Hazel Dormouse Reintroduction Sites Report 2019

people's trust for endangered species

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Contents

Introduction

Hazel dormice *Muscardinus avellanarius* were made a Biodiversity Action Plan (BAP) species in 1995 with the aim of maintaining and enhancing populations where they were known to exist and to reintroduce populations where they were considered extinct. Local Nature Partnerships superseded BAP's in 2011 but for dormice, the national strategy aims still follows those outlined in the BAP plan. The only notable change being the Annual BAP meeting has now become the National Dormouse Steering Group meeting.

People's Trust for Endangered Species (PTES) is the main charity concerned with hazel dormouse conservation in the UK and some of the work undertaken is funded with assistance from Natural England. There is a long-standing Memorandum of Understanding (MoU) between the two organisations to achieve the aims of the BAP.

The dormouse reintroduction programme started in 1993 as part of the English Nature Species Recovery Programme. The first reintroduction took place in 1993 and a reintroduction takes place approximately every year. The aim of the programme was to restore dormice to counties and areas where they had gone extinct after the range decline over the 20th century had become apparent. The programme uses captive-bred animals supplied by the Common Dormouse Captive Breeders Group. A key member of the CDCBG is Wildwood in Kent which breeds a significant number of dormice for the programme and maintains the Dormouse Stud Book. The Zoological Society of London (ZSL) and Paignton Zoo quarantine the animals following guidance from the Disease Risk Analysis and Health Surveillance (DRAHS) project at ZSL. Post quarantine, the animals are placed in large release cages at a pre-selected woodland in June and these are opened ten days later and the animals freed to disperse into the woodland, although food is supplied until the autumn. PTES manages the programme.

Chanin (2014) reviewed the programme and proposed revised 'measures of success' criteria for the reintroductions sites which have been adopted by PTES. Chanin's proposals are shown below and his measure of success as applied to the reintroduction sites in 2015/16 are shown in Table 1.

Short-term success:
Short-term: did dormice survive the first two winters and breed in the third year (i.e. reach stage 4)?

Medium-term success:
Medium term: did the dormouse population at the release site remain stable over a period of 5-10 years and disperse from there into adjacent areas outside the original wood?

Long-term success:
In the long term what is required is for the dormouse population to increase in size and expand its range to reach a level where the probability of long-term survival of the population is high. Determining criteria for this is not easy but one approach would be to aim for the dormouse population to be found in an area of sufficient size to substantially reduce the risk of extinction due to stochastic processes.

Table 1 The short, medium and long-term success of individual site as assessed by PTES

Site No	NDMP site No.	Year	Site	Short term (1 – 3 years)	Medium term (5 to 10 years)	Long term	Long term success (assessed 2018/19)
1	84	1993/95	Brampton Wood	Yes	Stable	Dispersing	YES
2	144	1994/95	Treswell Wood	Yes	NO	n/a	NO
3	78	1996/97	Stockton Dingle	Yes	Stable	Dispersing (?)	
4	73	1998	Linford Wood	Yes	Stable	Dispersing	YES
5	137	1998	Bubbenhall Wood	Yes	NO	n/a	NO
6	132	1999	Rivalux	Yes	NO	n/a	NO
7	40	2000	Priestley	Yes	Stable	Dispersing	YES
8	167	2001	Maulden Wood	Yes	Stable	Dispersing	YES
9	103	2001	Bedford Purlieus	Yes	Stable	Dispersing	YES
10	208	2002	Hamps Valley	Yes	NO	n/a	NO
11	209	2002	Chambers Wood	Yes	Stable	Dispersing	YES
12	234	2003	Leashaw Wood	Yes	NO	n/a	NO
13	260	2004	Heslett & Peter	Yes	Stable	Dispersing	NO
14	293	2005	Monsal Dale	Yes	Decline	Dispersing(?)	
15	317	2006	Bradfield Wood	Yes	Stable	Dispersing	YES
16	373	2008	Freeholders Wood	Yes	Stable	Dispersing	YES
17	442	2010/11	Windmill Naps	Yes	Stable	NO	YES
18	582	2012	Alne Wood	NO	No	n/a	NO
19	144	2013	Treswell Wood	Yes	Yes	n/a	
20	696	2014	Eaton Wood	Yes	Yes	n/a	
21	724	2015	Gamston Wood	Yes			
22	781	2016	Haw Bank	Yes			
23	199	2017	Wappenbury Wood	Yes			
24	712	2018	Ryton Wood	Yes			

Also following the Chanin proposals, existing reintroduction sites have been revisited with a view of finding a further suitable woodland in their locality to undertake a reintroduction there. Alternatively, new sites, with at least two woodlands where a dormouse reintroduction can be undertaken, are actively sought. The current long-term aim at reintroduction sites, is to initiate a landscape project where dormouse reintroductions have taken place to improve landscape permeability for dormice in the local area. Landscape projects have been initiated in:

- Wensleydale in North Yorkshire to link Freeholders wood and Haw Bank
- Nottinghamshire to link Treswell wood, Eaton wood and Gamston wood
- Warwickshire to link Wappenbury wood and Ryton wood

Chanin also recommended a policy of consolidation rather than expansion. He highlighted the possible issue of climate change and stated that '*the principal message about the impact of climate changes is one of uncertainty. Weather has been shown to influence dormouse population ecology (Sanderson 2004), but it is not at all clear whether changes over the next few decades will be beneficial to dormice or detrimental. It is conceivable that the range of dormice in the UK could expand northwards if suitable habitat is available but also possible that it may contract*'. Therefore, although it follows that the expansion approach of the reintroduction programme should continue, Chanin suggested that site selection would be better based on the current known dormouse distribution. The focus for new sites should be at the margins of the dormouse current range in the counties of Hertfordshire, Bedfordshire, Buckinghamshire, Northamptonshire, Oxfordshire, Warwickshire, Staffordshire, Shropshire (north), Cheshire (south).

An ongoing difficulty in finding sites suitable for dormouse reintroductions, makes following this advice quite challenging. The sites need a large enough area of suitable dormouse habitat available (see woodland management below) and an assurance that this will be maintained in the future. In addition, Chanin suggested that an '*ideal cluster would consist of 4 - 6 woodlands each of 20ha or more in extent and totalling more than 150ha'*. If finding a single wood suitable for a dormouse reintroduction is hard, finding 4-6 woodlands in close proximity, that are either suitable, or could become suitable for dormice, is very difficult. Seeking suitable woodlands within a relatively small geographic area becomes almost impossible. Therefore, the current aim of the reintroduction programme is to seek the best sites and landscapes that are most likely to support dormice but to prioritise in the focus areas if possible.

Sites most likely to be in a suitable current state for dormice, and those where the habitat is most likely to be maintained in the future, will probably be owned and managed by NGOs such as the Wildlife Trusts, National Parks and National Trust. Working in partnership with such organisations also gives access to local volunteers that are vital to the success of a dormouse reintroduction.

Following a meeting of ZSL, Paignton Zoo, Wildwood, PTES and CDCBG parties in January 2019, the genetics of the reintroduced populations was discussed. To increase the genetic diversity at reintroduction sites the following strategy was proposed:

County cluster 1: Site A and Site B

County cluster 2: Site C and Site D

2019 28 DM go into Site A

2020 produce 50 DM – 20 to go to site A; 20 to go to site B and 10 to go to an existing reintroduction site

2021 produce 50 DM – 20 to go to site B; 20 to go to site C and 10 to go to an existing reintroduction site

2022 produce 40 dormice (e.g. due to a problem in programme) – 20 to go to site C and 20 to go to site

The reintroduction at a site is spread over two years rather than one to increase the genetic diversity and a top up is done at an existing site, again to increase the genetic diversity of the dormouse population there.

This plan calls for a starter population of only 20 animals, which has not been tried before - the lowest number of animals that has ever been released at a site, as a starter population is 25. This was at Windmill Naps and the population was topped up by a further 21 animals the following year. It took three years before the population started to do well, initially appearing to have failed. The lowest number of dormice released at sites, with no further top up, that have succeeded are 30 at Maulden wood and 32 at Chambers Park Farm. So the plan has been further revised and in future the minimum starter population will be between 30-40 animals with a further release of 10-15 dormice the following year and any balance going to an existing site to improve genetic diversity.

To clarify terms, in this report:

I. A dormouse reintroduction – is a release of a starter population of captive-bred dormice with the aim of establishing a wild population at a new site.

II. A reintroduction ‘top up’ – is a release of captive-bred dormice at a reintroduction site where a reintroduction is considered to have released insufficient animals to achieve the aim of establishing a wild population at a new site.

III. A further release – is a release of more dormice at an existing reintroduction site with the aim of improving the genetic variation of the population at the site.

The dormouse reintroduction programme featured as a case study in the UK’s Sixth National Report to the United Nations

(JNCC. 2019) *Sixth National Report to the United Nations Convention on Biological Diversity*.

A summary of the lessons learnt and implications for practice are given below:

- The dormouse reintroduction programme has required a long-term approach with significant population and distribution level impacts taking many years to be observed.

- Pre-release veterinary screening has been essential for minimising risk of spreading parasites or bacteria to wild populations and for maximising the chances of successful reintroduction.

- The programme involves an extensive network of project partners and volunteer networks and an enormous amount of work is achieved through good will. Without these partners and volunteers, the programme would be unsustainable.

- Species reintroduction is more successful in sites selected on the basis of habitat suitability and connectivity. The programme aims to release dormice into areas where at least two sites within 5 km of each other can be used as reintroduction sites. Where possible, the programme aims to drive improvements to hedgerow and woodland corridors amongst sites. Landowners' support is critical for successful reintroductions.

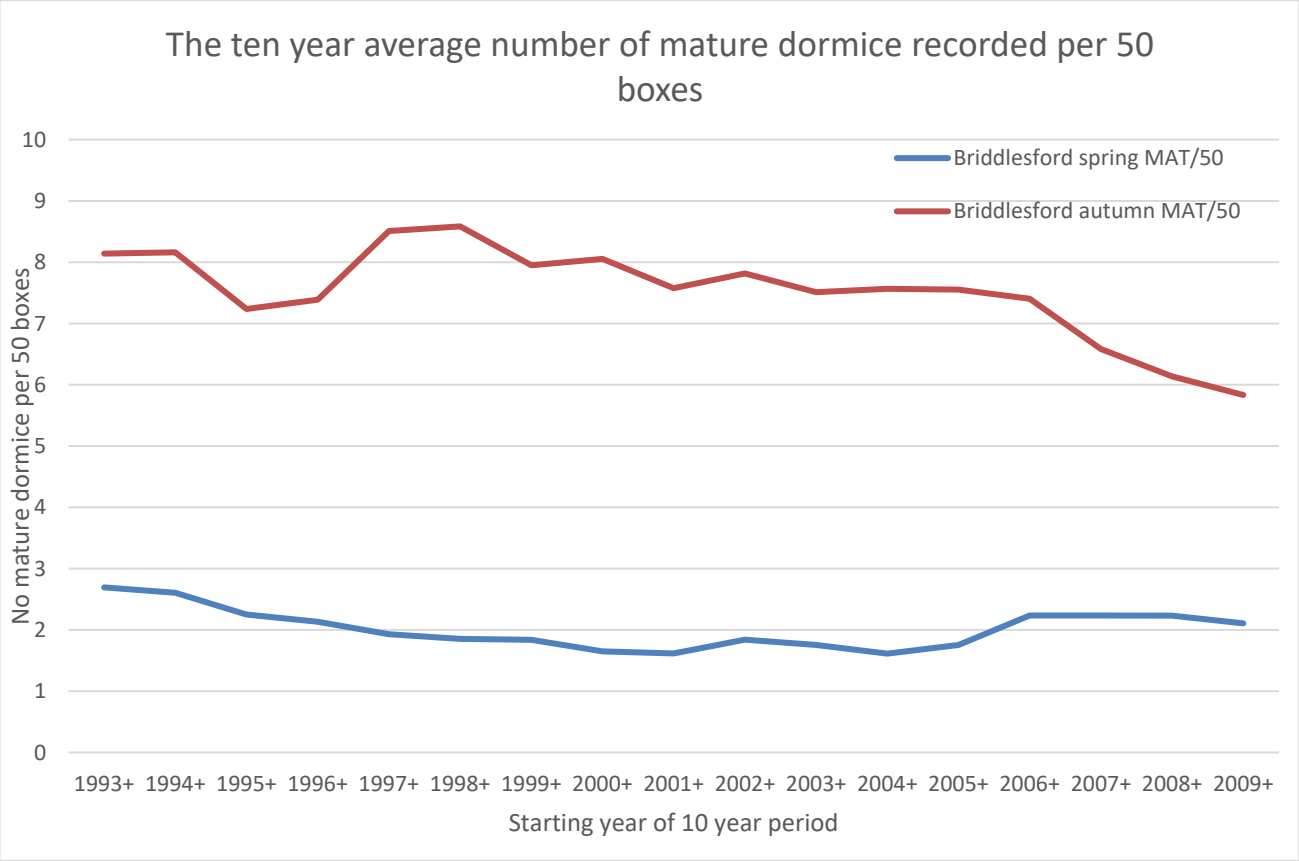
- Successful reintroductions depend on the original causes of species decline being identified and removed, and on suitable habitat of high enough quality remaining for species survival. An appropriate long-term land management plan is necessary to maximise the chances of a successful reintroduction.

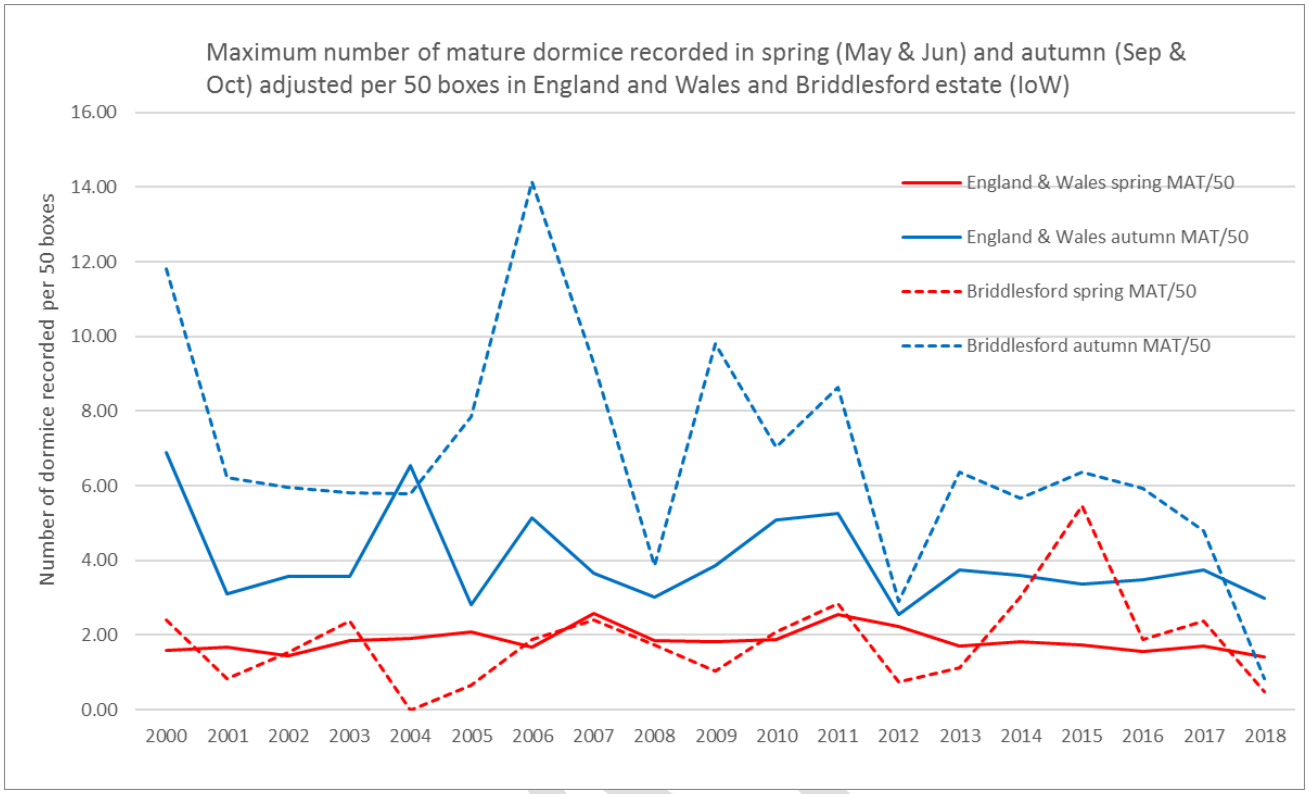
- The programme demonstrates the importance of work to ensure chosen habitats will remain suitable for the target species in the long-term. Monitoring of reintroduction/reinforcement programmes allows continuous adaptive management to improve success over the longer term.

