The Dormouse Monitor

Newsletter of the National Dormouse Monitoring Programme

Welcome to this Spring 2002 edition of *The Dormouse Monitor*. We hope you like the new look! Thank you to everyone who has contributed towards it. If you have any news you would like to share with others in future editions, or would like to write a short article, please get in touch. Our contact details are on the back page.

We always have a few extra copies available, so do call us if you know of anyone who would like one.

Understanding Dormouse Population Change

Many of you will be familiar with the indices of population change produced by organisations such as the British Trust for Ornithology for most common birds and the Centre of Ecology and Hydrology for many British butterfly species. It is vital to produce accurate measures of population change in order to inform conservation policy, and this is something that we have long hoped to achieve through the National Dormouse Monitoring Programme (NDMP), to which you all contribute.

However, this requires many years of monitoring data from a large number of sites in order to produce an estimate of change that can be representative of population change both across the whole country and in different regions. The map overleaf shows where the dormouse monitoring sites are. The results of our work are only possible because of the many years of hard work you have all carried out.

Estimating dormouse population change isn't that easy. We could just take an average of the number of dormice in each site each year. The results would be

affected, however, by which sites were monitored in each year – if a site that is particularly good for dormice joins the NDMP, it would push the average for that year up when there may really have been no change overall – it's just that no-one counted those dormice during the previous year. New sites join the NDMP all the time and old sites are occasionally not monitored in certain years for very good reasons – like the Foot and Mouth outbreak last year. I therefore needed to use a computer

ENGLISH NATURE

Royal Holloway University of London

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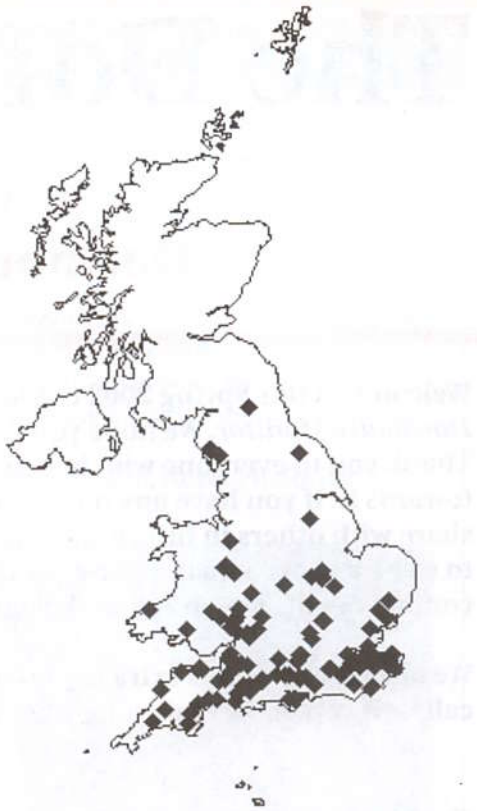
programme that could estimate, from the available data, what the numbers of dormice were likely to be in sites that weren't monitored in any particular year. Fortunately such techniques have already been developed by scientists working on monitoring data such as for bird censuses.

The same computing techniques can be used to remove annual variation from the line showing long-term trends. As you all know, dormouse populations vary considerably from year to year. For some purposes, such as looking at the effects of weather on abundance, these variations are very interesting. However, if we want to see if there is any long-term change in dormouse populations they can be confusing. I used a statistical technique known as smoothing where the computer calculates the years where sudden changes in the trend occur and produces a trend line with fluctuations in abundance between years removed – so that we can see the wood for the trees.

We thought that the population changes might be different in sites that are a long way north or west, as this is the edge of the dormouse range in Britain. So as well as including these sites in the estimate of change across the whole of Britain, we looked at them separately. Graph 1 below shows the population changes since 1993 for all sites that could be included in the index, and Graph 2 shows the changes in abundance in northern and western Britain. I used the May and June counts to calculate the indices, as these are more reliable than counts at other times of year, as dormice don't use the boxes as much in midsummer, and autumn counts, which are very useful for other research, include juveniles which may not survive the winter and may therefore give a falsely optimistic picture of the population.



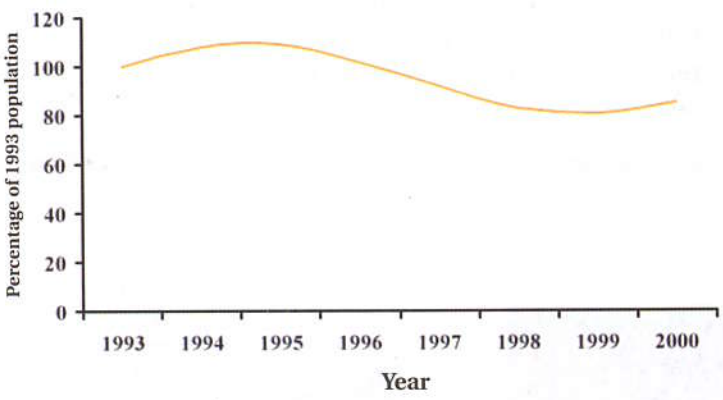
At present there are over 150 sites in the National Dormouse Monitoring Programme. In order to produce accurate measures of population changes, it is important to have many years of monitoring data from a large number of sites. This is being achieved with your help.

The map shows the dormouse monitoring sites in the NDMP.

