you can't post it quickly it will still give us some information from DNA.*

Health and Safety:

Please remember that dormice can carry diseases that can be infectious to humans. Sensible hygiene precautions should always be taken when handling them:

- *Do not package dormice in areas used to prepare food*
- *Wear plastic gloves if available and wash hands thoroughly with disinfectant or soap after handling dead dormice*
- *Do not eat or drink while handling dead dormice*

Additionally, if there are any NDMP monitors in Cornwall, Devon, Somerset or Dorset who would be willing for Cheryl Mills from the University of Exeter to come along to some of the box checks to take hair samples from the living dormice, or if you would like more information then please do contact her on: cm271@exeter.ac.uk.

Loddiswell lodges for dormice

Isaac Newton said that his discoveries came about as he 'stood on the shoulders of giants'. This is true for so many discoveries even those made in the world of dormice. The setting for this experiment is a typical *Great Western Railway* branchline station - Loddiswell - on a route which was the victim of Dr Beeching's cuts. Significantly it, or perhaps the woods immediately around it, was included in the sites where H.G. Hurrel first recorded his ground-breaking studies of the hazel dormouse.

Following our purchase of the station it was not long before we started hearing from our neighbours about the dormice in the area but it was a while before we came across the first of them.

The first was found in a nest box for blue tits. If there is one rule with dormice it is that they do not read instruction books. This one had decided to over-winter in the box five feet up in a tree, not at the base. Also it slept on while the blue tits built their nest on top of it. On inspecting the box there was a dormouse in the bottom in a sphagnum nest with a blue tit nest on top of that with eggs already in it. Surprisingly everyone survived; the dormouse obviously woke up as it was not there later and the chicks hatched and fledged in due course.

The second dormouse suggested the subsequent experiment. We had a 'toad hole', a terracotta dome, with a doorway for toads to shelter in. Again, inspection revealed a dormouse hibernating in the toad hole. Interestingly to reach the toad hole the dormouse had had to cross the open trackbed with no shelter or cover.

Following on from the discovery of the dormice we qualified as licensed handlers and installed fifty nest boxes for them. At the same time we hit upon the idea of siting terracotta roof ridge-tiles at the base of each tree to provide possible sites for hibernation nests.

I have already mentioned that dormice do not read the instruction books and in this experiment the success we got was not what we were expecting. Monitoring has not been carried out as systematically as the summertime nest box inspections, however the following summary covers what has been discovered so far:

1) Yes dormice seem to have built winter nests of sphagnum moss in a couple of lodges. This ratio is on a par with the number of boxes used in the summer but the lodges used are not ones directly under boxes that had nests.

2) Several lodges have been used by shrews and wood mice for summer nests. Perhaps this takes pressure off the dormice's use of the boxes, in any case it does not clash with their winter use by the dormice.

3) Some lodges have been used by voles as the start of their burrows. Probably this increases the population to the general benefit of wildlife such as barn owls.

4) In some lodges we have found nuts opened by dormice. This has been in parts of the garden where dormice have not been recorded before.

5) Several lodges have been used by squirrels as nut stores. Contents have included hazel nuts, acorns and peanuts (from our birdfeeders). It would seem poetic that we have found a way to encourage squirrels to provide a store of food in a place convenient for our dormice.

Overall our site is very rich in natural sites for summer breeding nests and for over-wintering ones and the dormice use man-made boxes less than in poorer sites. I still feel however that the lodges provide good protection particularly in milder, wetter winters. Further research should pay dividends.

Kelvin Ellis
Loddiswell Station, Devon
loddiswell@hotmail.com

There was a programme on BBC1 *The One Show* on Thursday 17th December 2009 about hibernating dormice, worth watching on BBC iplayer. The dormouse item is about 21 minutes into the programme: www.bbc.co.uk/iplayer/episode/b00pgpjj/The_One_Show_17_12_2009

LEFT: The 'Toad Hole' that inspired the experiment.
BELOW: Close up of a 'Loddiswell Lodge.'
ABOVE: Lodge in situ under coppice stool.