Format of report

Dormice records vary significantly by year and by region and so to give a comparison at each reintroduction site; data from the PTES reserve at Briddlesford on the Isle of Wight is also shown. The reserve at Briddlesford is managed for dormice, red squirrels and its woodland bats. Dormice have been monitored at Briddlesford continuously (with some breaks in the data since 1992) and the reserve has two established NDMP sites, each with approximately 250 boxes. Scheduled woodland management work is undertaken around and within the box areas, the boxes have generally remained in the same location since they were set up. The results from the long-term monitoring suggest that the dormouse population is stable. Compared with the national average of dormouse counts, Briddlesford generally returns a higher count reflecting its southerly location and the ongoing habitat management. Briddlesford was chosen as a comparison site as PTES has both control over its management and data from the reserve can be published more promptly than the national data.

Peer-reviewed references are given in the Reference chapter of the report and relevant reports are given in the body of the text. All reference documents are held by PTES. The majority can be obtained on request.





For each reintroduction site the following information is given:

Introduction

An overview of the site, its ownership and why it was chosen. At many of the early sites, the reason for the site choice is unclear and maybe subject to hearsay and conjecture. However, site selection is important as it may give an indication as to why a reintroduction succeeded or failed.

Dormouse population

All dormouse counts are standardised to number per 50 boxes - only 'live' dormice counts are included, dead animals are excluded from the figures. Monitoring checks are usually made at sites in May, June, September and October but not always. Hence, the count is taken as the maximal count in May and June (Spring) and the maximal count in September and October (Autumn). Comparing the total number of dormice between sites is not very reliable, as the number of young in litters are not always counted accurately. The most reliable counts are considered the number of mature animals i.e. independent adults and juveniles, and the number of litters of young dormice recorded in both Spring and Autumn.

Woodland management

The question most usually asked at a potential future reintroduction site is 'what habitat quality and area is needed to allow a reintroduction to go ahead? At a basic level, the question is easy to answer – about 20 ha of successional, well-connected woodland. But, in a practical sense, it is much harder. There is very limited research on either the size of the habitat required or the age of optimal woodland.

Bright (1994) suggested that 20 ha may represent a critical threshold for survival of dormouse populations, which has become interpreted as dormice require at least 20 ha of suitable habitat for a self-sustaining population. This 20 ha figure could also be extrapolated into a potential dormouse population size by taking an average spring mature dormouse density of four per hectare in ideal habitat, which would equate to a self-sustaining dormouse population size of 80 animals. However, when applied to the reintroduction sites these figure do not always apply. Generally, the reintroduction sites are larger than 20ha but there have been some exceptions. In Freeholders Wood, for example, 35 dormice were released into a 10 ha wood in 2008. The lowest starter populations were 30 dormice released at Maulden wood in 2001 and 32 dormice released at Chambers Farm wood in 2002. All these reintroductions are considered successful. Using the average spring population density figure of four animals per hectare, the dormice released at Maulden and Chambers would have required no more than 8 hectares of good quality habitat. Therefore, it's not unreasonable to say that, for a reintroduction to go ahead, a minimum of 10 hectares of good quality connected habitat is required – with future outcomes of the site management plan increasing that area over time.

In addition, there is little research looking at the optimum woodland age structure for dormouse occupancy. Where research has been undertaken, it predominantly refers to the age of coppice although there is no reason that new woodland age structure or thinned areas could not be included. The results of the studies are shown in Table 2 and this suggests that dormice preferentially occupy a vegetative-aged habitat of between 8 to 20 years*

Reference	Coppice < 7 years	Coppice 8 – 20 years	Coppice > 20 years
Wilmot (2010)	2%	73%	25%
Rackham (1990)	21%	79%	0%
Morris & Bright (1990)	0%	68%	32%

Hazel dormice are highly arboreal rodents that, in lacking a caecum, are inhibited in their ability to digest cellulose. They have therefore become known as selective, sequential or specialist feeders. For woodland management, it would be useful to know whether arboreal linkage or food availability is the key factor determining dormouse occupancy. Bright and Morris (1990) identified canopy shading as the primary factor associated with high dormouse densities and concluded that

* Dormouse monitoring relies on data from dormouse boxes this could also be interpreted, as dormice are most likely to occupy dormouse boxes in habitat aged 8-20 years possibly due to a lower availability of natural nest sites in this type of habitat

dormice prefer spreading shrubs to upright ones. While shrub species diversity was also considered important, it depended on the combination of species available at a site. More recently, it's been recognised that dormice have a greater flexibility in their diet than considered in the past.

For each reintroduction site, the question of how large an area of arboreally connected 8-20-year-old successional growth is likely to exist, or have existed, at the site is considered.

Future development

The reintroduction programme now aims to undertake at least two reintroductions into an area, in woodlands about 4 - 5 km apart. At existing, successful sites, a further suitable site is sought within the locality. In a new area sites, at least two sites are identified to undertake two dormouse releases. While it's not vital to undertake the two releases in consecutive years, from a practical point of view it's often easiest to do so as all the equipment is in the right area and the volunteers primed.

Once the sites have been chosen, it is important that local landowners and interested parties are fully engaged with the project.

Maps, graphs and tables

An Ordnance Survey map of the site is shown and a further map showing the site in context of other woodlands or landscape features is shown if appropriate.

Two graphs are shown

- The maximum number of mature dormice recorded in spring (May & Jun) and autumn (Sep & Oct) adjusted per 50 boxes at (reintroduction wood) and Briddlesford estate (IoW)

- The maximum number of dormice litters recorded in spring (May & Jun) and autumn (Sep & Oct) adjusted per 50 boxes at (reintroduction wood) and Briddlesford estate (IoW)

The information in the text is summarised in the following table for each site. Information on the dormouse population and their dispersal is collected by volunteers. Hence, it is possible that the summary data, specifically the conclusions pertaining to whether the site has succeeded in the 'long term' or can be considered a 'long-term success', may vary by year depending on the level of voluntary input.

Site Name		
Term	**Abbreviated definition**	**Definition**
Management	*Woodland management*	*Woodland management*
Short term	*Dormice survive the first two winters*	*Dormice survive the first two winters and breed in the third year*
Medium term	*The dormouse population remains stable over 5-10 years*	*The dormouse population at the release site remains stable over a period of 5-10 years and disperses into adjacent areas outside the original wood*
Long term	*The dormouse population increases in size and expands its range*	*The dormouse population increases in size and expands its range to reach a level where the probability of long-term survival of the population is high*
Long term Success	*The dormouse population has a reduced risk of extinction*	*The dormouse population is found in an area of sufficient size to substantially reduce the risk of extinction due to stochastic processes*

1. Brampton Woods, Cambridgeshire

Woodland Owner:	The Wildlife Trust for Bedfordshire, Cambridgeshire & Northamptonshire	
Grid reference:	TL180701	NDMP Site No. 84
Woodland size:	134 ha	
Release date and number of animals: Approx. 19 dormice in 1993 and 30 in 1994 (total 49)		

Introduction

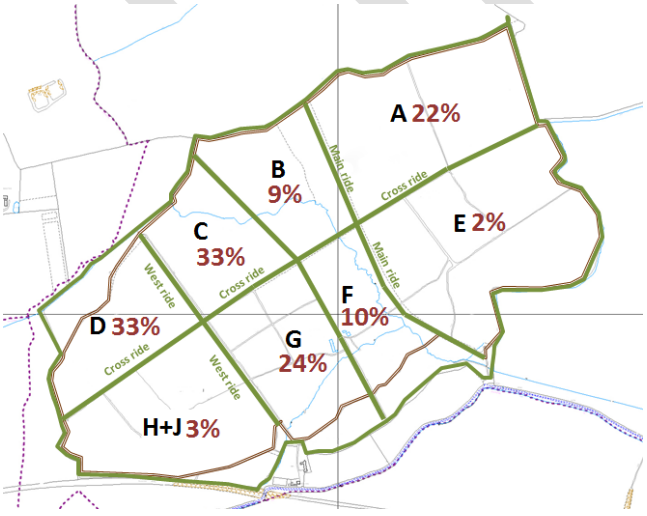
Brampton Wood SSSI Nature Reserve in west Cambridgeshire is one of the Wildlife Trust's key woodland reserves. It is the second largest woodland in Cambridgeshire and is one of the largest ancient woodlands in the county. Unlike many ancient woodlands, Brampton Wood has not become 'high forest' due to its long history of coppice management and extensive felling (up to two-thirds of the wood during the 1950s). This management makes the woodland suitable habitat for dormice.

The rationale, methods and results of this first reintroduction were reported by English Nature

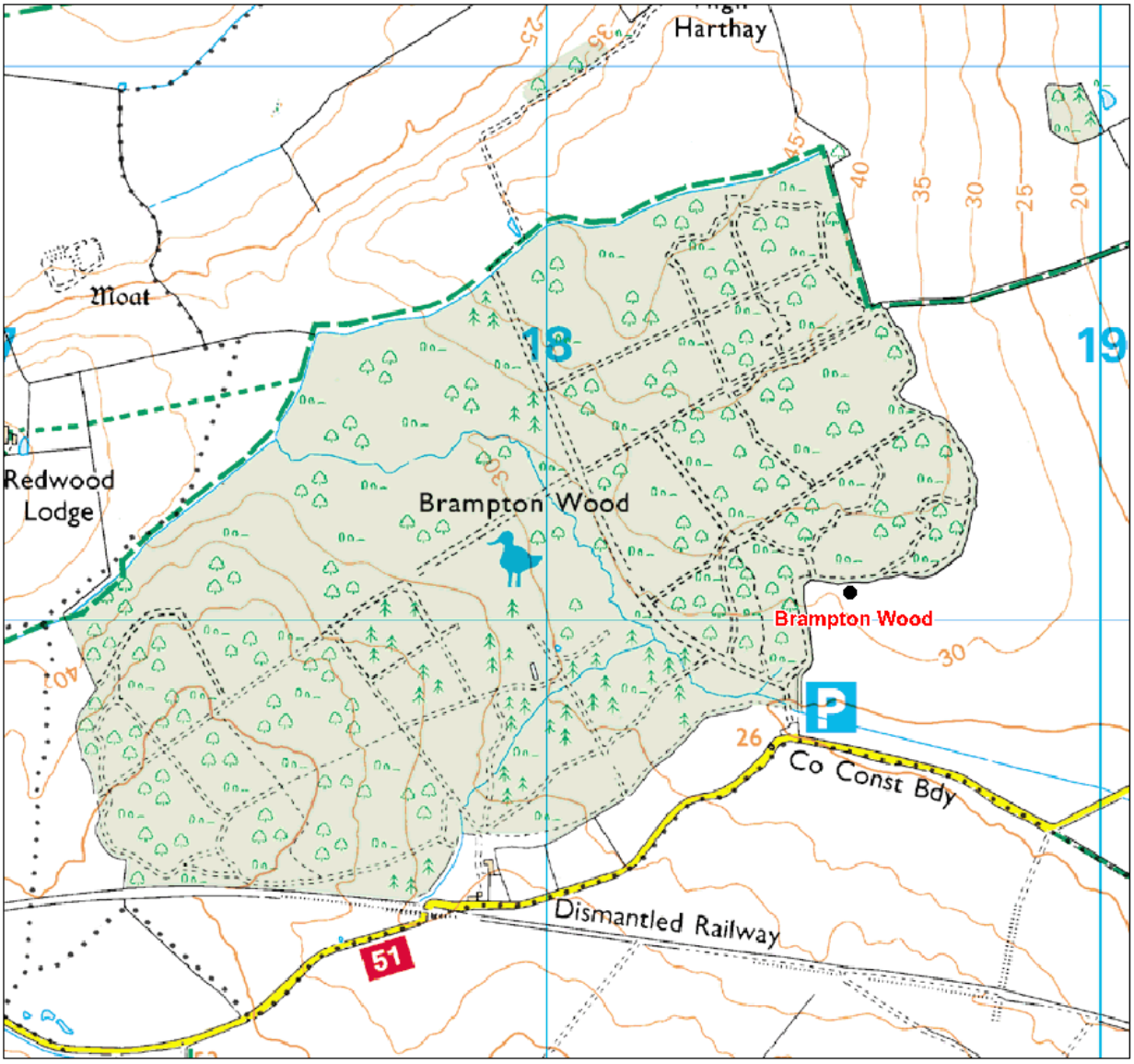
- Bright, Morris & Cooter (1993) *Trial reintroduction of the dormouse to Cambridgeshire: report to English Nature.*

Dormouse population

Brampton Wood was the location of the first official dormouse reintroduction project in the UK with 11 wild-caught and eight captive-bred dormice released into the wood in Compartment A in June 1993. A further 30 captive-bred dormice were also released in the summer 1994 to supplement the population. Since then dormice are monitored in the wood every year, the monitoring incorporated into the Ecology Group programme in 2011. The number of boxes, visits and box locations has changed over the years with the initial monitoring just being carried out in the north-east section where the dormice were released. In 2014, the boxes were rearranged to cover the whole wood and several surrounding hedgerows. The aim of this was to determine if dormice had expanded through the wood from the original release site and also if they were expanding out of the wood.



Percentage use of boxes by dormice in Brampton Wood compartments 2016



In 2016, dormice were recorded throughout Brampton Wood with the highest occupancy rates, and litters of young, found in compartments C and D at the northwest end of the wood away from the release area. This indicates that the dormice have successfully dispersed through the woodland. Dormouse nests were found in two hedgerows leading away from Brampton Wood for the second year in a row, showing that the population is expanding beyond the wood.

There have been two recent dormouse reports by Beds, Cambs & Northants WT

- Hitchcock G (2017) *2016 Dormouse report: monitoring & research report*
- Hitchcock G (2018*) 2017 Dormouse report: monitoring & research report*

Woodland management

The precise woodland management is unknown but believed to be ongoing and that at least 10 ha of the woodland is in the 8-20yr age structure.