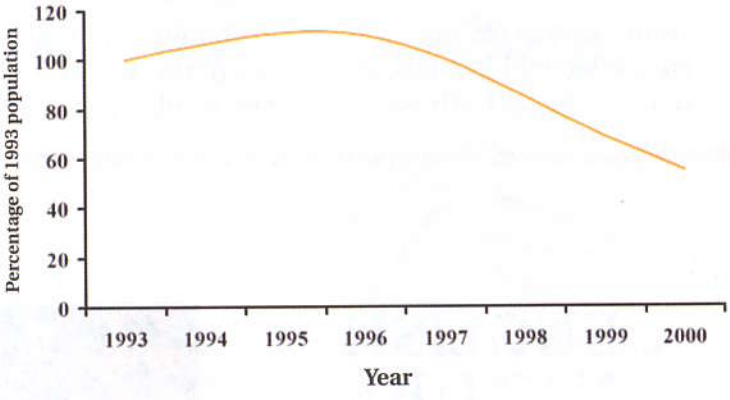
The abundance of dormice in the northern and western region has decreased by almost 50% in the last eight years, whereas nationally it has changed very little. The reasons for this population change are likely to be complex. We already know dormice

Continued on page 4

Graph 1: Changes in dormouse abundance in Britain, 1993–2000



Graph 2: Changes in dormouse abundance in northern and western Britain, 1993–2000



have disappeared from many north-western areas. It is possible that the reasons for this historical change are still affecting dormice today. There are fewer sites suitable for dormice in these areas and they live at lower densities here than in southern Britain. This means that they are likely to be more affected than southern dormice by decreases both in woodland size and in connections between woods in the form of hedgerows. If an area of wildlife habitat becomes smaller and is no longer large enough to support a viable population, there is often a time lag between the decrease in habitat size and the decline of the population. This may be what is happening to dormice in the north and the west of the country. Dormice may also be affected by climate change more in these regions of the country. Researchers at the University of East Anglia in Norwich have shown that winter precipitation in Britain increased across the country between 1961 and 1995, but more so in north-western areas, and that spring is also becoming more rainy, which may affect dormouse survival.

Although collecting data on declining dormouse populations can be a discouraging task, we need these data in order to measure population change at all. We are therefore particularly grateful to those observers at sites where dormice have declined and who have persisted in their nestbox checks nonetheless. We need counts from as many sites as possible – good and bad - so that we can be confident that our estimates of population change are accurate.

Fiona Sanderson, Royal Holloway, University of London

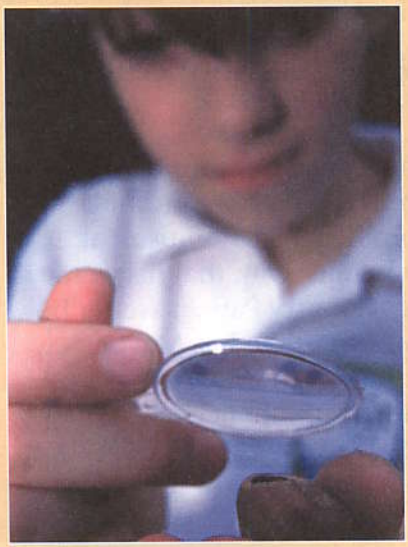
2001 Records

Thank you all for your help last year with the Monitoring Programme. It was a particularly difficult year on account of Foot and Mouth Disease. Many box checks could not be made because of access restrictions. It was also not a good year for breeding and many sites recorded fewer dormice than in previous years.

Altogether, there were 744 visits to 148 sites and a total of 2646 dormice were recorded. In 2000 there were 822 visits to 140 sites and 3879 dormice were found. Two dormice weighed in at the hefty weight of 38g in October. One was found at Larkey Valley Wood, Kent, and the other at Armstrong Wood, Cornwall.

The graphs on page 7 show the number of dormice (weighing 7g or more) per 50 boxes at all sites with more than 50 boxes monitored in October. As

GREAT NUT HUNT UPDATE



Despite the bad weather this winter, enthusiastic nutters have continued to search for gnawed hazel nuts in woodlands all over the country. The Great Nut Hunt aims to repeat the success of the previous survey in 1993, to establish the distribution of dormice and to see whether changes have taken place in the last decade.