ALL IMAGES KELVIN ELLIS

Seaside dormice at Slapton Ley NNR

MALCOLM BALDWIN

The 214 hectares of coastal landscape that make up the National Nature Reserve at Slapton Ley in Devon is renowned for its unique geomorphology, and for the diverse range of habitats and the correspondingly wide range of fauna and flora that it supports.

Our woodland sites, which include a block of ancient woodland, a semi-natural wood, and a managed area of coppiced hazel, have until recently provided the focus for our dormouse monitoring on the reserve. The presence of dormice in the various nest box sites has confirmed breeding in all three of these locations, confirming the traditional view of what comprises optimum habitat for dormice.

In 2001 the A379 road running along the crest of the shingle bar was severely damaged in a January storm. The only practical solution of reinstating and repairing the damaged section of road was to rebuild a section of it further inland. Since various parts of our site have designations to protect them - SSSI (Site of Special Scientific Interest) and NNR (National Nature Reserve) being the most important - an environmental impact assessment was carried out to help work out where to put the new section of road.

NICK BINNIE

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Part of the assessment involved putting up nest tubes to see if dormice were present. Imagine our surprise when the survey confirmed the presence of dormice in this mixed habitat of what is predominantly rank grassland and low scrub, even more so given the geography of the site.

The aerial photograph (left) demonstrates clearly how confined one of our monitoring zones is where regular breeding has recently been confirmed. The site is squeezed in between 70 hectares of open water and reed fringe to the west, a hostile maritime aspect immediately to the east, with the adjoining South Devon Coastal Footpath and the A379 main road thrown in for good measure – hardly classic dormouse habitat!

During our first year of monitoring we had a 26% occupancy rate in our boxes within this zone and, whilst there have been annual fluctuations, in 2009 we recorded 21 adult and 13 young dormice in the 25 boxes within this small area.

Dr Paul Chanin is a well known authority on mammals and knows Slapton well. Paul is not surprised by our findings, citing a study of his own in Cornwall where dormice are successfully breeding on a central reservation on the main A30 trunk road. Our recent records at Slapton provide yet another example of where dormice are successful in what is generally regarded as distinctly sub-optimal habitat, at the same time displaying no small level of tolerance to a high degree of disturbance.

Nick Binnie
Reserves Manager
Slapton Ley
Field Studies Council

How do edible dormice know when to breed?

For more than 50 years it has been known that edible dormice do not reproduce every year. Biologists speculated for many years which factors may underlie this phenomenon, and they often thought that climatic conditions or insufficient food resources may be the cause. In 1998 Claudia Bieber finally showed that reproductive failure coincided with a lack of mast seeding of certain trees, like beech or oak. Edible dormice are born very late in the active season and therefore they need an energy rich food resource which allows them to reach a body mass that is sufficient to survive their first winter within a very short time period of only eight weeks. In years without energy rich seeds the survival of the young would otherwise be very low.

The answer to the long asked question of *why* immediately raised another: *how do edible dormice know whether there will be a mast in the upcoming autumn*? Young dormice are born before ripe seeds are available, and the decision to reproduce or not has to be made in early summer, during a time when the future mast situation appears to be uncertain. In our study we wanted to test the hypothesis that edible dormice use the presence of reproductive structures of trees as the decisive cue. Even unripe beechnuts (i.e. buds) in July already have a high fat content of more than 15% and their presence or absence may affect reproductive decisions. To test this hypothesis we conducted a supplemental feeding experiment at our study site in the Vienna Forest (Austria). At this site we have been studying edible dormice since 2006 and conduct nest box surveys (184 nest boxes) every fortnight. In 2007, every week from May till mid July, we provided supplementary food (200g of sunflower seeds per nest box per week), which, similar to beech seeds, are rich in fat and energy content, in approximately 30% of our study area.