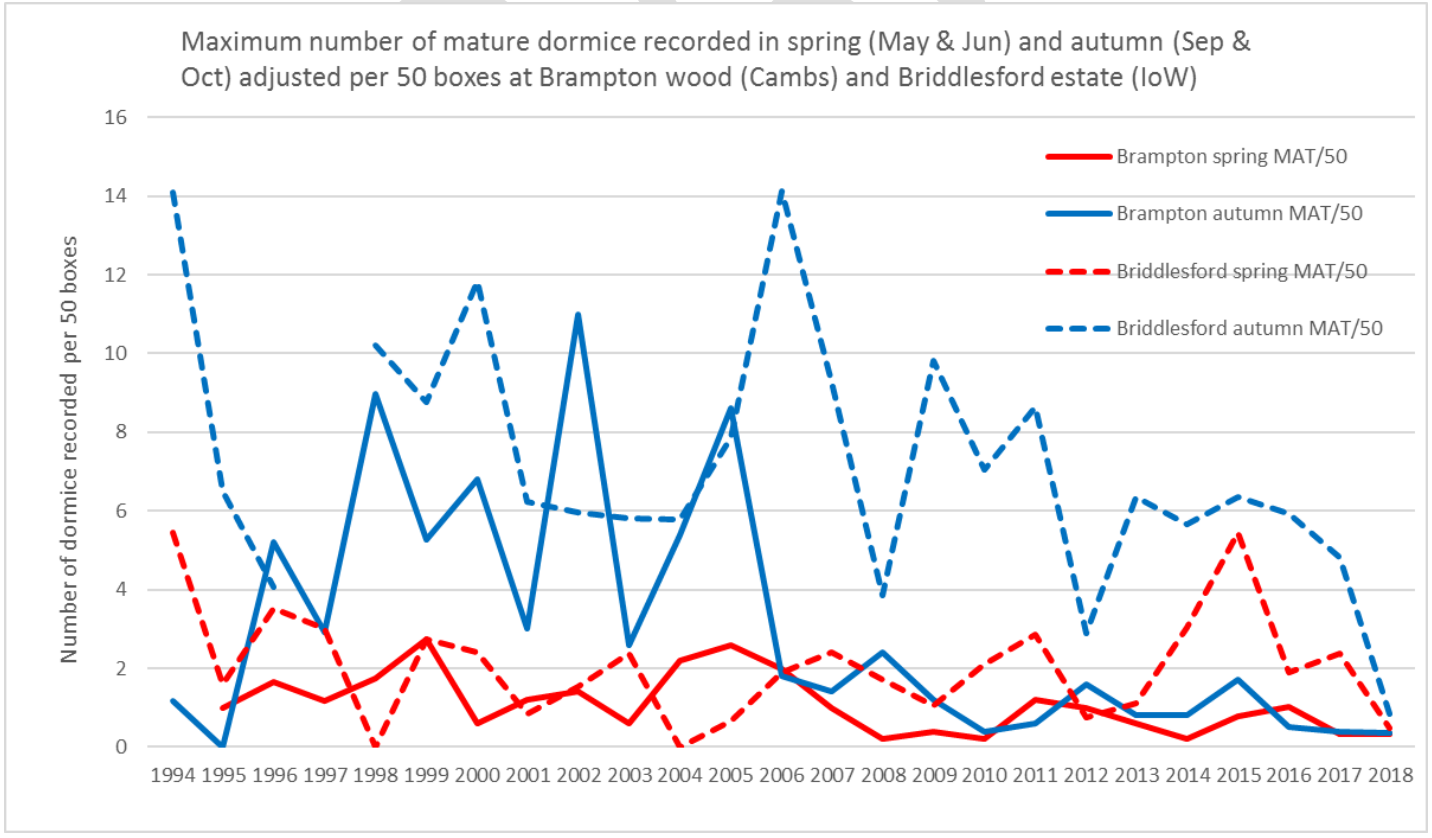
Future development

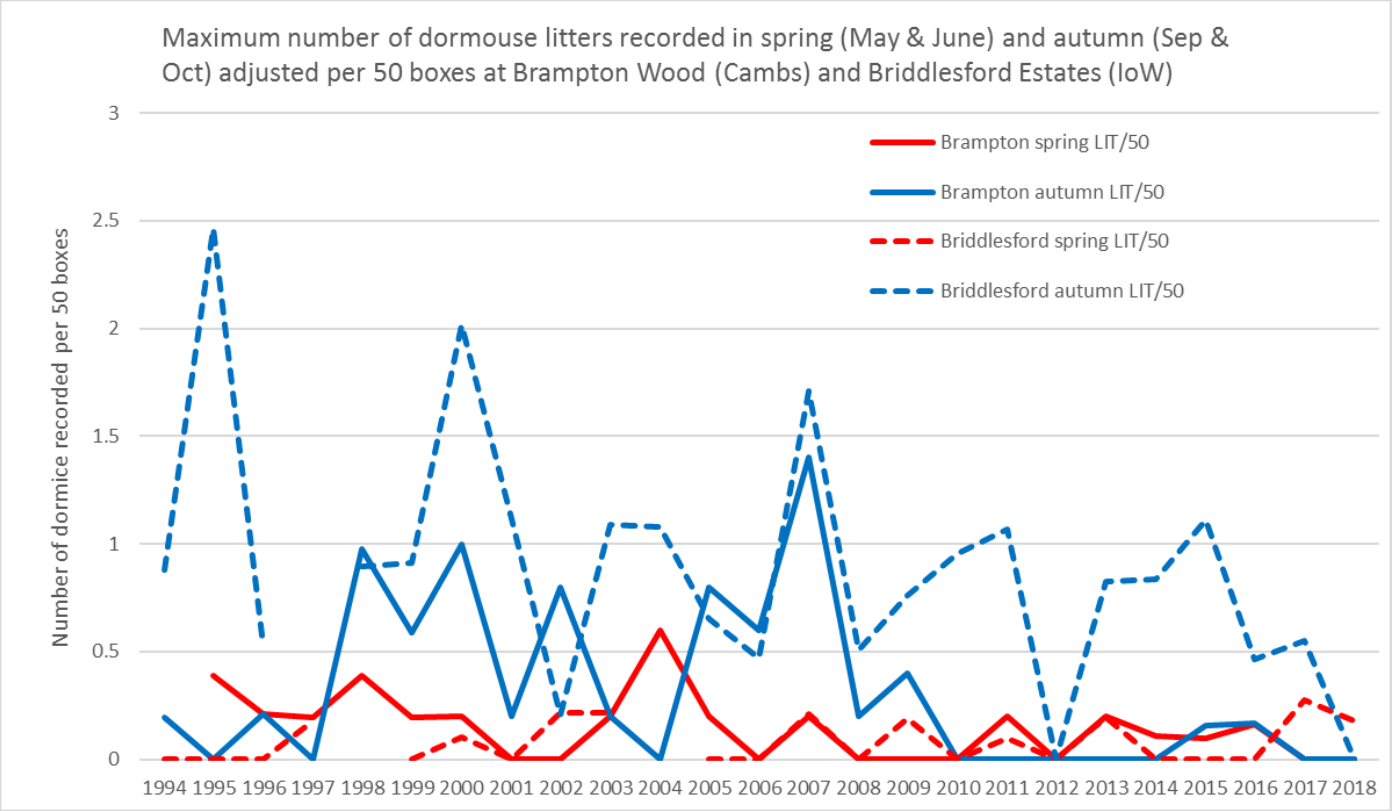
It has long been hoped to undertake a further dormouse reintroduction in one of the woodlands close to Grafham Water and to link habitat around the reservoir. Further to a meeting in 2017, the plan drew slightly closer to fruition. However, the woodlands around Grafham Water are not currently in appropriate condition to support a dormouse release due to the lack of an understory and excess disturbance. Hedgerow linkages between Grafham Water and Brampton Wood have been considered in the past and have been deemed to be mostly in good condition. A reassessment including new discussions and advice to landowners would be needed to ensure a linkage is present to allow the establishment of a metapopulation. Habitat improvement works will continue and will be assessed periodically. The timescale required to achieve suitable habitat is uncertain, but likely to be at least five years.

The scope for a further reintroduction has been reported by Beds, Cambs & Northants WT

- Hitchcock G (2018) *Brampton-Grafham dormouse metapopulation: monitoring & research report*

Ian White
Feb. 2019





Site 1. Brampton Wood 1993/95		
Term	**Definition**	**Comment 2019**
Management	*Woodland management*	The woodland has had continual management since the reintroduction in 1993
Short term	*Dormice survive the first two winters*	**YES** The dormouse population survived the first two winters
Medium term	*The dormouse population remains stable over 5-10 years*	**STABLE 1997 – 2002** The dormouse population was considered stable and was recorded in other areas of the woodland
Long term	*The dormouse population increases in size and expands its range*	**DISPERSING** Dormouse nest have now been recorded throughout and beyond Brampton wood
Long term Success	*The dormouse population has a reduced risk of extinction*	**YES** Dormice appear to be reasonably well dispersed in the woodland and there is now evidence that they are starting to disperse into the surrounding landscape.

2. Treswell Wood, Nottinghamshire

Woodland Owner:	The Nottinghamshire Wildlife Trust	
Grid reference:	SK762796	NDMP Site No. 144
Woodland size:	48 ha	
Release date and number of animals: 23 dormice in 1994 and 29 in 1995 (total 52)		

Introduction

The dormouse reintroductions into Treswell wood in Nottinghamshire many be considered as part of a long term, albeit originally unintended, plan. The first reintroductions were undertaken in 1994 and 1995 but by 2004 were considered unsuccessful and extinct. However woodland management implemented at the time of the first release meant that, when a second attempt was made, about half of the woodland was in an ideal condition for dormice. Furthermore, the initial release had engaged local volunteers and the Wildlife Trust and they were keen to be involved again when the decision was made to undertake a third reintroduction in 2013.

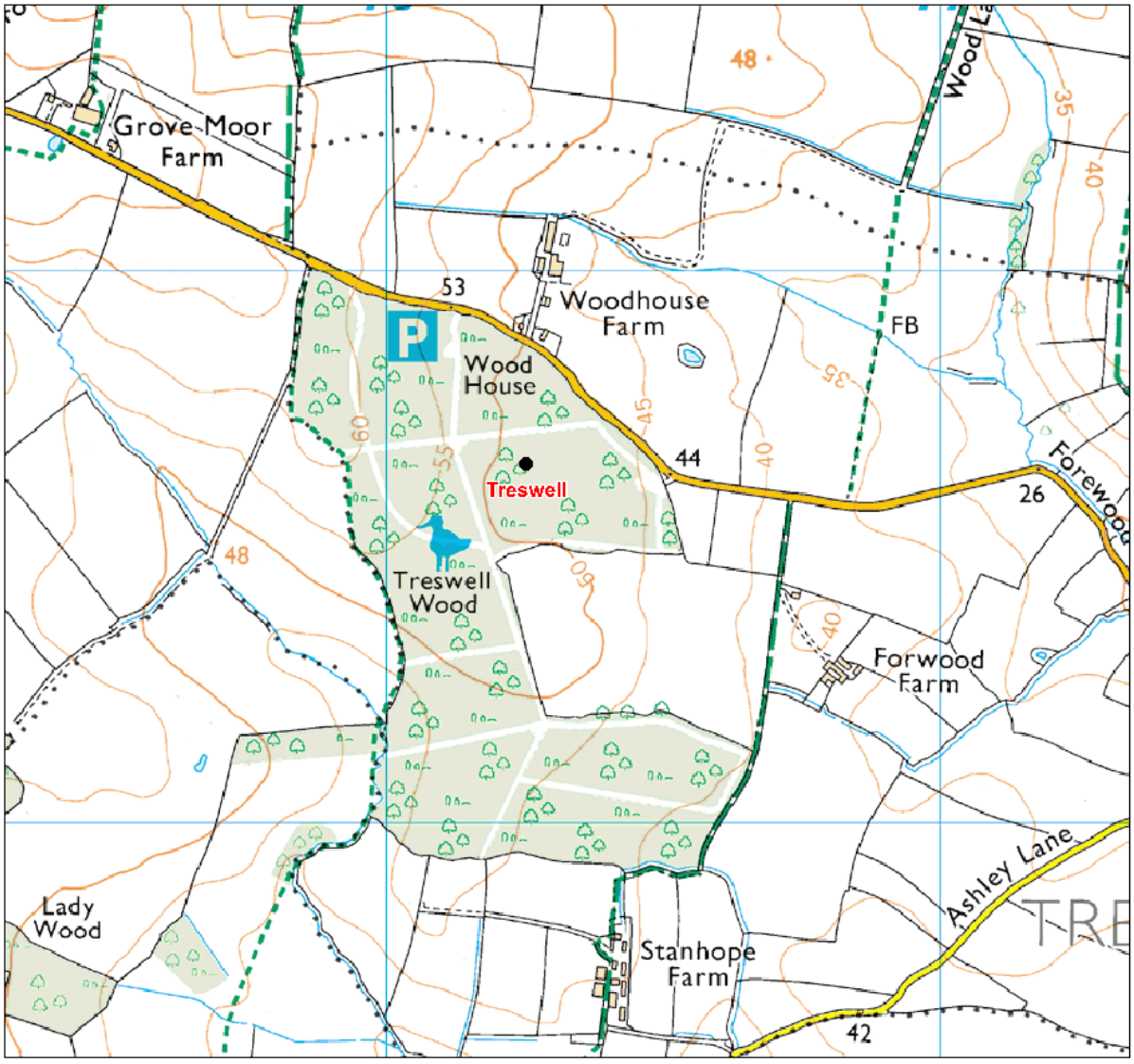
Dormouse population

A report on the dormouse reintroduction at Treswell wood summarises the reason for the failure of the first reintroduction:

- Black (2004) *Status of dormice at Treswell wood*

The evidence suggests that the reintroduction process was flawed in three ways. Firstly, it was recognised that the habitat was not ideal to support dormice, but as no better sites in Nottinghamshire were found the release went ahead. Secondly, some of the captive bred dormice released in 1994 were in sub-optimal health due to obesity and mite infestation, as well as behaving abnormally for an arboreal nocturnal animal, but were released as there were no facilities to keep them in captivity. Finally, the management requirements of Treswell Wood, particularly the imminent restoration of standards with coppice and short coppice rotation, were in conflict with the habitat requirements of dormice and would have affected the ability of the dormice to feed and disperse to alternative habitat within the wood.

In addition, there was a suggestion at the time that, a further reason that the reintroduction might have failed was that the last positive records of dormice in the wood were in a box in a compartment where pigs had been introduced to control bramble. It was felt that pigs might have negatively impacted on the remaining dormice. But the likelihood is that if only a small number of dormice had survived at that point the reintroduction was already highly unlikely to succeed.



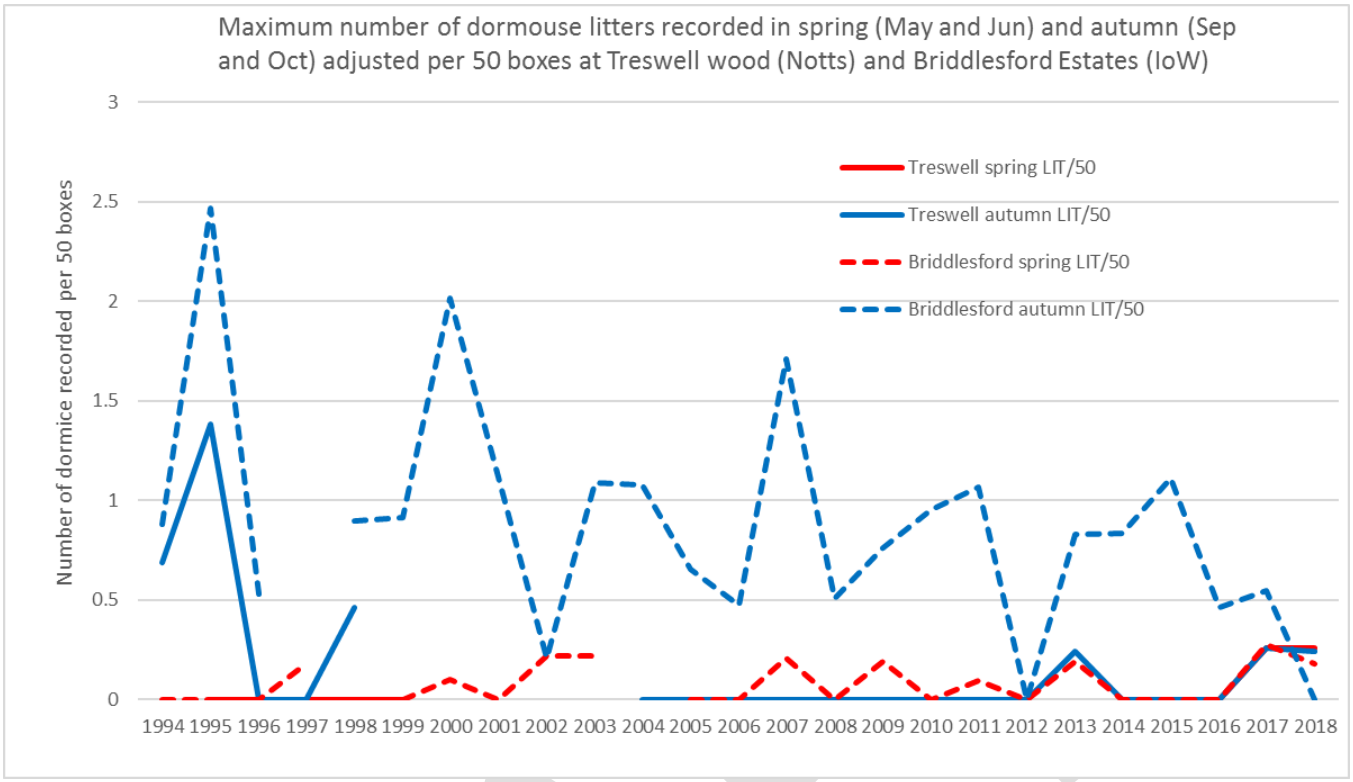
Woodland management

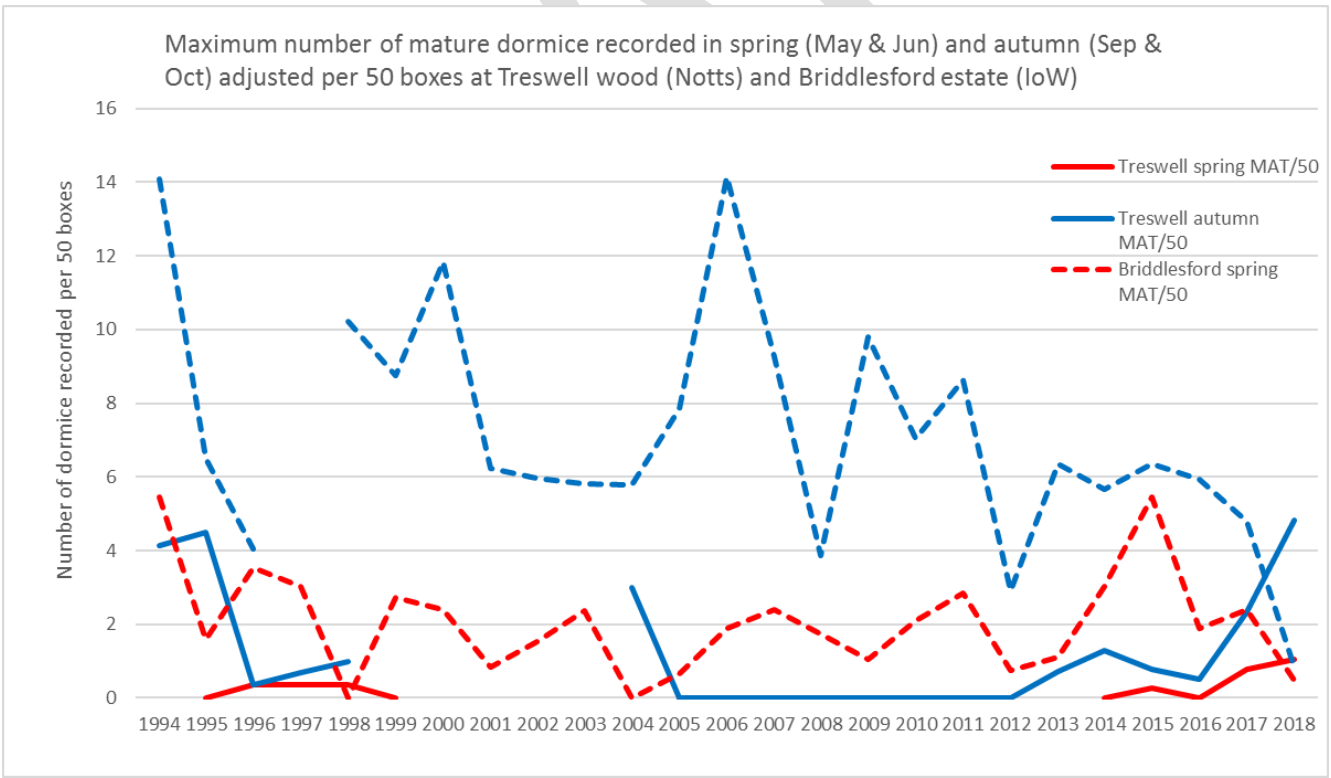
The plan for the woodland restructuring in 1993 was to convert approximately half of the wood to coppice with standards management. However, when the reintroduction took place this management programme had only started to be implemented.