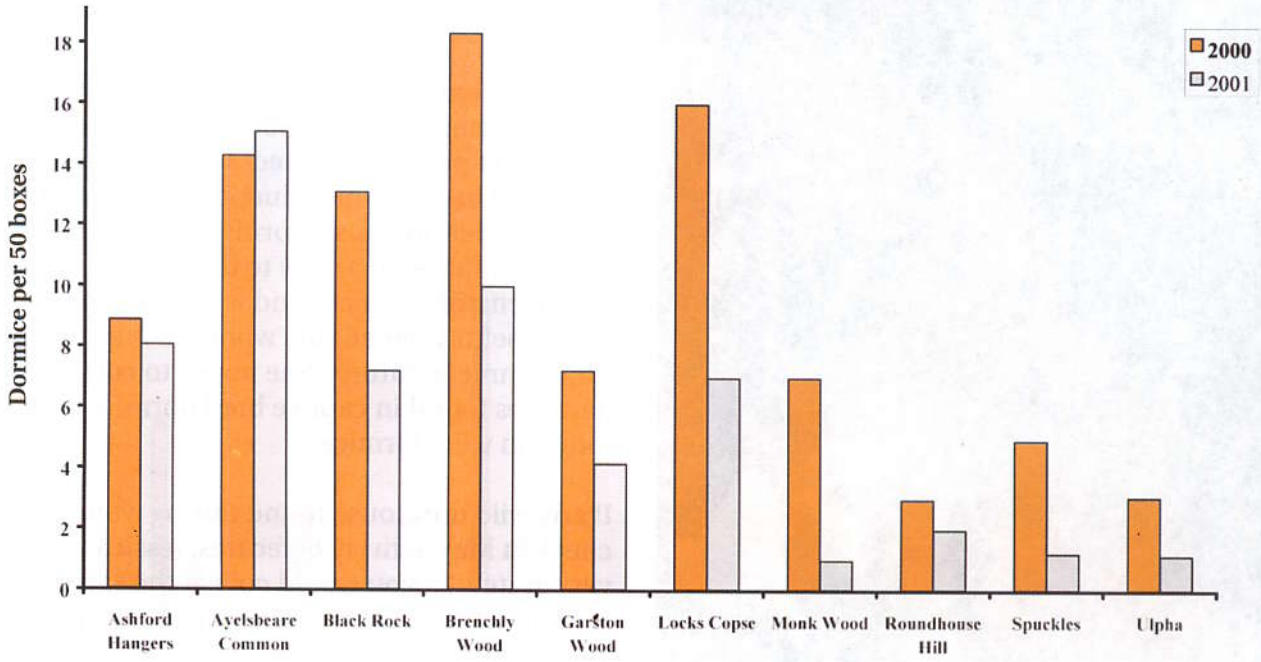
Nuts have continued to arrive at Royal Holloway, where the Chief Nutter (alias Dr Pat Morris) has checked them all for correct identification, based on the characteristic tooth marks on the nutshell. A weird assortment of packets, including film canisters, matchboxes, pill pots and bank moneybags, has yielded up their nutty contents for scrutiny.

By mid March, 26,573 nuts had been checked for dormice. Alas, many of them turned out not to have been eaten by dormice, but by grey squirrels, wood mice and bank voles. But in spite of this, we have still received evidence of dormice at no fewer than 45 sites.

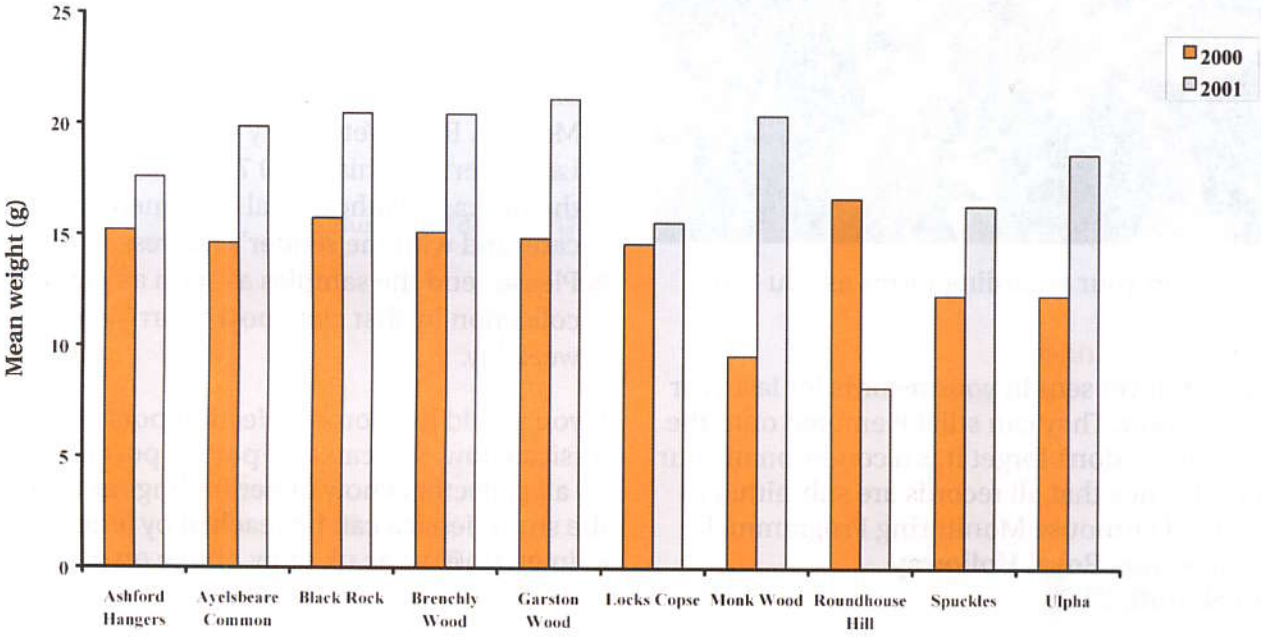
There were some surprises. Many counties that we know to have been strongholds for the dormouse in the past, such as Wiltshire and Dorset, have recorded very few sites this time around. Only three sites have so far been identified from these two counties. We hope that, as more forms come in, more sites will be highlighted.