KARIN LEBL

Interestingly, supplementary feeding did not increase the body mass of females, and males in the supplementary feeding area were only ~5g heavier than those in the control area. Although body mass was nearly unaffected, supplementary feeding nevertheless increased reproduction. We found that in the supplementary feeding area more females gave birth (96%) compared to the control area (58%). Although the reproductive rate was higher in adult (two or more years old) females than in the lighter yearlings (one year old), the reproductive decision within each age class was independent of their body mass. It also influenced males, as more were reproductively active in the supplementary feeding area. Further, those males also maintained large, functional testes for about four weeks longer than those in the control area. Our results therefore suggest that edible dormice can use the occurrence of an energy rich food resource to predict the autumnal mast situation. Whilst increased reproduction is a common result in supplementary feeding experiments in mammals, the increased reproduction is typically a result of higher body mass (and larger energy reserves). Our study clearly showed that, in edible dormice, body mass *per se* is not the decisive factor. Therefore it seems that they do not actually need the additional energy provided by seeds to enable reproduction, they only need the 'information' that high energetic food is available (and there is more to come in the autumn).

Again, as one question is answered, a new on arises: *which physiological pathways enable edible dormice to process this information, and to initiate their reproduction?* Further studies will hopefully soon reveal how this process works.

Karin Lebl

Lebl K, Kürbisch K, Bieber C & Ruf T (in press): Energy or Information? The role of seed availability for reproductive decisions in edible dormice. *Journal of Comparative Physiology* B. DOI: 10.1007/s00360-009-0425-6.

The whole article is freely available at www.springerlink.com/openurl.asp?genre=article&id=doi:10.1007/s00360-009-0425-6

Real estate for dormice in Wiltshire

There are 120 dormouse boxes in Blackmoor Copse 'oak/ash over hazel' woodland nature reserve near Salisbury in south Wiltshire. The first 90 were sited by Paul Bright in 1987, and many have been replaced (several times) over the years as time, woodpeckers and squirrels have all taken their toll. A new monitoring section was added in the late 1990s, but even the 30 boxes there are now decidedly dilapidated despite their NHBC 'Buildmark' certificates.

In 2008 we surveyed the state of the boxes and found that about a hundred needed replacing as soon as possible. We investigated what grants might be available and applied to the local Wildlife Trust, and many other awarding bodies, asking nicely for £400 to replace 100 boxes using volunteer labour to keep costs to a minimum. After a number of disappointing (but understandable) refusals and delays, PTES (our saviour) was kind enough to offer us £200. Hurrah! A project could begin in 2009.

Phil - our carpentry and woodwork adviser and expert - reworked his plans, contacted companies to secure the best prices possible and estimated what we could achieve. He hoped that with luck, his skills and the less skilled but enthusiastic labour of the whole Blackmoor Copse dormouse monitoring team, we might squeeze about 78 boxes out of our £200.

Phil masterminded the project and obtained all the materials, designed the boxes and planned what had to be done, then we arranged sessions to do the work together in mix and match groups, to keep it fun and sociable, with lots of teas, coffees, cakes and biscuits. The work is summarised below and was much more entertaining than it appears!

The boxes had been completed, coated with two coats of preservative, and had Laura Ashley curtains fitted (only joking) by January. We had a long morning in the copse in February, involving a swarm of people and wheelbarrows and lashings of hot coffee, swapping old boxes for new, or is that new for old?

The last task of all was for the dormouse monitors and their partners to have a celebratory pub meal (self-funded of course). This was a tough assignment but we all ate and drank and were merry at the splendid Radnor Arms in Nunton in March, and look forward to a great 2010 dormouse hassling season.

The Team: Peter Docherty, Tony Goddard, Mark Hill, Phil Smith and Sue Walker.

ALL IMAGES BLACKMOOR COPSE DORMOUSE TEAM

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Work	Man-hours
Collecting materials including external ply sheet, initial cutting of the sheet, close cutting the ply, sanding, preparing wood, making kit pieces, creating piles of individual pieces ready for assembly line*	22
Assembly line production of 78 boxes**	24
Painting with preservative, two coats inside and out, three coats on lid tops **	27.5
Fitting clout nails and touching up paintwork **	1.5
Putting the 78 boxes up in the wood, including fitting lid closure wire loops**	22.5
TOTAL TIME SPENT	97.5

** Skilled work. NB Phil had a workshop and excellent table saw.*
*** Unskilled work. Time includes lots of tea/coffee/biscuit/cake breaks.*
It worked out at about 1.25 hours and £2.56 per box. Fuller details and technical drawings of the box plans are available at www.ptes.org.