Future development

Although this reintroduction is considered to have failed, the site was used again as a reintroduction site in 2013 (See Treswell Wood Page 97).

Ian White
Feb. 2019


Maximum number of dormouse litters recorded in spring (May and Jun) and autumn (Sep and Oct) adjusted per 50 boxes at Treswell wood (Notts) and Briddlesford Estates (IoW)
Number of dormice recorded per 50 boxes
3
2.5
2
1.5
1
0.5
0
Treswell spring LIT/50
Treswell autumn LIT/50
Briddlesford spring LIT/50
Briddlesford autumn LIT/50
1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018


Maximum number of mature dormice recorded in spring (May & Jun) and autumn (Sep & Oct) adjusted per 50 boxes at Treswell wood (Notts) and Briddlesford estate (IoW)
Number of dormice recorded per 50 boxes
16
14
12
10
8
6
4
2
0
Treswell spring MAT/50
Treswell autumn MAT/50
Briddlesford spring MAT/50
1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018

Site 2. Treswell Wood 1994/95		
Term	**Definition**	**Comment 2015**
Management	*Woodland management*	The woodland was restructured at about the time of the reintroduction
Short term	*Dormice survive the first two winters*	**YES** the dormouse population survived the first two winters
Medium term	*The dormouse population remains stable over 5-10 years*	**NO** 1998 – 2003 No dormice were recorded in the wood between 1999 and 2003
Long term	*The dormouse population increases in size and expands its range*	**N/A**
Long term Success	*The dormouse population has a reduced risk of extinction*	**NO** The dormice population did not persist in Treswell wood due to the processes described by Black (2004)

3. Stockton Dingle, Cheshire

Woodland Owner:	Daresbury Estate	
Grid reference:	SJ483445	NDMP Site No. 78
Woodland size:	8 ha (several other woods nearby with good linkages	
Release date and number of animals: 29 dormice in 1996 and about 30 in 1997 (total about 59)		

Introduction

Stockton Dingle is in a wooded valley laying to the north of a number of woodlands that border the Wych Brook near to Malpas in Cheshire. The brook itself demarcates the England–Wales border with potentially suitable dormouse habitat on both sides. Stockton Dingle used to be owned by Manor Farm Dairy but around 2010, the farm was purchased by Daresbury Estates, along with a number of other farms in the area to create a larger landholding. It was chosen as a dormouse reintroduction site in 1995 and the release took place in 1996. The dormouse monitoring is undertaken by the Cheshire Wildlife Trust.

Dormouse population

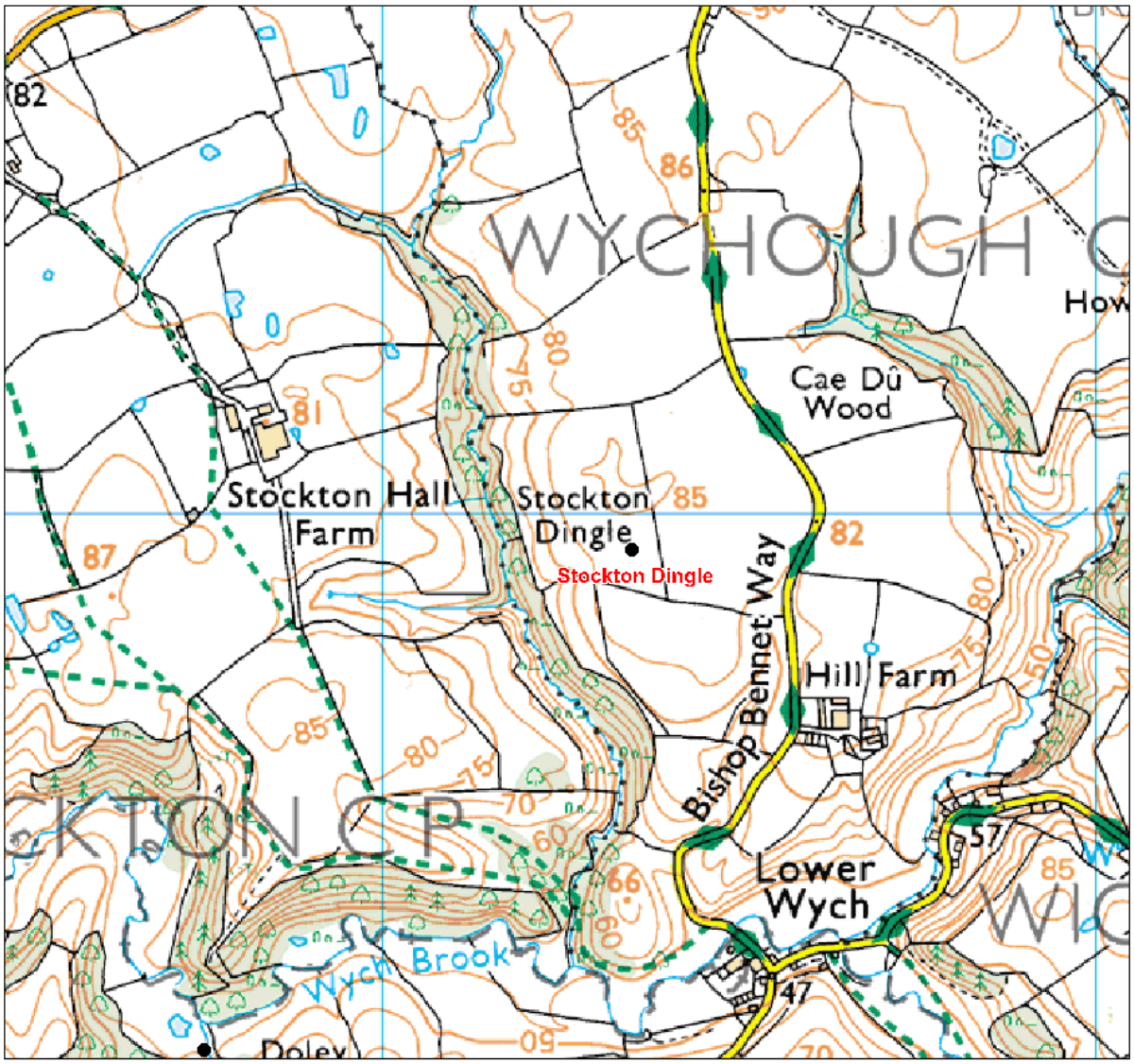
There has been a steady decline in number of dormice recorded in Stockton Dingle itself. Despite dispersing from the site into woodlands to the south and west, numbers still continue to decline. A nut search in 2013 identified dormouse-chewed nut shells in several places where dormice hadn't been seen for a couple of years. So dormice are still present, but for unknown reasons they are not using the nest boxes.

The low numbers of dormice recorded at Stockton Dingle persisted: in June 2016, five dormice were recorded and none in autumn although eight nests were recorded in September 2016. The data from 2018 is awaited.

Woodland management

There has long been a desire to initiate some woodland management work on the estate to benefit the dormouse population and the wider biodiversity. In 2010, BASC obtained funding for a three-year project entitled The Southwest Cheshire Dormouse Project in which the main objective was to

link hedgerows to aid dormouse dispersal.



In 2012 it was determined that five woodlands on the Daresbury estate, approximately 26 ha., were not in any existing grant scheme. They were surveyed and in 2014 management plans written with the aim of putting the woods into a woodland grant scheme and initiating woodland management. There were a number of potential advantages and disadvantages:

Advantages:

- The maturing conifer woodland would require some management
- Existing conifer woodland on the estate could be used to supply the on-site biomass boiler
- The conifer woodland could be converted to a long rotation broadleaf coppice with the aim of providing biofuel

- Edge management in small copses would reduce windblown tree limbs falling onto fields
- Two woodlands were SSSI's and management could be improved within them

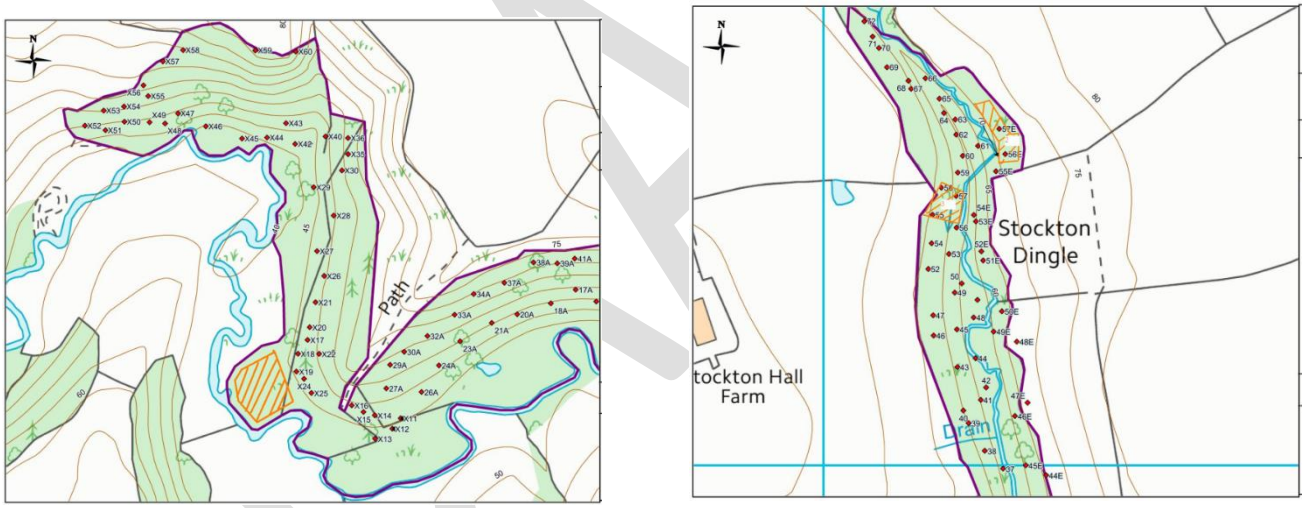
Disadvantages:

- Woodland access routes would need to be installed
- Capital costs for processing and storing cord wood or wood chip
- Local management for implementation of the woodland management plan

Due to changes in the Woodland Grant schemes the management plans were never finalised, funding was not obtained and the programme was never initiated.

- White (2012) *Woodland Grant Scheme Application for Daresbury Estate: PTES report.*

In 2016, the Daresbury estate and Cheshire Wildlife Trust agreed to allow volunteers to cut three coppice coupes at the reintroduction site which was done in 2016/17 with the ongoing aim of doing small amounts of coppicing each year.



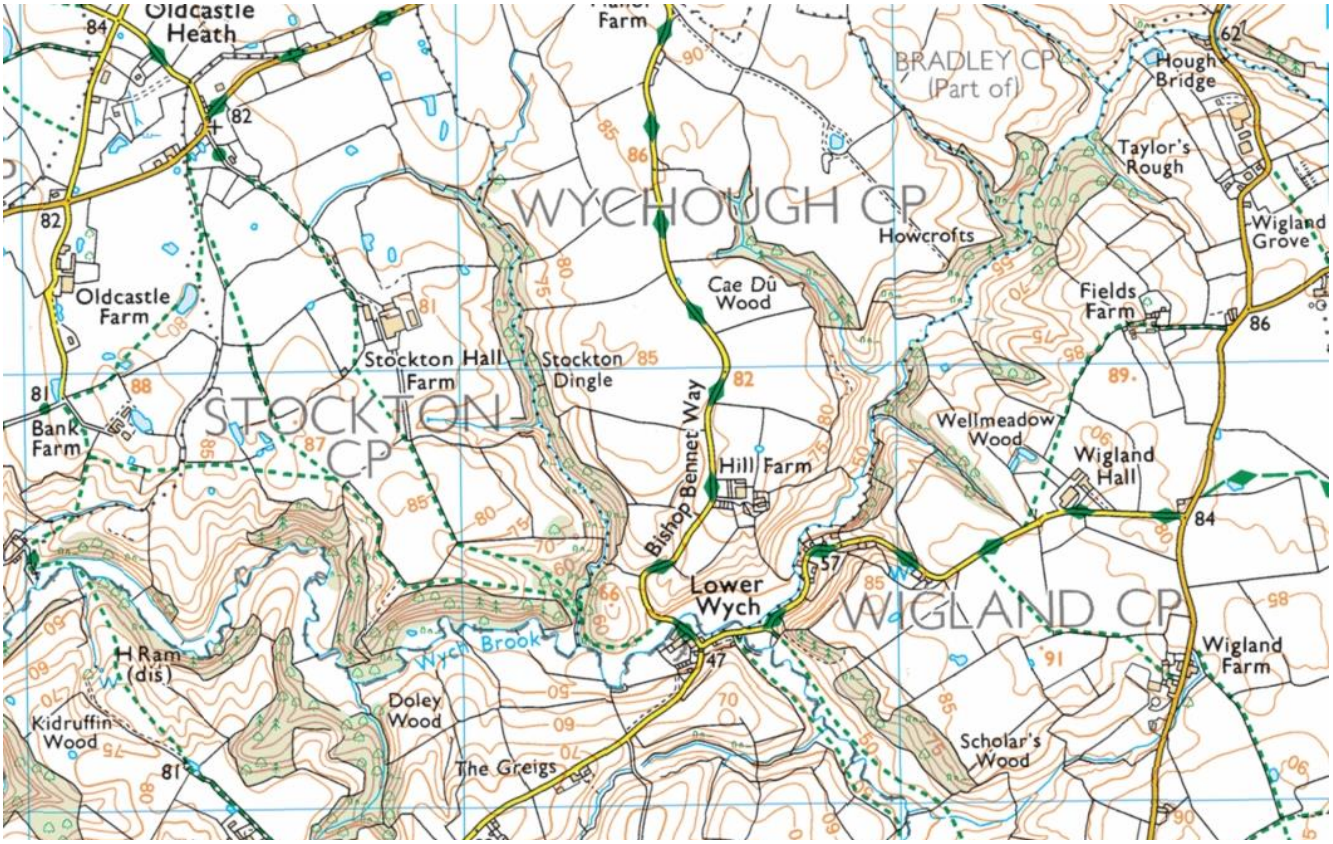
Coppice coupes cut by volunteers from the Cheshire Wildlife Trust in 2016/17