The Chief Nutter, Royal Holloway, University of London

Numbers of dormice (7g or more) per 50 boxes in October at 10 randomly selected sites



Mean weights of dormice (7g or more) in October at 10 randomly selected sites



always, dormouse density varied enormously between sites, ranging from 0 to an extraordinary 28 dormice per 50 boxes. Because dormice live at such a range of densities we need a lot of sites to be able to detect any patterns among dormouse populations, so every monitoring site is important to us. Not only is every site vital, but every piece of information you send us helps to build a more complete picture of British dormouse populations.

As an example, look at the graphs, above, of 10 randomly selected sites showing numbers of dormice per 50 boxes in 2000 and 2001 and the average weights of dormice in October at these sites. In 2001 there were fewer dormice at all but one of these sites. However, on average these dormice were heavier, making them less likely to starve during hibernation. A statistical comparison of all sites where data were available in October 2000 and 2001 shows that dormice were on average significantly heavier in October 2001. This is an interesting example of how having only one piece of information – in this case, numbers of dormice – may only tell part of the story. So please fill in as

many boxes on your recording forms as you can!

2001 Records Reminder

If you have not yet sent in your records for last year please do so now. They can still be entered onto the database. Please don't forget it is a condition of your dormouse licence that all records are submitted to the National Dormouse Monitoring Programme!

Fiona Sanderson, Royal Holloway
& Susan Sharafi, PTES

2002 Records

Your 2002 recording forms are enclosed with this spring edition of *The Dormouse Monitor*. Please ensure that all records are returned to Susan Sharafi, in the enclosed pre-paid envelope, by 30th November 2002.

Even if you do not record any dormice or nests, please still return the 'Nestbox Checks Summary' form. Negative results are just as important as positive ones.

Susan Sharafi, PTES

Urgent Request for Help to Study Parasites

Jessica Mettam is working with the Zoological Society of London studying the intestinal parasitic worms which affect dormice. These worms have been found in some captive bred animals at pre-release checks and prevented their inclusion in the re-introduction programme. Jessica plans to identify those worms which affect captive bred dormice with a view to developing management practices and worming regimes that will hopefully benefit the whole re-introduction programme in future . She hopes to compare the parasites found in captive bred dormice with those found in wild dormice.

If any wild dormouse found during your nestbox check in May actively defecates, Jessica would be very grateful if you would collect the sample and send it to her, as worm burdens can be deduced from worm eggs passed in the animal's faeces.

- Please put the sample in a plastic container marked with the identity of the dormouse (if known), the sex, location and date found.
- Place the plastic container in three closed plastic bags and then in a jiffy bag and send to Jessica Mettam, Royal Veterinary College, Hawkshead Lane, Hertfordshire, AL9 7TA. Mark the outside of the package 'Pathological specimen: handle with care' and with the sender's address.
- Please send the samples as soon as possible after collection by first class post to arrive on a weekday.

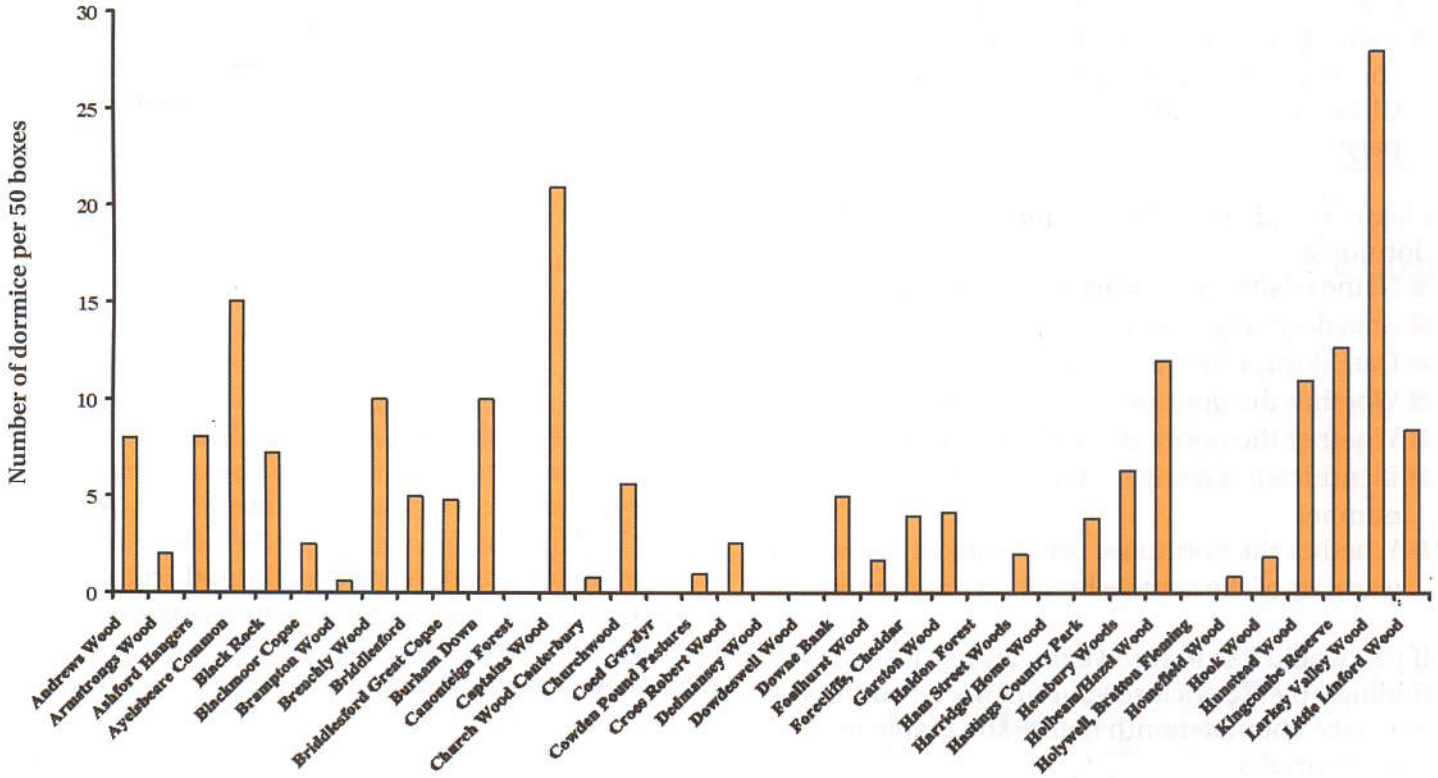
If you would like some collection pots please let Jessica know. She can also pay for postage and will let all collectors know of her findings at the end of the study. Jessica can be reached by letter, by e-mail at jmettam@rvc.ac.uk or by phone on 01707 655035.