Dormouse nests in strange places

BEECH HEDGE HOME

Jen Bousfield, a dormouse monitor from Cornwall, took this photograph of a dormouse nest which she found in a hedge in her garden. The nest has green garden twine woven right thought it. Jen found the nest in her vegetable garden hedge which is predominantly beech. The nest was in the hedge seven feet up and held in place by the twiggy re-growth from the year before. The hedge is 20m long by 1.25m wide and 35 years old. It contains one oak seedling and an apple tree. The hedge forms a continuous habitat with other shrubs including roses, gooseberries, raspberries and buddleia. It is connected to the field hedge on one side and a remnant hedge on the other, which contains ash, laurel, thorn, hazel and some honeysuckle, sallow, sycamore, yew and rhododendron.

Jen also found two dormouse nests in a rather tidier hedge along her drive, one of which contained a litter of young dormice. This beech hedge is 7m by 1.6m and 25 years old. It is kept cut to two metres long and contains some ivy and bramble. This hedge is connected to a nearby woodland with willow, alder and gunnera across a stream. There are also some rose, quince and hazel shrubs at the other end.

SEEKING REFUGE UNDER STEPS

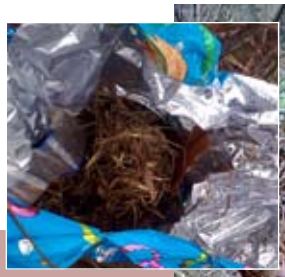
Betty McKay, from Chilworth near Southampton, is lucky enough not only to have dormice visiting her garden but also to have them nesting there. While Betty was making her Christmas cakes last December her husband, who had been clearing a mass of leaves from the garden room roof, found a dormouse nest in a very unusual place. Underneath the garden room stairs there was a perfect sphere of tightly wound cream strips nestling in the ferns just under the top steps. The spot is in easy reach of the bird feeders and bath, with branches of winter jasmine over hanging the step. A few years ago a dormouse nested in a window box on the other side of the house and was coming to the bird feeders for food in February.

THE SKY'S THE LIMIT

Alison Looser and her team in Suffolk found that the sky's the limit when it comes to building your nests if you're a dormouse.

"During this winter's dormouse box maintenance at Bradfield Woods, Suffolk, we moved a few boxes to an area of the wood that hadn't been surveyed yet. As we were putting up the boxes, we noticed an old helium balloon which had been caught up in the canopy. On closer inspection we found a dormouse nest inside! Dormice were released into Bradfield Wood in 2006, so it's great that they are moving into new parts of the wood, albeit using rather unusual nesting materials!"

Alison Looser
Suffolk Wildlife Trust



ALL IMAGES KINDLY PROVIDED BY AUTHORS

New dormice for Warwickshire - one releas

On June 15th 2009 25 dormice were released into Windmill Naps in Warwickshire. There were 11 males and 14 females which had come from several private breeders and wild animal parks, all part of the Common Dormouse Captive Breeders Group – a slight misnomer considering they are no longer a common species - to ensure that the new population has a mixture of genes. This is an exciting event for Warwickshire as the dormouse has only been recorded from a handful of sites in the county.

This reintroduction, the seventeenth organised by PTES and Natural England, was attended by local naturalists who helped to put up the large release cages that the dormice lived in until they were used to their new surroundings. They were given fruit, seeds and water every day and after two weeks the doors were opened so that they could start to live independently in their new woodland.

200 nest boxes were put up in the wood for these tiny mammals to nest and breed in so that in the future there will be many more animals. To find out how the dormice fared last summer the boxes were checked in September and October with any individuals found being scanned - as the dormice have been micro-chipped it will be possible to find out who they are and how far they have travelled from their cages – and weighed. It is hoped that any young born to these 25 adults had enough time to fatten up over last summer and autumn to survive hibernation during the winter and increase the total number of breeding adults for the future.