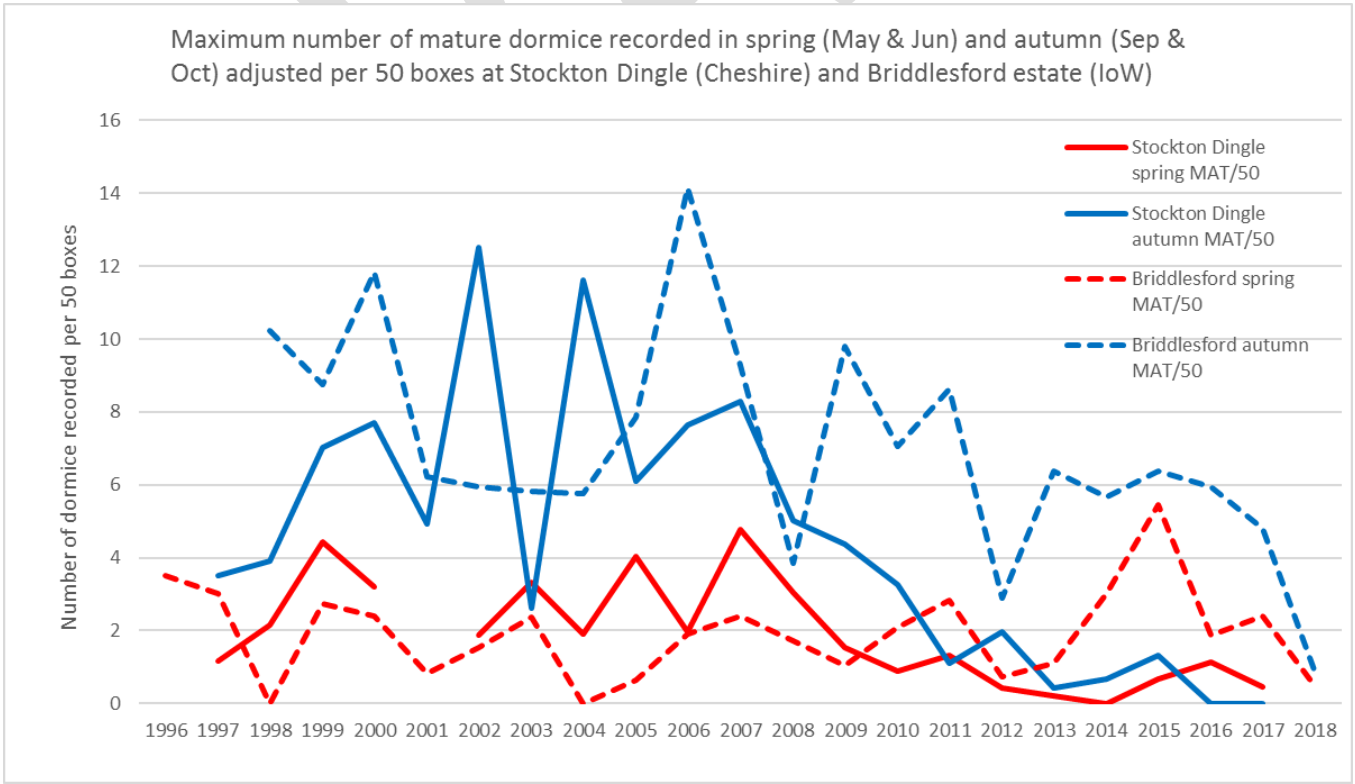
Cut coppice coupes in Stockton Dingle 2016/17

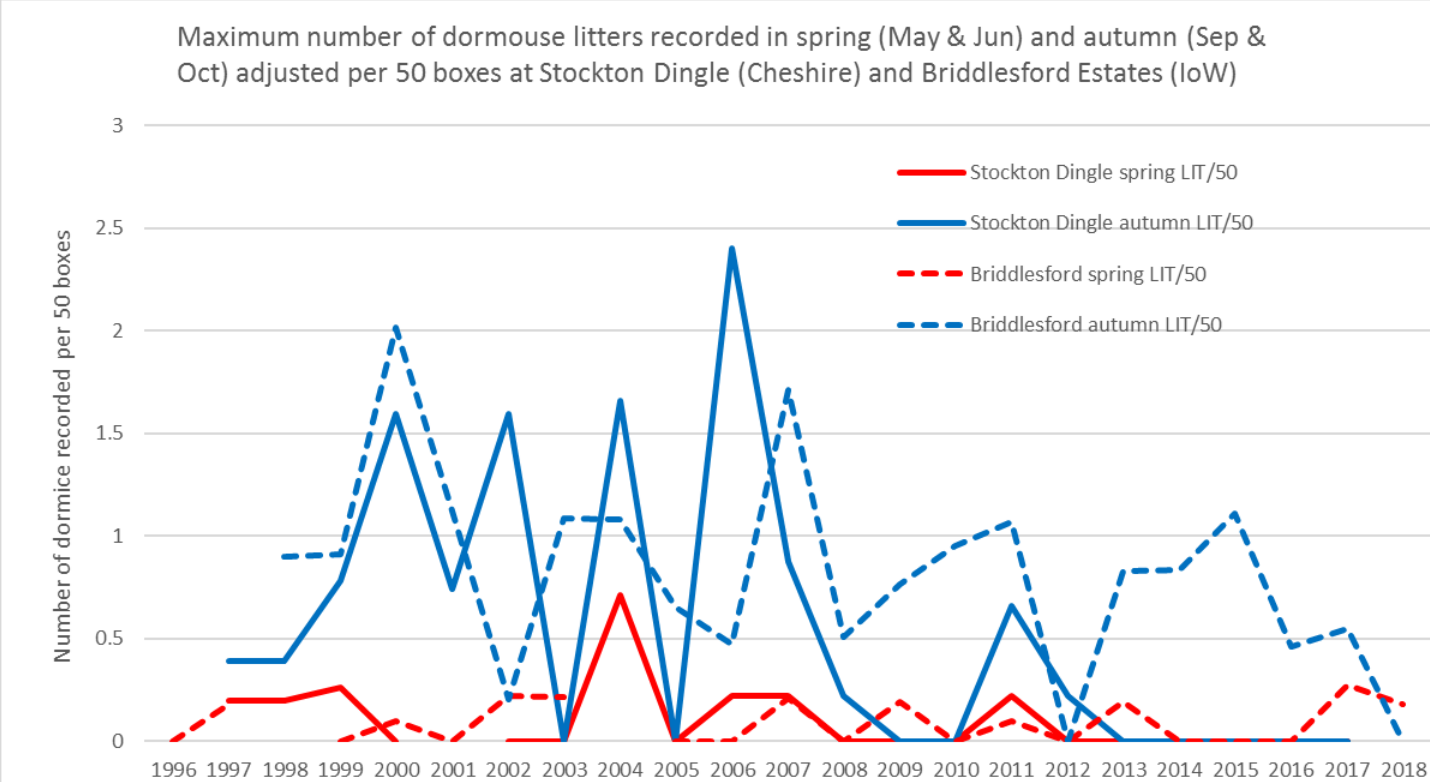
Future development

At present there are no plans to undertake a further reintroduction into the area. However, there is an extensive wooded strip running east to west, along the Wych valley and, if the woodland management improves to benefit dormice, it is possible that a further reintroduction site could be considered in the future.

Ian White
Mar. 2019







Site 3. Stockton Dingle 1996/97		
Term	**Definition**	**Comment 2019**
Management	*Woodland management*	There has been some management in the norther part of Stockton Dingle but in general the wood is over shaded and dark. Small scale management has now restarted. The wood is, however, well connected with other woodland types but currently little to no management is undertaken in any of the estate woodlands
Short term	*Dormice survive the first two winters*	**YES** the dormouse population survived the first two winters
Medium term	*The dormouse population remains stable over 5-10 years*	**STABLE 2001 – 2006** The dormouse population was considered stable
Long term	*The dormouse population increases in size and expands its range*	**DISPERSING** dormice have dispersed beyond Stockton Dingle but adjacent habitat are not of good habitat for dormice.
Long term Success	*The dormouse population has a reduced risk of extinction*	**NO**

4. Linford Wood, Buckinghamshire

Woodland Owner:	Berkshire, Buckinghamshire and Oxfordshire Wildlife Trust	
Grid reference:	SP832455	NDMP Site No. 73
Woodland size:	40 ha	
Release date and number of animals: 41 dormice were released in 1998		

Introduction

Linford wood is an interesting reintroduction site for a number of reasons. Possibly more than any other site, it has achieved the initial basic aims of the programme in using a single reintroduced population as a base to start to repopulate the area. It has also shown the difficulties that such a conservation success can bring. In addition, it potentially has shown the implications of broad scale of woodland management for dormice.

It is understood that the dormouse reintroduction took place in Linford wood through the persistence of a local volunteer group, keen to restore dormice to this woodland north of Milton Keynes in Buckinghamshire and lying south of the M1 motorway.

The population is currently under threat due to the upgrading of the M1 motorway and future plans of extensive development in the area.

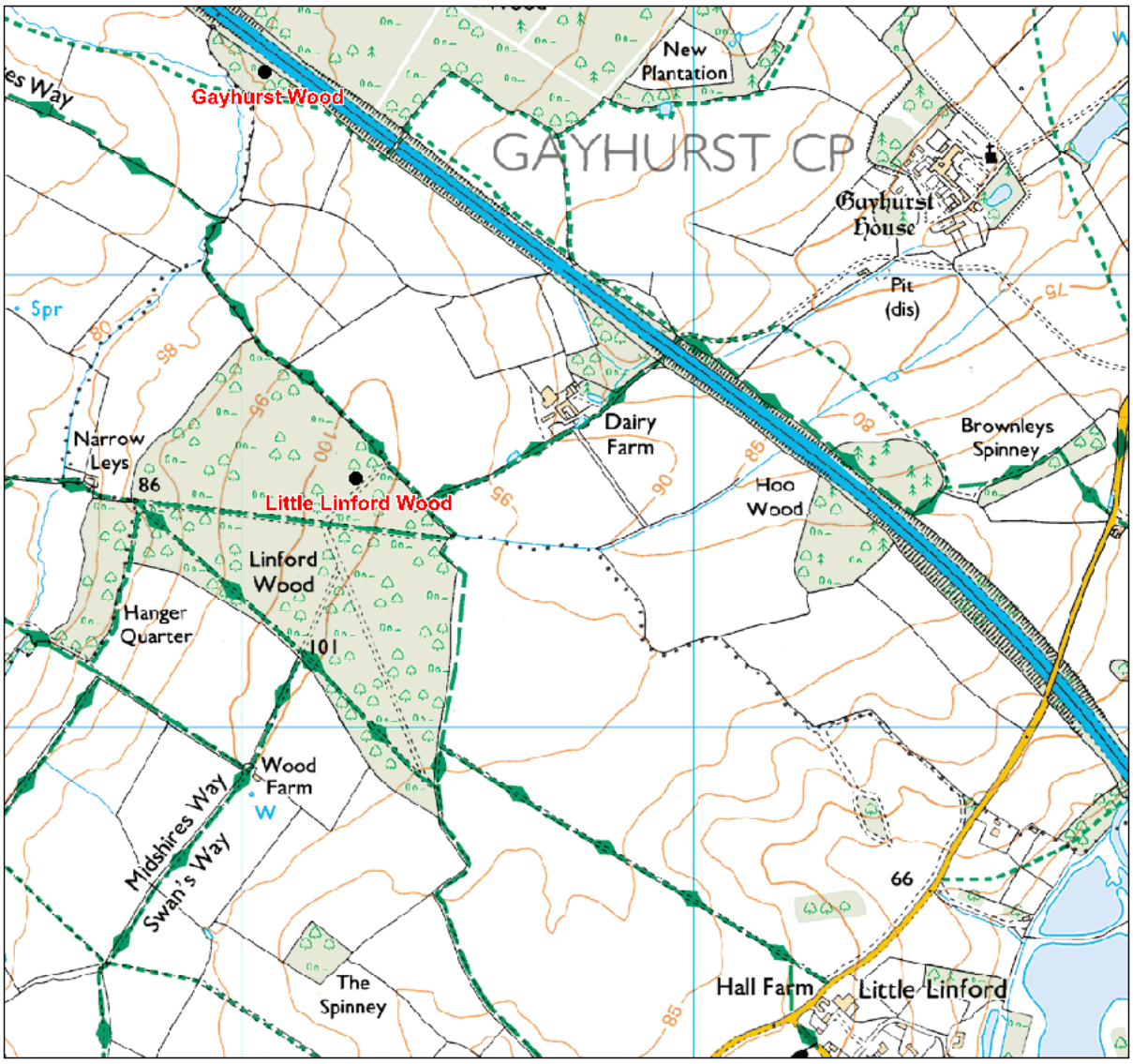
Dormouse population

Half of the woodland was clear-felled in 1986 and dormice were reintroduced to Little Lindford wood in 1998. The number of dormice in boxes increased to a peak count of 118 dormice recorded in September 2004 (equivalent to 17.87 dormice per 50 boxes). With a brief exception in 2010 and 2011 the number of dormice recorded in the woodland has continued to fall and no dormice have been recorded in the wood since 2016.

A survey by Michael Woods Associates in 2008 identified a number of dormouse nests in the hedgerows surrounding Little Linford.

By 2010, dormice had travelled from the main wood, 600m along a hedgerow and established a small breeding colony in a 2ha isolated part of Gayhurst wood, adjacent to the M1 motorway. The population that occupies the southern part of Gayhurst wood has persisted and dormice have been recorded in boxes approximately 500m NW and 1000 SE of Gayhurst wood alongside the southern

embankment of the M1. Salcey Wood (on the northern side of the M1), and an area alongside the motorway, have been monitored by the Bedfordshire, Cambridgeshire, and Northants. Wildlife Trust for about three years; so far no dormice have been found there or at the most northerly edge of the Linford group's monitoring along the motorway. Hence it is highly likely that the dormice alongside the motorway originated from Little Linford Wood.



In 2015, two juvenile dormice were recorded on the northern side of the M1 and it is thought that they originated from a litter recorded on the southern side of the motorway. The most likely crossing point was a nearby underpass that was part filled with farmer's debris and this could have acted as an artificial 'arboreal' route through the underpass.

Farmers debris in the M1 underpass from the South west

In 2018 the section of motorway close to Little Linford wood is being upgraded to a smart motorway way. The clearance of vegetation and mitigation work is being done under licence but there are concerns that the scale of clearance and the proposed mitigation work may negatively impact the only known dormouse population in the county.

M1 clearance to upgrade to a smart motorway

Woodland management

The reintroduction took place in 1998 and the peak dormouse count was in 2004 when 118 animals were recorded in September. About half of the wood had been clear-felled in 1986 and when the dormice were reintroduced there was about 20 ha of 12 years old successional growth. In 2004, when most dormice were recorded, the age of this wooded area had increased to 18yrs old. By 2016, when no dormice were recorded in the wood, the 20 ha clear fell area was 30 years old and the majority of the rest of the wood was of an older age structure.

There has been ongoing management at Linford Wood by a keen and enthusiastic group of volunteers that is sympathetic to dormice. About ¼ ha is coppiced annually which equates to about 20 x ¼ ha areas, a total of 5 ha plus some ride management. Unless the coupes were gapped up and well-protected from deer browsing, it is possible that they are also not ideal for dormice both in terms of age, size and structure.

There have been other suggestions as to the cause of the decline of dormice in Little Lindford Wood including flooding, shrub diversity and an increase in badgers. The wood has become quite wet during the last 3 or 4 mild wet winters. The flooding has not been localised and had occurred over large areas of the wood. It may be difficult for dormice to survive hibernation on this very wet ground.

In 2010, a management plan was written for the roadside embankment of the M1 to improve it for a likely dormouse dispersal route. But due to financial constraints, the work was not implemented.