Dead Dormice – Bodies Wanted

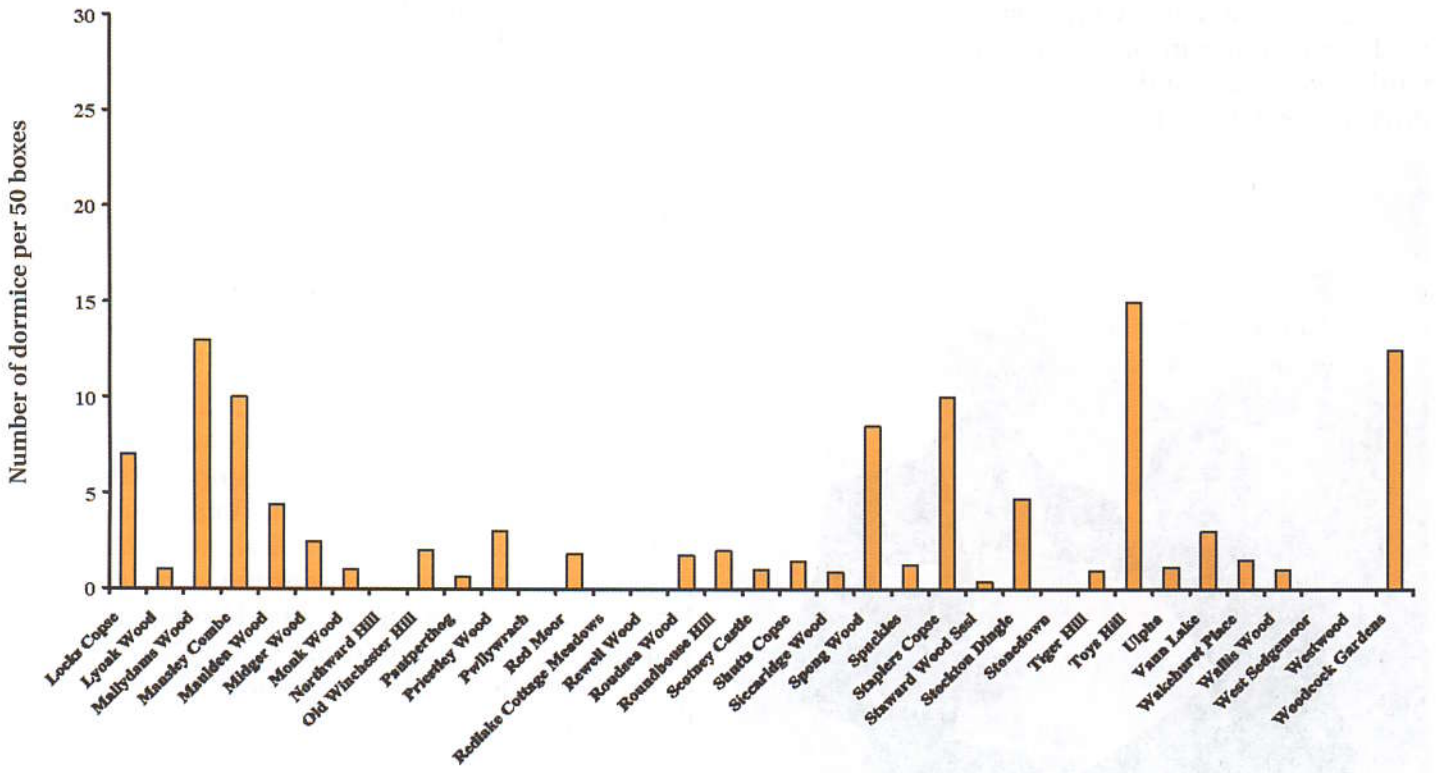
Ghislaine Sayers is Paignton Zoo's Veterinary Officer. She is studying the range of diseases that affect dormice and looking at their liver anatomy and physiology. She also needs your help.