The wood is managed by coppicing. This means some of the trees, particularly hazel, are cut at ground level to keep areas of the canopy open. The light coming in allows a variety of woodland plants to grow and produce food and nesting materials for the dormice. They will feed on insects, flowers, fruit and nuts until each winter when they will hibernate under the leaf litter once again.

In total PTES has released over 600 dormice into 12 counties. At three of the reintroduction sites the animals have spread out of the woodlands they were released in, into the surrounding countryside – a great success.

The dormouse is a protected species as it is very scarce, owing to the lack of management of woodlands in England and Wales since the Second World War. It is the subject of a national Biodiversity Action Plan (www.ukbap.org.uk) and also one of the 50 action plans in the Warwickshire, Coventry and Solihull Local Biodiversity Action Plan (www.warwickshire.gov.uk/biodiversity).

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PAUL MANCHESTER & DERRY HANRATTY

Rescue begins

On the morning of 24th September 2009 I had a phone call from Nida Al Fulaij at PTES informing me that the owners of the woodland in Warwickshire, where dormice had been released in June, had found three baby dormice on the floor of one of the release cages. They were cold but still alive - it appeared that the mother had built her nest in the nest box in the release cage, instead of going into the wood. The three youngsters were placed back into their nest where another baby was discovered, but their mother could not be found. Could I do anything? I live in Buckinghamshire and the rescue would involve an almost 200 mile round trip. Perhaps Paul Manchester, my fellow captive breeder, could take me up there. Well Paul was at work, and it's against my principles to stop another man working, and if I waited till the next day they would be dead. So I told Nida I would go that afternoon. After lunch and a short nap (we have adapted the Mediterranean habit of a siesta, well octogenarians need a mid day break), I collected a bottle of goat's milk from the supermarket. I phoned the owners and asked them to have hot water ready for me on my arrival to warm the milk. They were to meet me at the gate of the wood. Placing the 'Dormouse Rescue' sign on top of the car, I headed for the M40 up to Birmingham. Val and Angela, who helped with the reintroduction, met me on my arrival and we went straight to the release cage. The ladies were excited because they had found four more babies bringing the total to eight. I started to feed the babies, it must

e and one rescue

JOHN PRINCE

TOP: Feeding milk to the dormice.
BOTTOM: Taking solid food.
ABOVE RIGHT: The large outdoor cage used to house the dormice.

have taken nearly an hour on my knees with an ear dropper feeding them. We popped them into a shoe box, with a yellow duster for a bed to keep them warm. I was supplied with a hot cup of tea, said goodbye to the ladies and began the 80 mile trip home. Once home another feed of warm goat's milk with a little sugar, later at my wife's suggestion this was changed to honey.

So began the three weeks of hand feeding. They all weighed 4.5g on the first day and by the third week of hand feeding their average weight was 16g. At the weekend my wife's family were taking us to Doncaster to visit my wife's sisters. So I asked around my helpers if could anyone step in to feed the babies, but they were all pre-booked for other events. So the babies had to go with us to Yorkshire. At home on 28th September one baby died, the following day three more died, what was I doing wrong? The goat's milk was rejected so I went over to full cream cow's milk for two days, then back to goat's milk and honey, as the cow's milk scoured them. After a week of hand feeding, dry food, apple, milk and biscuits were supplied. About half way through the hand feeding period I found they were chewing each others fur. My wife suggested I put hazel twigs in the cage. This worked very well and they chewed the leaves and stems whilst their coats grew back. By this time the shoe box had been abandoned and they were installed in a large plastic storage box with ventilation holes. The advantage of the plastic box was they could not climb the sides and escape when the lid was off. The box was lined with plain paper which was replaced every day and had vegetation in it for the youngsters to climb on. It took up the bulk of the airing cupboard and displaced a pile of clothes.