- White (2010) *Report for habitat enhancement on Northbound carriageway of M1 to facilitate dispersal of introduced population of hazel dormice*

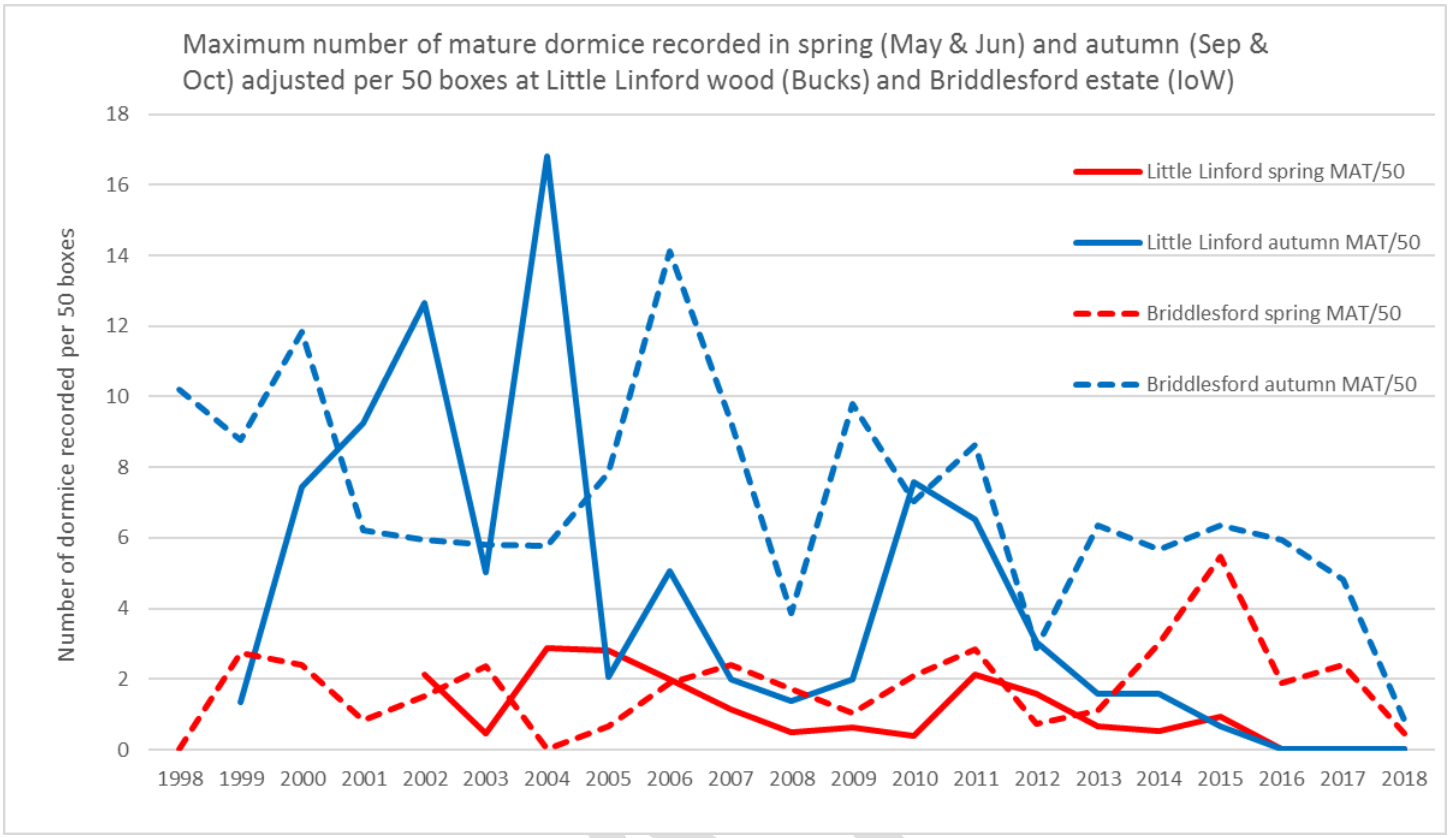
- White (2010) *M1 embankment enhancement for dormice in Buckinghamshire*

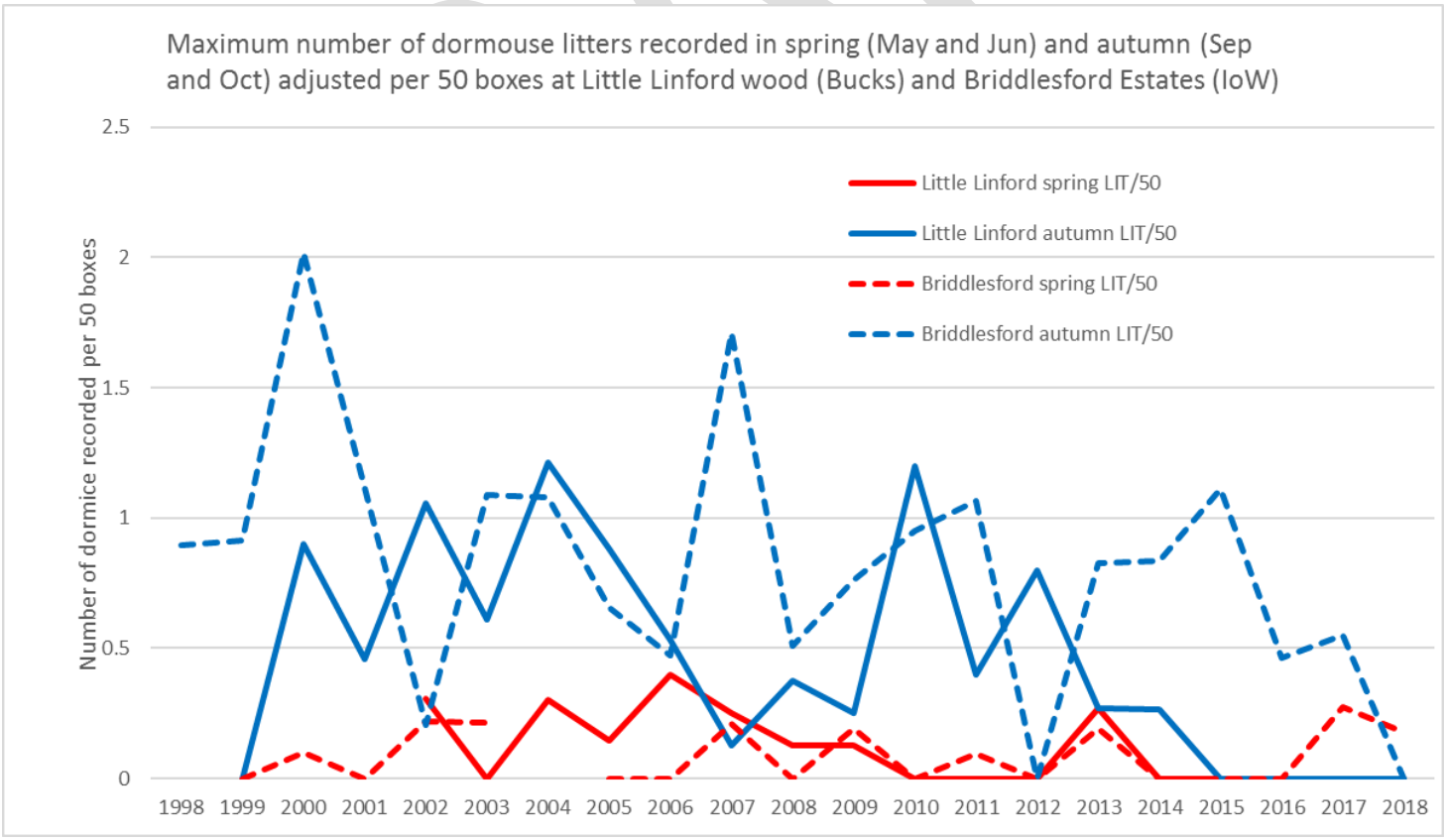
One positive consequence of the M1 upgrade is that money has been made available to the local Wildlife Trust to increase the level of coppicing in Little Linford wood. The details of this are still to be resolved but it's anticipated that the habitat in the woodland could improve for dormice.

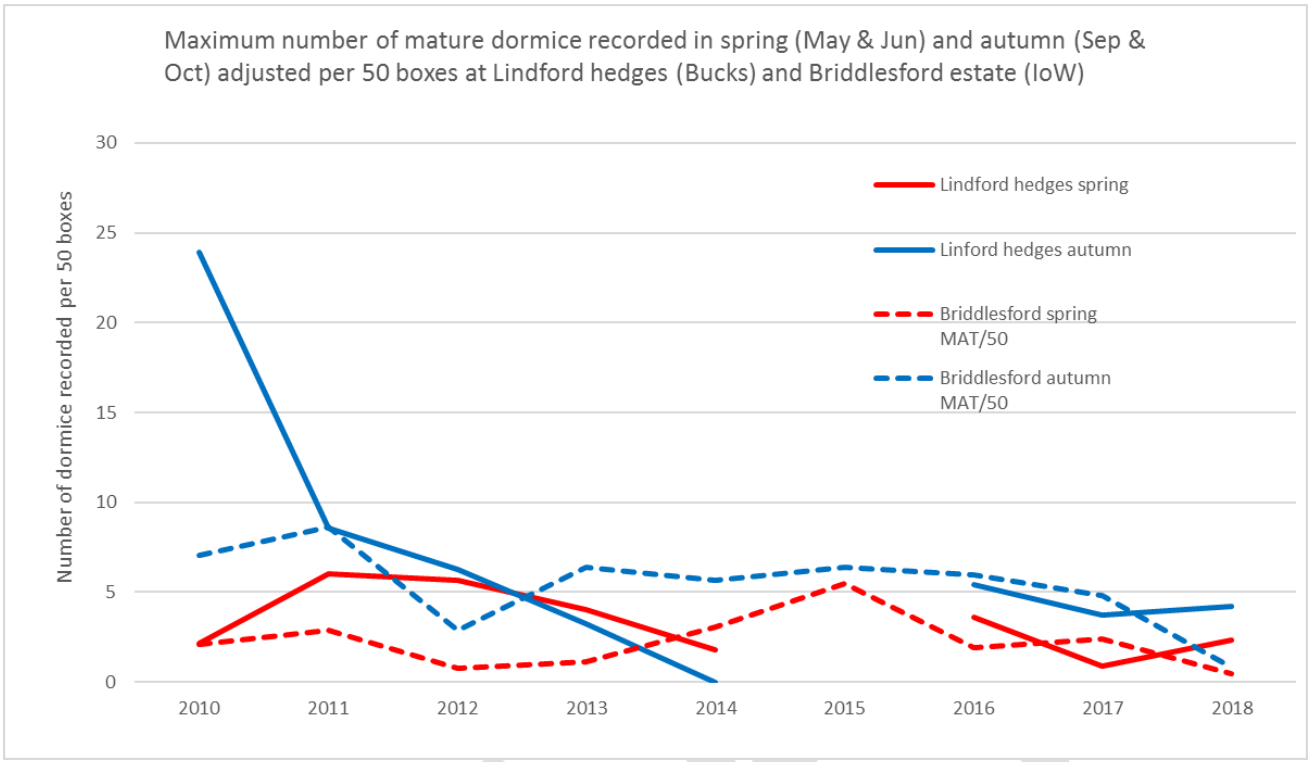
Future development

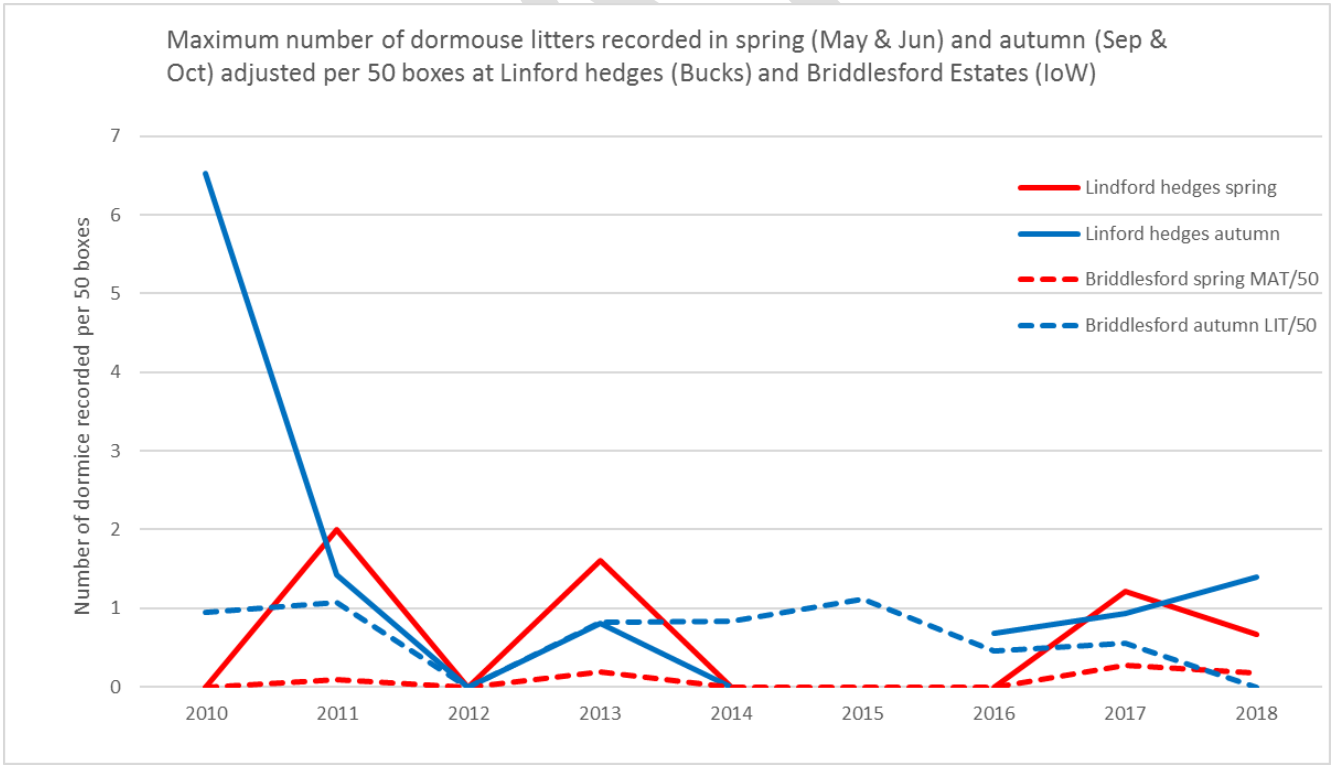
The motorway upgrade mitigation will be interesting. The local dormouse population is monitored by a very active group of local dormouse monitors able to monitor before, during and after mitigation. If the dormice remain when roadworks are complete, it is possible that a further reintroduction could be undertaken, perhaps even on the motorway embankment, to improve the genetic diversity of the reintroduced population. More worryingly, provisional plans to build up to 6,000 houses on the land adjacent to Little Linford wood would be likely to have a negative impact on the local dormouse population..

Ian White
Mar. 2019


Maximum number of mature dormice recorded in spring (May & Jun) and autumn (Sep & Oct) adjusted per 50 boxes at Little Linford wood (Bucks) and Briddlesford estate (IoW)
Number of dormice recorded per 50 boxes
0
2
4
6
8
10
12
14
16
18
1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018
Little Linford spring MAT/50
Little Linford autumn MAT/50
Briddlesford spring MAT/50
Briddlesford autumn MAT/50


Maximum number of dormouse litters recorded in spring (May and Jun) and autumn (Sep and Oct) adjusted per 50 boxes at Little Linford wood (Bucks) and Briddlesford Estates (IoW)
Number of dormice recorded per 50 boxes
0
0.5
1
1.5
2
2.5
1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018
Little Linford spring LIT/50
Little Linford autumn LIT/50
Briddlesford spring LIT/50
Briddlesford autumn LIT/50


Maximum number of mature dormice recorded in spring (May & Jun) and autumn (Sep & Oct) adjusted per 50 boxes at Lindford hedges (Bucks) and Briddlesford estate (IoW)
Number of dormice recorded per 50 boxes
30
25
20
15
10
5
0
2010
2011
2012
2013
2014
2015
2016
2017
2018
Lindford hedges spring
Linford hedges autumn
Briddlesford spring MAT/50
Briddlesford autumn MAT/50


Maximum number of dormouse litters recorded in spring (May & Jun) and autumn (Sep & Oct) adjusted per 50 boxes at Linford hedges (Bucks) and Briddlesford Estates (IoW)
Number of dormice recorded per 50 boxes
7
6
5
4
3
2
1
0
2010
2011
2012
2013
2014
2015
2016
2017
2018
Lindford hedges spring
Linford hedges autumn
Briddlesford spring MAT/50
Briddlesford autumn LIT/50

Site 4. Linford Wood 1998		
Term	**Definition**	**Comment 2019**
Management	*Woodland management*	Approx. half of the wood was clear-felled in 1986 and ¼ ha coupe coppiced since about 2000
Short term	*Dormice survive the first two winters*	**YES** the dormouse population survived the first two winters
Medium term	*The dormouse population remains stable over 5-10 years*	**STABLE 2003 – 2008** The dormouse population appeared to decline up to 2008 but the longer term graph suggests that the population is stable
Long term	*The dormouse population increases in size and expands its range*	**DISPERSING**
Long term Success	*The dormouse population has a reduced risk of extinction*	**YES** This stage appeared to have been reached up to about 2013 but since then the population appears to exist only on the motorway embankment

5. Bubbenhall, Warwickshire

Woodland Owner:	Hanson Aggregates	
Grid Reference:	SP368717	NDMP Site No. 137
Woodland size:	22.5 ha	
Release date and number of animals: 60 dormice in 1998		

Introduction

Bubbenhall wood forms part of the Princethorpe woodlands, comprising Wappenbury and Ryton wood (Nature reserves owned and managed by Warwickshire Wildlife Trust); Waverley and Weston Wood (owned and managed by the Forestry Commission) and Princethorpe Great Wood and others in private ownership.