If you find a dead dormouse at any time of year, please send it to Ghislaine instead of Tony Sainsbury at the Institute of Zoology as formerly. Her address is Veterinary Department, Paignton Zoo and Environmental Park, Totnes Road, Paignton, Devon, TQ4 7EU. (All the findings will ultimately be passed to Tony).

Number of dormice (7g or over) per 50 boxes in October 2001



Number of dormice (7g or over) per 50 boxes in October 2001



If you have a specimen, please:

- Wrap the dormouse in kitchen roll/cotton wool/something absorptive and place in two sealed plastic bags.
- Put the wrapped dormouse and some ice in a sealed plastic bag in a padded envelope.
- Mark the envelope as follows: 'pathological specimen' and 'handle with care' and send to Ghislaine at the address given on the previous page.

Please provide the following information with your dormouse:

- Name of site where dormouse was found
- Area dormouse was found in e.g nestbox, ground
- Date dormouse was found
- Whether the dormouse was hibernating
- Whether the dormouse was alone or with others
- Identification if any e.g.tattoo, transponder number
- Whether the dormouse was found in the wild or was part of the captive breeding programme

If you would like to receive details of Ghislaine's findings, please enclose your full postal address. It may take about a month before she is able to send you the results.

English Nature's Celebration of the 10th Anniversary of the Species Recovery Programme

Just before Christmas, English Nature held a conference in Derbyshire to celebrate the tenth anniversary of the Species Recovery Programme. One of the main events on the first day was to recognise the sterling efforts and achievements of the people who have been working so successfully on behalf of some of the species in the programme. Both Pat Morris and Paul Bright received awards for their dormouse work (although Paul was caught up in travelling difficulties and missed the presentation ceremony itself). Our photo shows Pat Morris with Susan Sharafi from PTES. Susan co-ordinates all the work that goes into the annual re-introductions, keeps the national dormouse database up-dated and reminds you to send in your records each year.

5th International Dormouse Conference 2002

Bookings are already beginning to be taken for the 5th International Dormouse Conference. At least 100 people from all over Europe have booked so far. The conference is to be held at the Szent Istvan University of Godollo, near Budapest in Hungary from 26th–29th August. For more information write to: Botond Bako, The Secretariat, 5th International Dormouse Conference, Szent Istvan University, Department of Zoology & Ecology, Godollo, Pater K. u. 1, Hungary-2103 or email bakobo@freemail.hu.

'How to Manage Woods for Dormice' Training Day

PTES will be organising a dormouse training day on Wednesday 4th September 2002. It will be held at Bramley Frith Environmental Education Centre near Basingstoke in Hampshire. Dr Pat Morris will be the tutor for the day. The course is intended for foresters, woodland managers and conservation officers, but anyone with an interest in woodland management for dormice is welcome. Further details are available from Susan Sharafi at PTES on 020 7498 4533 or e-mail susan@ptes.org. The one-day course costs £45 per person and includes lunch.

Financial Help for Dormouse Boxes

During last year we received several phone calls from monitors, asking if there was any central fund to which they could apply for funding to help with the purchase and repair of their dormouse boxes. Unfortunately, there isn't, but we do suggest that you apply either to your local English Nature office or to PTES, who may be able to help. If you would like to apply to PTES, we can send you an application form in the post, email you one, or you can download it from the website www.ptes.org. Call Susan for further details on 020 7498 4533.

Our Millennium Dormice

I had already become familiar with dormice through PTES trips to Cheddar and the Lake District. I still could not believe my eyes when I saw one on my bird feeder right opposite our kitchen window in daylight at the beginning of June 2000. However, once convinced, I began to keep a record.

One came nearly every evening. On the 23rd June two appeared together. Later we identified a single one with a white tip to its tail, so we had at least three visiting. They usually arrived around 9pm, but the earliest was at 4.30pm. In order to convince the local Wildlife Trust and to have a record, I took to stalking them with my camera and also used the car as a hide. We also found a nest whilst trimming the mixed hedge in front of which the feeders are situated. The hedge runs up to the woodland on the hillside behind the house.

2001 was much less exciting, as we only ever saw single dormice late at night, apart from a first sighting on 28th May at 10.45am – he must have been hungry! I have so many questions. Where did they come from? Why the one year of appearing in daylight? What do they live on? (Only three or four fruiting hazels and so far no chewed nuts found).

Will the fairly severe hedge cutting imposed by our neighbour discourage them in 2002? Are there any left? I do hope so!

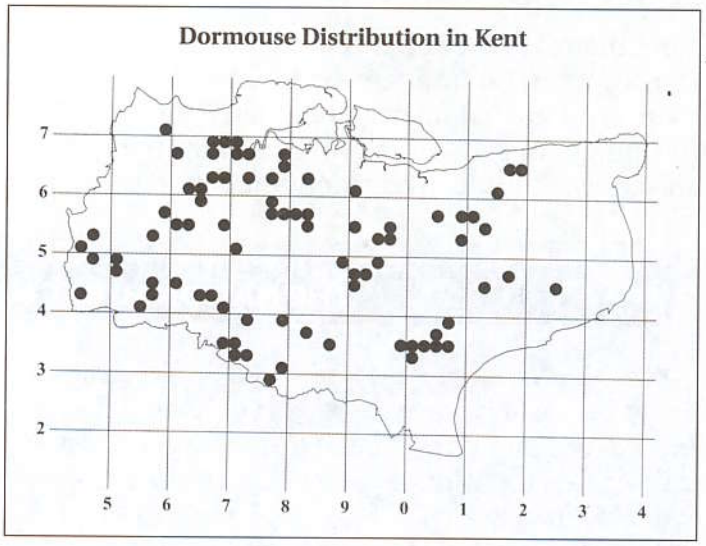
Ann Bowker, wildlife enthusiast, Malvern Hills

Editors' Note: Ann is the sister of Alison Burton whom many of you knew through all her activities with PTES and The Mammal Society.