The Great Escape

On the 17th November at about 10.30pm I was placing a tray of water in the box, and to my dismay one of the dormice ran along the lid of the box and disappeared into the airing cupboard. We were both very worried, as it could disappear under the floor and die. I said the best thing to do was to leave it till the morning. I put some food and bedding out for it. The next morning while I was down in the garden feeding the poultry my wife came running down to me to say the dormouse was on a stool in the bathroom under her woolly, she nearly sat on it. Fortunately I was able to catch it. That was the end of their cosy stay in the airing cupboard. By December they were in a cage in the conservatory and putting on weight. The male weighed 23.5g, one female 28g, another female 23.5g and the third female 18g. In early spring they were transferred to a large outdoor cage. If all goes well perhaps we will be able to say it was a 50% success.

It is difficult to fit normal life around four to five feeds every 24 hours. During the first week of hand feeding I could be up anytime between three and five in the morning when they would be very hungry. Was it worth it? Yes! Would I do it again? I guess so, but four animals at a time is more than enough. The tension builds up in the shoulders and the arms ache. It's a big relief when they feed themselves.

John Prince, North Bucks Dormouse Group & member of the Common Dormouse Captive Breeders Group

This issue's cover is of two of the four surviving dormice.

Can nest tubes always detect dormice?

A number of studies have suggested that where a habitat provides good conditions for dormice to build their nests in unenclosed situations they may choose to do so rather than use cavities, whether natural hollows such as tree holes or artificial ones such as nest boxes or tubes. Last year I decided to test this for nest tubes in hedges.

In late March 2009 I placed 92 new nest tubes (purchased from the Mammal Society) in hedges on our farm in north Devon, with between eight and 12 in each of nine hedges, all at 10m spacing and along the entire length of the hedge. I checked the tubes once a month, within the first ten days of each month. Any nests found were left in the tubes.

All the hedges were ones where I have frequently found dormouse nests in recent years and provide good unenclosed nesting conditions. They were characterised by having dense, thorny or prickly growth, as provided by trimmed blackthorn, hawthorn or holly bushes, or by well-developed bramble or field rose margins. All hedges were species-rich and in favourable condition for biodiversity (see the *Hedgerow Survey Handbook* for definitions).

By early October dormouse nests had been found in tubes in all nine hedges, showing that as a survey technique it was very effective at detecting the presence of dormice. However, if spacing had been at 20m as recommended by the Mammal Society, there is an even chance that the presence of dormice would not have been detected in one hedge where just one out of 12 tubes was used. (In this hedge I found two unenclosed nests in September, both occupied by adult dormice.)

Nests were built in 29 of the 92 tubes at some time during the six month period in which they were monitored. This tube occupancy rate (32%) would appear high: I have been unable to find published figures with which to compare this and would be interested to hear from any reader who knows of any. One hedge had six out of nine tubes occupied, and another six out of ten.

New nests were built in every month except April, with a strong peak in September. However, three of the nine hedges had no

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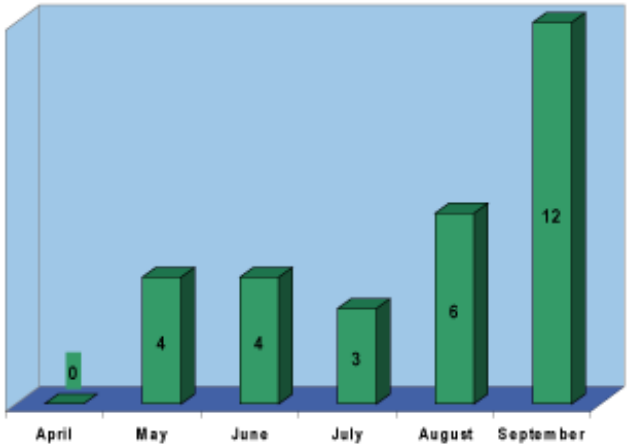

Figure 1 Number of new nests found each month.

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RIGHT: Rob found dormice in the hedges during the survey period.

new nests built in their tubes in that month, showing that any survey limited to placing tubes at the end of August and checking them at the end of September would have failed to detect dormice in a third of hedges. When half the tubes were checked in mid-November, no further new nests were found. In a much more extensive nest tube study in south west England, over two years and covering multiple habitats, Paul Chanin and Michael Woods found a peak in May as well as a bigger one in September.