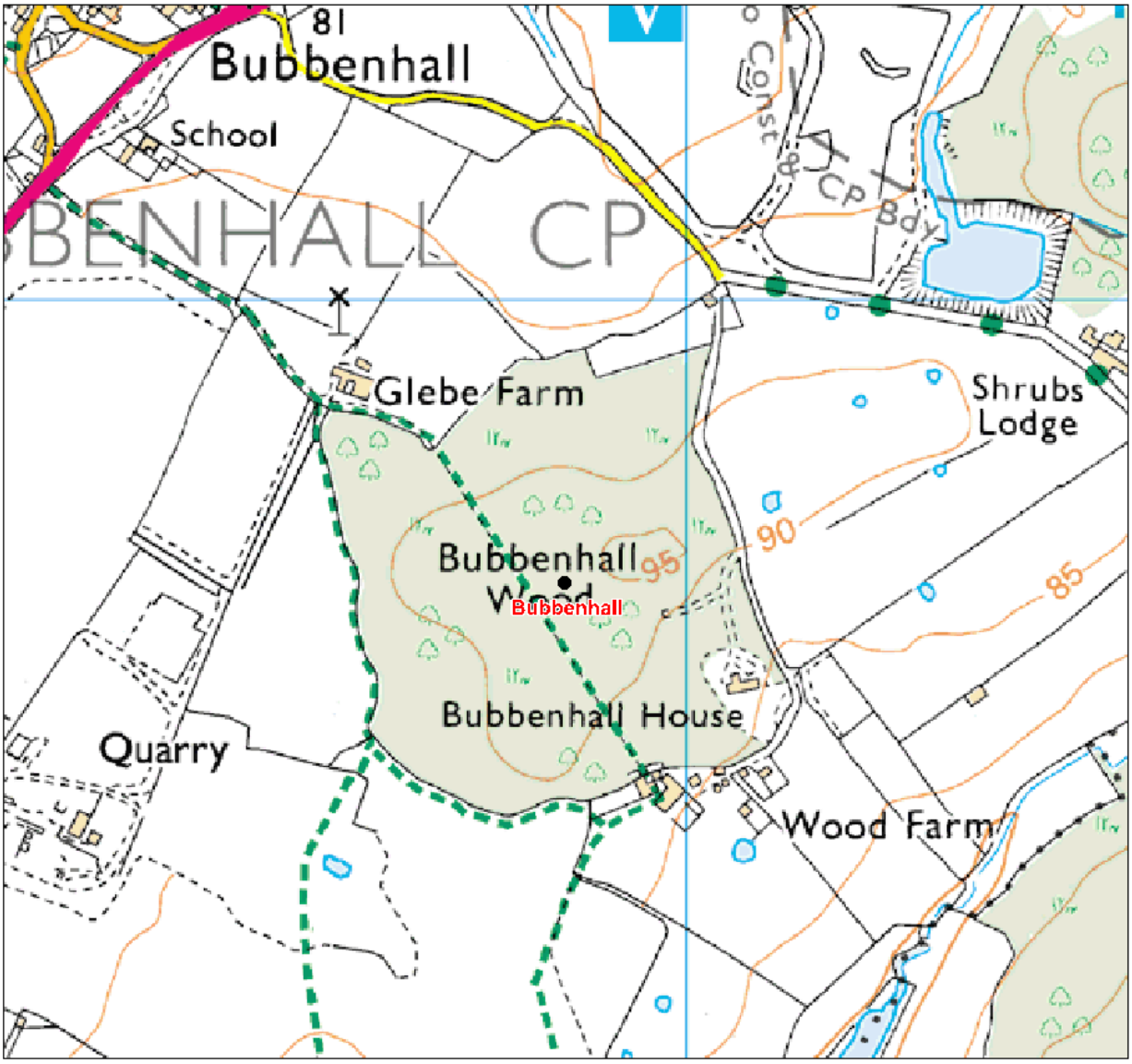
When the reintroduction was undertaken, Bubbenhall was owned and managed by Hanson Aggregates and Smiths concrete. The northern part of the wood had been separated by a gravel extraction conveyor belt. Although the woodland owners had given assurances that woodland management would be undertaken after the reintroduction, very little seems to have taken place. About ten years after the reintroduction, there was a refuse site abutting the woodlands and waste was frequently found within the wood.

Dormouse population

60 dormice were released into the wood in 1998 the population exhibited a fairly rapid decline. No dormice were recorded in the wood after 2004. A mix of 70 nest tubes and boxes were put up in the wood in 2009 but yielded no results over the following two years.

Woodland management

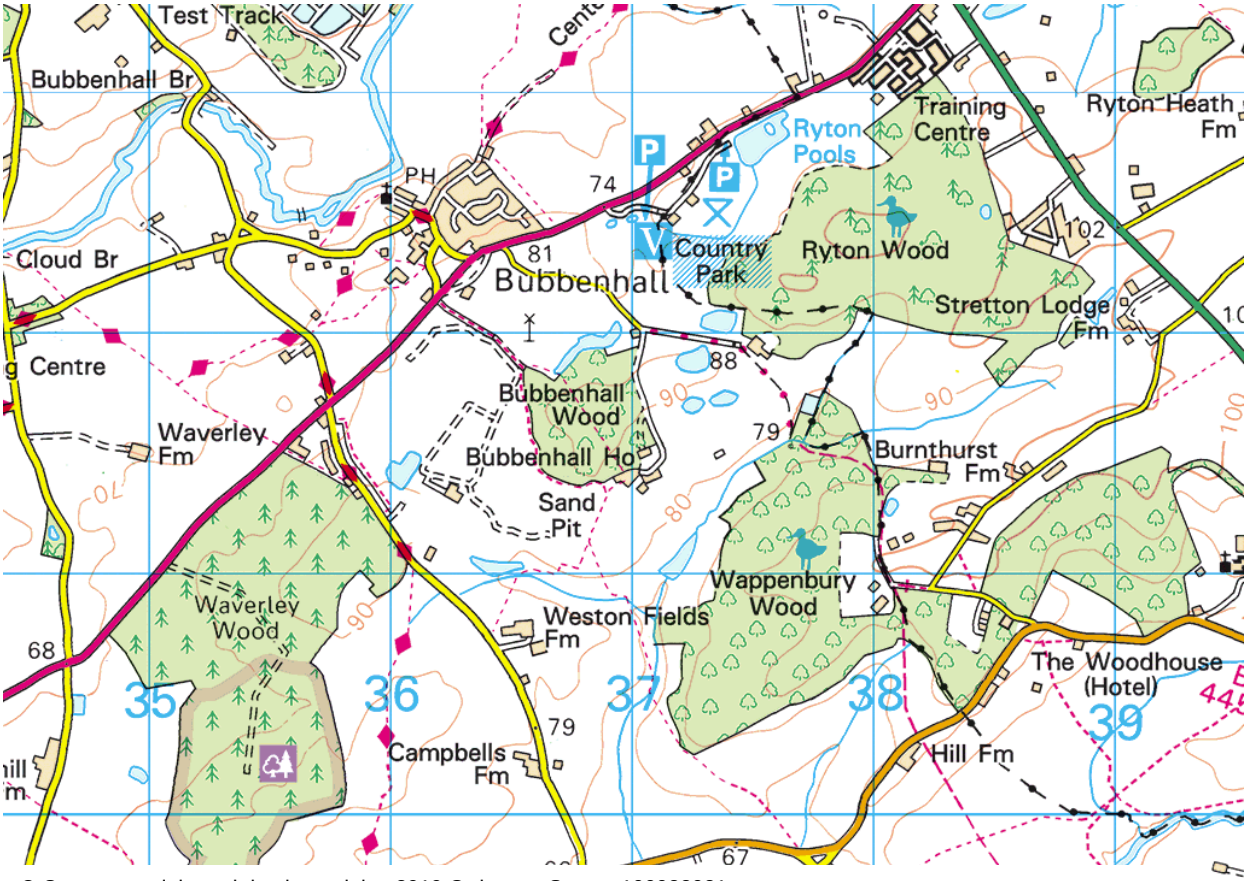
The woodland management agreed to be undertaken after the reintroduction was not implemented by the woodland owners. By 2006, although there was some evidence of limited coppicing, most of the woodland had quite an open structure with virtually no understory.

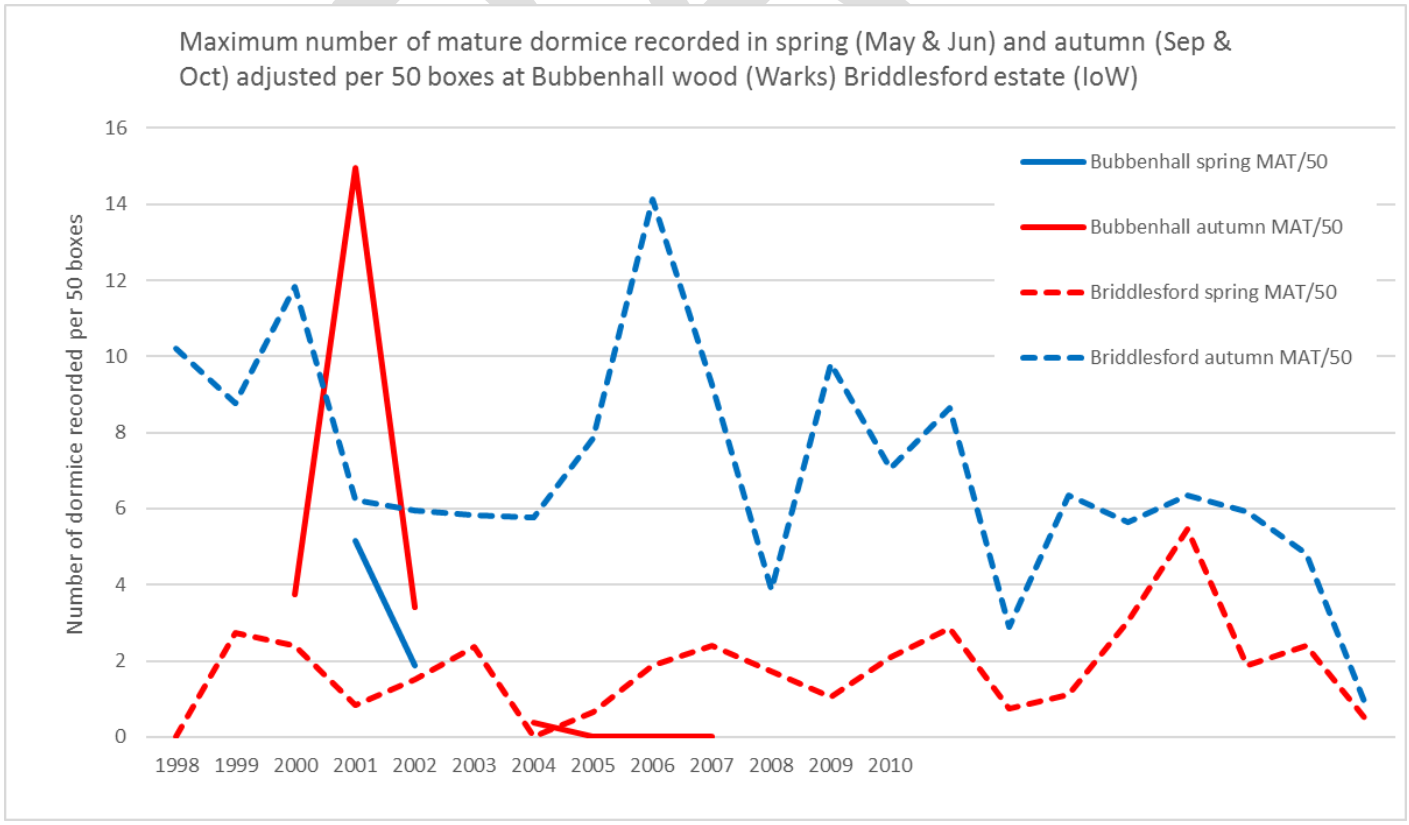


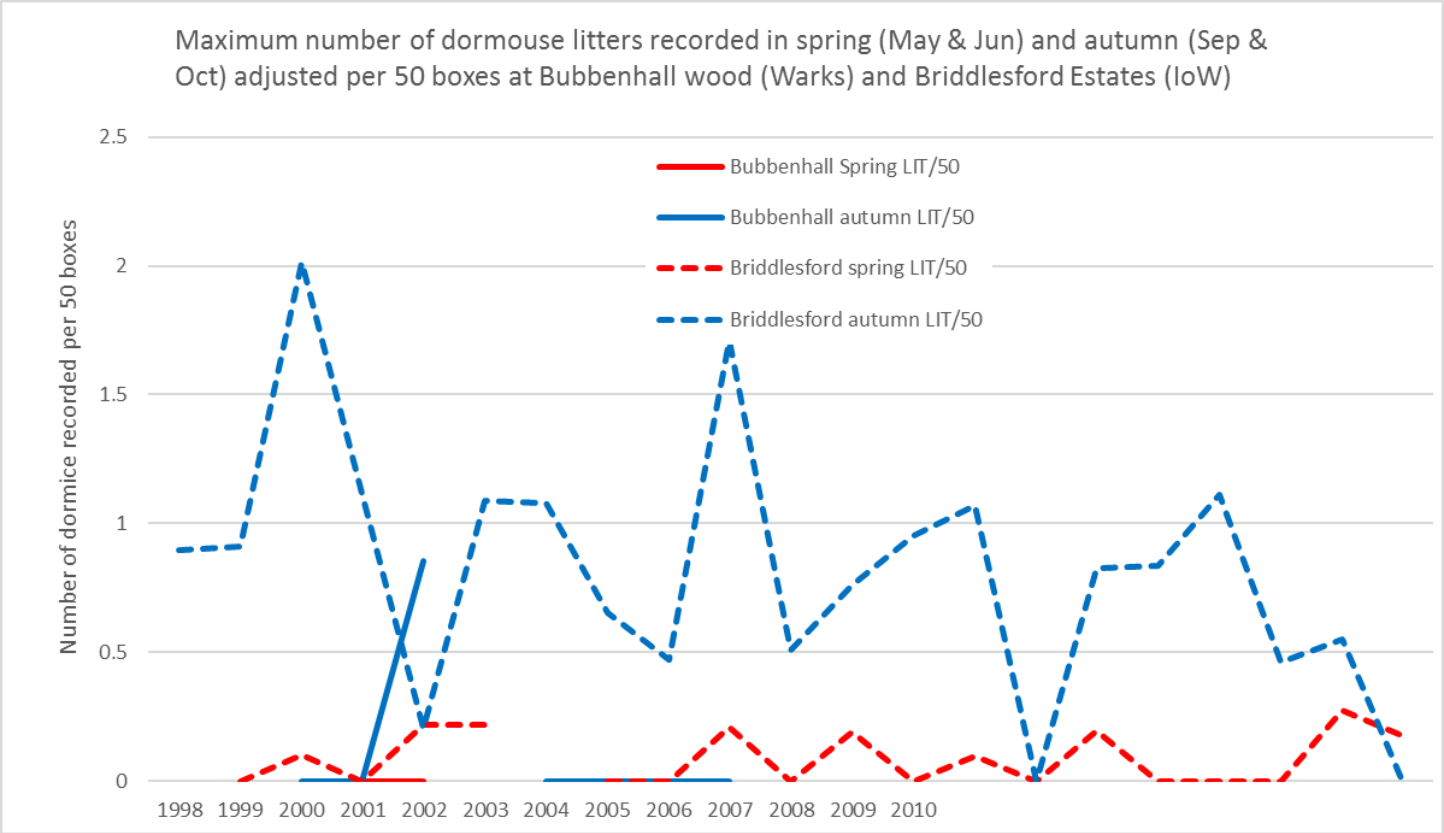
Future development

In 2015, Bubbenhall was purchased by Warwickshire Wildlife Trust. There have been recent reintroductions in the Princethorpe woodlands, and it's possible a further reintroduction could be considered in Bubbenhall if appropriate habitat management is undertaken.