Got Them Mapped

The Kent Mammal Group has just published a provisional mammal atlas for their county. The map below is taken from the atlas and shows the dormouse's distribution in Kent. Dormice are widespread throughout but there are few records from the coast. Copies of the atlas are available at a cost of £2.50 including p&p from Eric Philp, 6 Vicarage Close, Aylesford, Kent ME20 7BB, Tel: 01622 718 158.

Dormouse Distribution in Kent



WEATHERING THE CHANGES

The well-being of dormice is strongly affected by weather. This animal thrives in the hot, dry summers and cold winters of continental Europe – just the sort of weather that we don't get in Britain. So we would expect climate change to affect dormice – but how?

During warm winters, dormice awake from hibernation more often. When hibernating, they drop their body temperature to the ambient temperature and slow their heart rate to save energy. But warmer temperatures cause their heart rate to rise and they become warm, so they wake up more often, each time wasting precious energy.

It is also possible that warmer autumns could lead to fruit ripening early. This sends dormice into hibernation earlier than usual when their food supply runs out – perhaps another reason why dormice in some woods don't do well after warm, wet autumns.

Populations continue to decrease in some parts of Britain, mainly the north of England, and we are currently trying to find out if warm wet weather is responsible for this trend. Warmer summers could be good for dormice at some sites though, so predicting the effects of climate change on British dormice is not at all straightforward.

Fiona Sanderson, Royal Holloway, University of London

News of Other Monitoring Programmes

Count the Carnage

Last year Mammals Trust UK, Dr Paul Bright and Melanie Hardie (Lisa George has now taken over this work) at Royal Holloway, University of London, launched the National Hedgehog Survey. This was aimed at monitoring the numbers of hedgehogs killed by cars on our roads. While volunteers were out counting hedgehogs, we also asked them to count other mammals, too, in the hope that we would be able to extend the programme to other species in subsequent years. There was a huge response to our appeal for help, and 80,000 miles of roads were surveyed on nearly 2,500 journeys. We are very grateful to all who took part, and details of the results will be sent to all participants shortly.

Now, thanks to the support of the Joint Nature Conservation Committee, we are able – as hoped – to incorporate mammals other than hedgehogs into this programme. We don't yet know how many species can be effectively monitored in this way, but counts later this year will help us find out. If you are driving more than 20 miles on single carriageway roads through non-urban areas perhaps you could help? We especially need people to survey remoter parts of the country, including northern and western Scotland. So, if you are planning a trip north of the border your help would be invaluable!

The survey will run throughout July, August and September. Survey packs will be available from Mammals Trust UK from June onwards. To order your copy please call Ollie on 020 7498 5262 or e-mail: oliver@mtuk.org

THE NATIONAL BAT MONITORING PROGRAMME

The National Bat Monitoring Programme is now in its seventh year and is being co-ordinated by The Bat Conservation Trust. It, too, relies on volunteers to carry out monitoring work. Since it began, 2,000 people have signed up and of those, more than 900 have submitted records. The survey work the programme carries out can be divided into three broad categories: summer maternity colony counts, summer field survey work and winter counts at hibernacula (or hibernation sites).

Natterer's bats often crawl into rocky crevices to hibernate.

Pipistrelles, Natterer's, serotines, lesser horseshoes and brown long-eared bats are all monitored in their maternity roosts. Noctules, serotines, Daubenton's and common and soprano pipistrelles come under the umbrella of the summer field surveys. Hibernation site counts, by licensed bat workers, encompass all the UK bat species, including whiskered and Brandt's bats.

The Bat Conservation Trust is always keen to recruit new volunteers for the programme and bat detector training workshops are held during the summer for field survey work. BCT has a busy time ahead and if you could help with field work, especially in remoter areas, or you know of any maternity roosts that would be suitable to count, they would be very pleased to hear from you. Contact the Bat Monitoring Programme on 020 7627 5912, e-mail nbmp@bats.org.uk or sign-up on the BCT website at www.bats.org.uk.

2002 Re-introductions

Members of the Common Dormouse Captive Breeders Group met recently to discuss the number of dormice available for release this year. As a result of much dedication and hard work by the captive breeders, there will be enough dormice to proceed with two re-introductions again this year. Since the first re-introduction in 1994 there have been a further 8 releases to 8 different counties. These releases were carried out as part of English Nature's Species Recovery Programme, one of whose aims is to restore dormice to areas of the country from which they have been lost or to areas where existing populations are highly fragmented.

Sites for this year are still being finalised but plans are well advanced. Don MacPherson, who has carried out many of the releases, is busy elsewhere this year. So, Fiona Sanderson is stepping into the breach. If you would like an update on this year's re-introductions, please call me on 0207 498 4533.