In conclusion, this study suggests that nest tubes are an effective way of detecting dormice in hedges even where the hedges in question have the right structure and plant species composition for the construction of unenclosed nests. However, further studies are needed to confirm this and to explore optimal spacing.

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LEFT: Dormouse nests were found in the nest tubes throughout the year.

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Training courses and news

■ CAN YOU HELP RUN A WOODLAND OWNERS GROUP MEETING?

The Small Woodland Owner's Group are looking for volunteers - managers or owners - to host a meeting in the Midlands or further north for other woodland owners to come and see how your wood is managed - in particular to benefit dormice. If you can help please email nida@ptes.org or call 020 7498 4533.

■ DORMOUSE GROUPS - WHERE ARE YOU?

If you are part of a local or county dormouse group please contact ian@ptes.org or call 020 7498 4533. We are trying to get a comprehensive list together.

■ GREAT NUT HUNT UPDATE

Thank you to all of you who carried out a nut hunt last winter. Over 400 sites have been surveyed with over 70 having positive signs for dormice. However we are sure many people were put off by the snow so we are going to carry the third *Great Nut Hunt* on this coming autumn and winter too. We will be asking for your help again from August.

■ TRAINING COURSES 2010

The PTES course *How to Manage Woods for Dormice,* taught by Pat Morris, will be held in Somerset on 7th September. For further details email susan@ptes.org or call 020 7498 4533.

There is a FSC course taught by Paul Chanin at Slapton Ley in Devon this August. Dormice are found in some unusual habitat here and the course will include a visit to the low lying scrub between the lake and seashore where they are found. The course also covers otters and badgers. For further details got to www.field-studies-council.org/2010/courseinfo.aspx?id=22

For more details of the Mammal Society dormouse courses visit www.mammal.org.uk or call 02380 237874.

Tarka Ecology is running two *Dormouse Ecology and Conservation* courses at Hallsannery Field Centre, Bideford, North Devon on 2nd June 2010 and 18th September 2010. For more details contact janwhittington@yahoo.co.uk or call 01237 459679.

■ USING CHERRY STONES TO FIND DORMICE

I am a licenced dormouse ecologist, run the Oxfordshire Mammal Group, and I am an NDMP volunteer. During my time as a surveyor I believe that I have encountered field evidence from cherry stones that is as (if not more) reliable for determining dormouse presence as are gnawed hazel nuts.

On one of my survey sites where both wood mice and yellow-necked mice are present but dormice are absent I have encountered cherry stone caches in occupied nest boxes that

are gnawed in a particular way. On another site that supports a good dormouse population but where I have yet to encounter *Apodemus* mice I have found cherry stones gnawed entirely differently. The *Apodemus* stones are gnawed from one end, with the hole having an external diameter of approximately 4.5mm and clearly show the 'coin edge' chiselling as found on hazel nuts. The dormouse stones are gnawed on the side of the stone, are noticeably smaller (3mm external diameter) and clearly show the 'scooped out' tooth marks as found on hazel nuts. Further, the dormouse stones are never found in caches but are always scattered beneath the canopy.

I have been monitoring these sites for three years, and given the large number of cherry stones of only one specific type found in each of the woodlands, I am convinced that this is a reliable method of determining dormouse presence. This has obvious implications for the way in which we survey for dormice, particularly if hazel is absent or if much more cherry is present than hazel (as may be the case in suburban habitats, gardens and orchards). This theory could easily be tested using captive animals and I would welcome observations from people with access to captives.

Dave Parsons BSc MSc MIEEM, Senior Ecologist

The Oxfordshire Mammal Group can be found on Facebook, please direct any correspondence there or email Dave on d.parsons@bsg-ecology.com. Please also forward any interesting points you have to the dormouse forum. If you aren't signed up yet please contact susan@ptes.org to join. If you're taking part in the Great Nut Hunt *please look out for any cherry stones whilst you're out and send them to Dave.*

■ DEAD STOAT

This stoat was found with its head stuck in the entrance hole to a dormouse nest box

in which a bird had made a nest. There was an egg in the nest but nothing else. The stoat had evidently attempted to get to the egg and had become trapped.

Dave Fincham
Priestley Wood, Suffolk