The photograph below shows Don installing a pre-release cage at a re-introduction site last year.

About 15 pre-release cages are put up at 100m intervals throughout each release site. A pair of dormice are placed in each cage and spend about 10 days in them acclimatising to their new environment. They are provided with food and water daily by a team of local volunteers. Then, if weather conditions are favourable, a small hole is made in each cage, so that the dormice have the opportunity to explore further afield. Initially, the dormice will make short forays into the woods and may return to their cages for food. During these critical early days, they know they can always return to the cage if they need to. After a while the amount of food left out for them will gradually be reduced, encouraging them to work harder at establishing themselves independently in the woods.

Susan Sharafi, PTES

Railtrack Donates £1,000 for Nestboxes at Re-introduction Sites

As the result of a competition run by Railtrack plc, PTES has received £1,000 towards nestboxes for this year's re-introductions. There were 2 winners, GTRM, one of Railtrack's maintenance contractors, and Supply Chain, one of their HQ directorates. Instead of awarding prizes, it was decided to make a donation to a conservation charity on the winners' behalf. We are delighted to have been chosen and hope to welcome the winners to see 'their' boxes in use later in the year.

Valerie Keeble, PTES

(Left) Don MacPherson installs a dormouse pre-release cage in a woodland at a secret location in Bedfordshire. (Above) Once the cage is ready for its new inhabitants, a pair of dormice are gently placed in a nestbox, which is then sited on the wall of the cage. They will remain here for 10 days and then a hole will be made through which they can come and go as they please.

HEDGEROWS, DORMICE AND BIODIVERSITY

One of the key parts of the UK Species Action Plan for the dormouse is to determine the requirements of dormice in hedgerows. After a good deal of effort and much help from volunteers, we have now gone a good way towards achieving this goal. Our work was generously supported by PTES, English Nature and Center Parcs.

Hedgerows are of key importance for conservation in agricultural landscapes, but changes in their management in the last few decades are likely to have had a profound negative impact on biodiversity. As you know, dormice used to occur frequently in hedgerows and, because they need a variety of shrubs to provide food sources, are indicators of diversity. So, there is a lot to be gained from understanding dormouse needs because it should help determine what hedgerow management is needed to support not only dormice, but many other species, too.

One of the first things we did was to re-survey hedgerow sites where dormice were present in the late 1970s. We also measured dormouse population density along 50 two kilometre sections of hedgerow in Kent, Sussex, Somerset, Devon and Carmarthenshire. That only involved putting up 5,000 nest tubes! Radio-tracking of dormice in hedgerows was also carried out to find out exactly what species of plants and shrubs they feed on.

The study has covered a lot of ground. All the field work has now been completed and the final report with all the results should be completed by late June or early July. This will make recommendations on how best to manage hedgerows for dormice. PTES will be trying to ensure they reach those people who are in the best position to help, particularly farmers and other landowners and managers.

Copies of the research report will be available free of charge on request from English Nature publications. To order your copy, please call 01733 455 101. And don't forget to watch out for a summary of the main findings in the autumn edition of *The Dormouse Monitor*.

Paul Bright & Don MacPherson, Royal Holloway, University of London

A volunteer puts up one of 5,000 nest tubes used in the survey.

PILOT NATIONAL DORMOUSE HEDGEROW SURVEY – CALL FOR HELP

Following completion of the above study, the next step will then be to find out exactly where dormice still occur in hedgerows, so that such sites can be protected in future. Equally importantly, we need to know about areas where dormice are now absent from hedgerows so that their management can be improved.

This spring, we hope to put into action the pilot National Dormouse Hedgerow Survey, and we need your help. By mid-May, we hope to have placed 900 plastic nesting tubes for dormice in hedgerows all round the country. The nest tubes, which are based on an innovative design by Dr Pat Morris, are made from recycled tree guards and can be more easily located in dense hedgerows than traditional wooden nestboxes. They can be borrowed from PTES to take part in the survey. Once the tubes are in place, they will be left undisturbed over the summer and into autumn until any resident dormice have gone into hibernation. Then we need our volunteers to re-visit the tubes and check them to see if they contain dormouse nests.

This unusual dormouse nest was found in a hedgerow. Instead of using strips of honeysuckle bark, dormice that live in hedgerows will often line their distinctive nests with stems of long grass.

We are asking people – both licensed volunteers and members of the public – who live in the main part of the dormouse's range for help. If you live in Cornwall, Devon, Dorset, Somerset, Hampshire, Sussex, Kent, Surrey, Bedfordshire, Buckinghamshire, Oxfordshire, Hereford and Worcestershire, Gloucestershire, Shropshire, Gwent or Powys and would like to help, please call Ollie at PTES on 020 7498 4533.

Sites to be surveyed will be pre-selected by Paul and his team and allocated to volunteers who come forward.

The National Dormouse Monitoring Programme is funded by English Nature and the People's Trust for Endangered Species.
The scientific work is based at Royal Holloway, University of London, Egham, Surrey TW20 0EX and the organisation is carried out by PTES. The Dormouse Monitor is compiled by Valerie Keeble & Susan Sharafi, and designed by Sophie Stafford. Pictures kindly provided by Dr Pat Morris, Paul Glendell, English Nature, Dr Paul Bright, Ann Bowker, and PTES. Printed by NPL Printers on environmentally-friendly paper.