Ian White
Apr. 2017







Site 5. Bubbenhall Wood 1998		
Term	**Definition**	**Comment 2017**
Management	*Woodland management*	**NO** - No woodland management was implemented after the reintroduction took place
Short term	*Dormice survive the first two winters*	**YES** the dormouse population survived the first two winters
Medium term	*The dormouse population remains stable over 5-10 years*	**NO** 2003 – 2008 The dormouse population appeared to decline up to 2003 and no further dormice were recorded after 2004
Long term	*The dormouse population increases in size and expands its range*	**N/A**
Long term Success	*The dormouse population has a reduced risk of extinction*	**NO** – there has been no evidence of the persistence of a dormouse population at Bubbenhall wood.

6. Rievaulx, North Yorkshire

Woodland Owner:	Private Owner	
Grid Reference	SE569866	NDMP Site No. 132
Woodland size:	22 ha	
Release date and number of animals: 30 dormice in 1999		

Introduction

There are good records of dormice in Yorkshire in Rope (1885) and there are large estates with good areas of coppice hazel.

The North York Moors comprises high moorland areas but there are substantial areas of woodland within the numerous valleys. Some of these woods have a long history of management of coppice with standards evidenced by the current understory and sites of historical charcoal kilns. Unfortunately, this method of woodland management has fallen out of favour in this area as in so many other counties of the country. However, the potential habitat for dormice within the locality of the release site is excellent.

The reintroduction at Rievaulx appears to have been driven by the gamekeeper on the estate, as after it had taken place the landowner, asked when the dormouse boxes would be taken down.

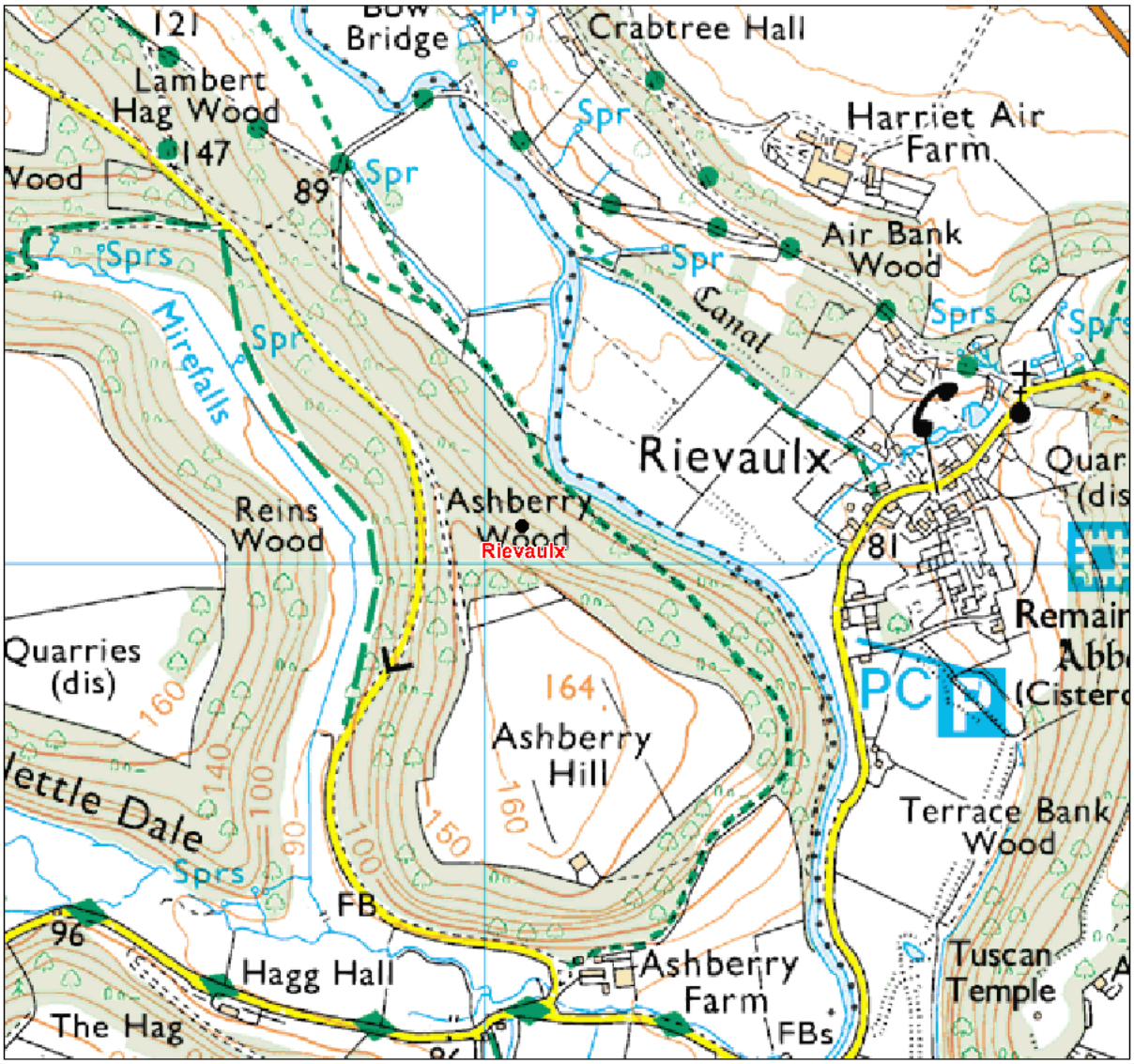
Dormouse population

No dormice have been recorded at Rievaulx since 2009, but there are good areas of habitat and it's possible that the population has shifted to take advantage of them. A suspected dormouse-opened hazelnut was found in an adjacent wood owned by the Yorkshire Wildlife Trust in 2009, but it was too old for a positive identification. Some additional boxes and tubes were erected in some new areas and a new gamekeeper on the estate has restarted some coppicing work in an area of derelict coppice. To date however there have been no further reports of dormice on the estate.

This release has been well documented by Geoff Oxford in *Imprint*, the journal of the Yorkshire Mammal Society

Woodland management

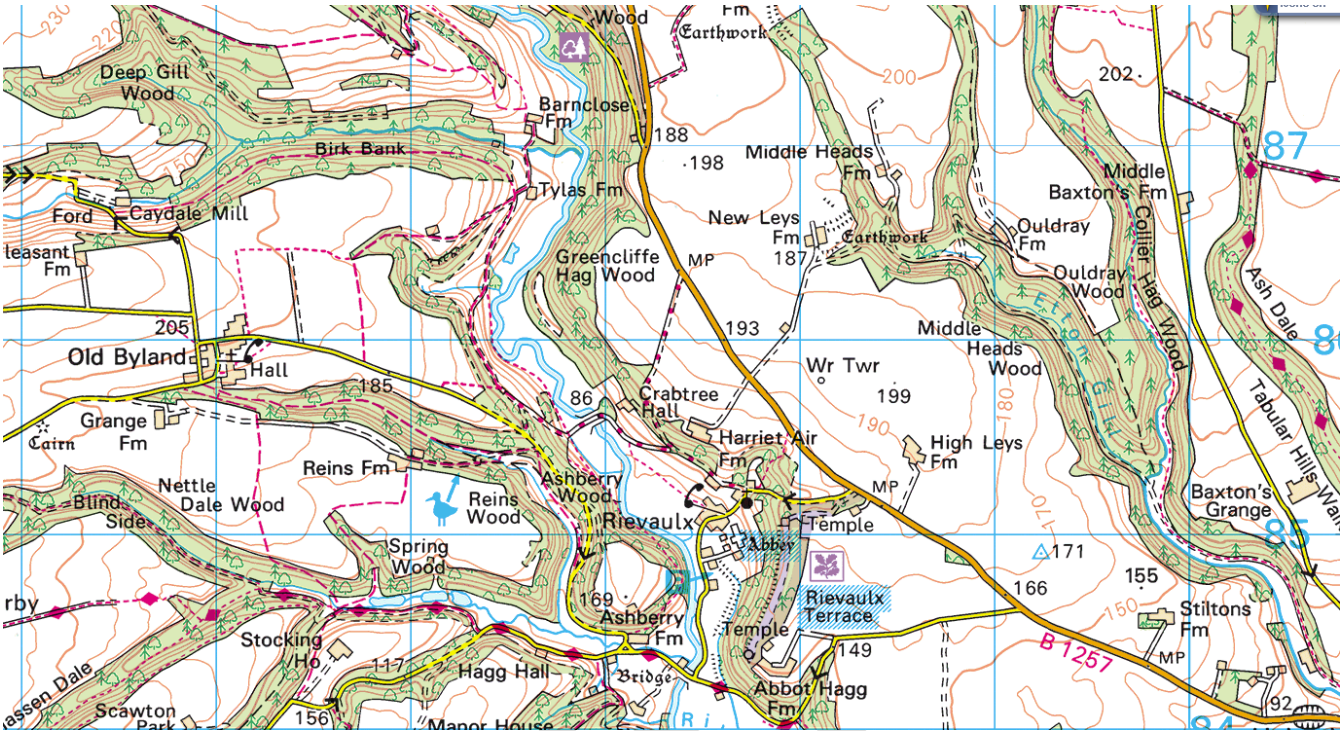
There was no active management programme on the estate and little if any coppicing work was undertaken. The woodland on the estate and in adjacent woodlands is considered to be older than 20 years.

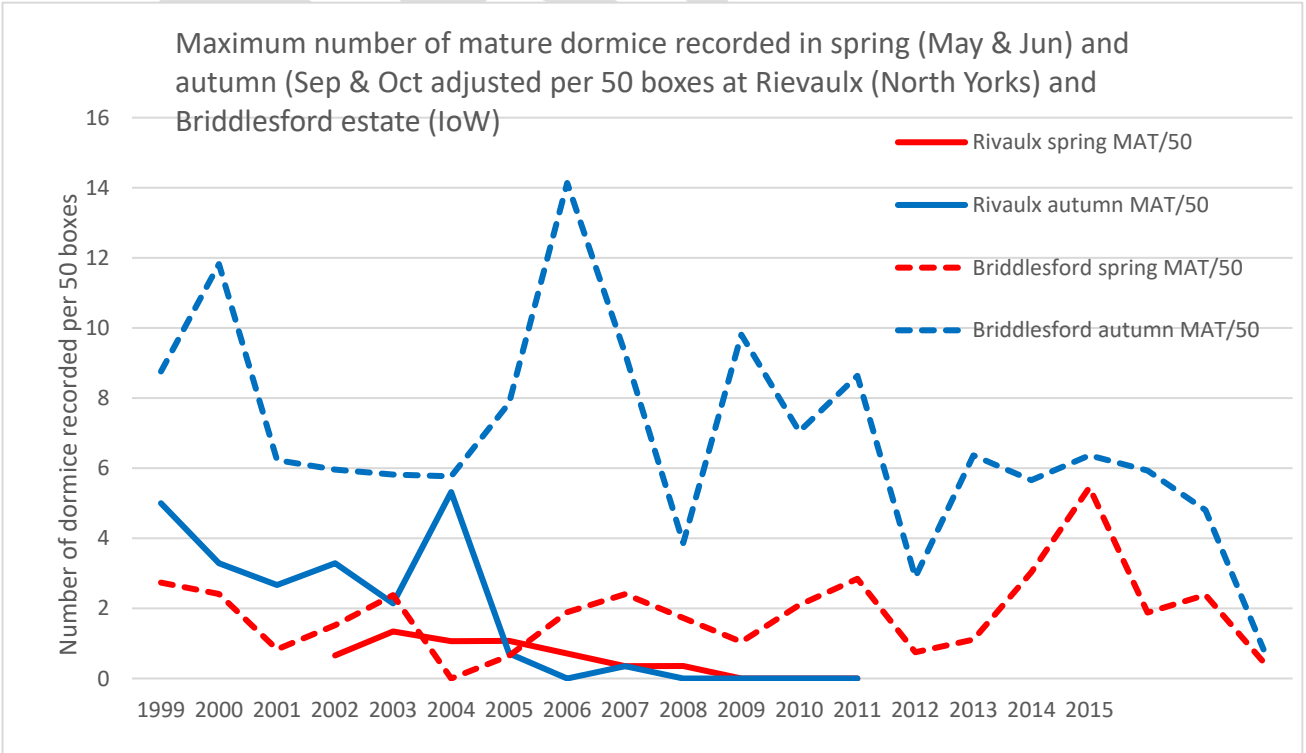


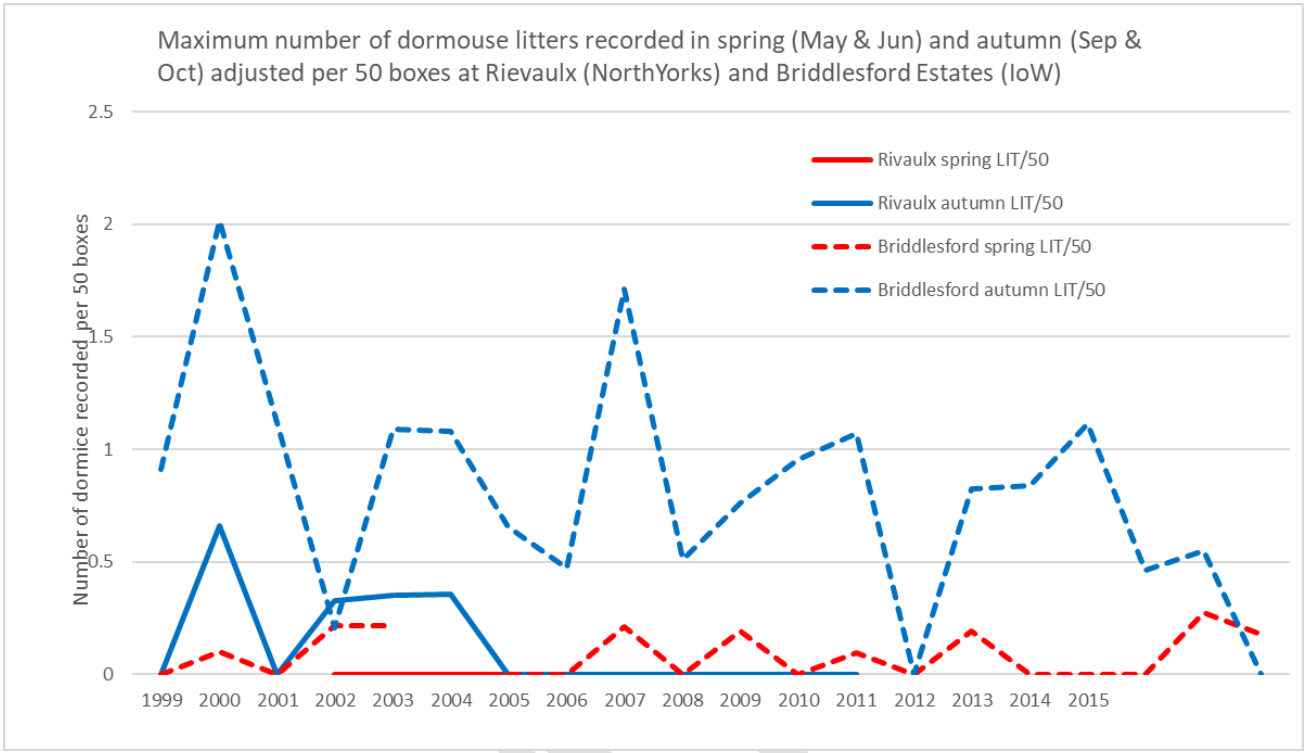
Future development

There is a lot of potential suitable woodland in this area. A future release would more likely favour Wildlife Trust sites as it is felt that an NGO would be more likely to implement and continue a coppice management programme

Ian White
Mar. 2017







Site 6. Rievaulx 1999		
Term	**Definition**	**Comment 2017**
Management	*Woodland management*	**NO** There was little, if any woodland management implemented after the release and when some coppicing was done it was a few years after the last dormouse had been recorded
Short term	*Dormice survive the first two winters*	**YES** the dormouse population survived the first two winters
Medium term	*The dormouse population remains stable over 5-10 years*	**NO** 2004 – 2009 The dormouse population appeared to decline up to 2006 and no further dormice were recorded after 2009
Long term	*The dormouse population increases in size and expands its range*	**N/A**
Long term Success	*The dormouse population has a reduced risk of extinction*	**NO**

7. Priestley Wood, Suffolk

Woodland Owner:	Woodland Trust	
Grid reference	TM080529	NDMP Site No. 40
Woodland size:	25 ha	
Release date and number of animals: 35 animals released in 2000		

Introduction

The known dormice sites within Suffolk are generally to the south of the county. There are three more northerly sites of which two are the reintroductions and the third is considered an erroneous record.

Dormouse population

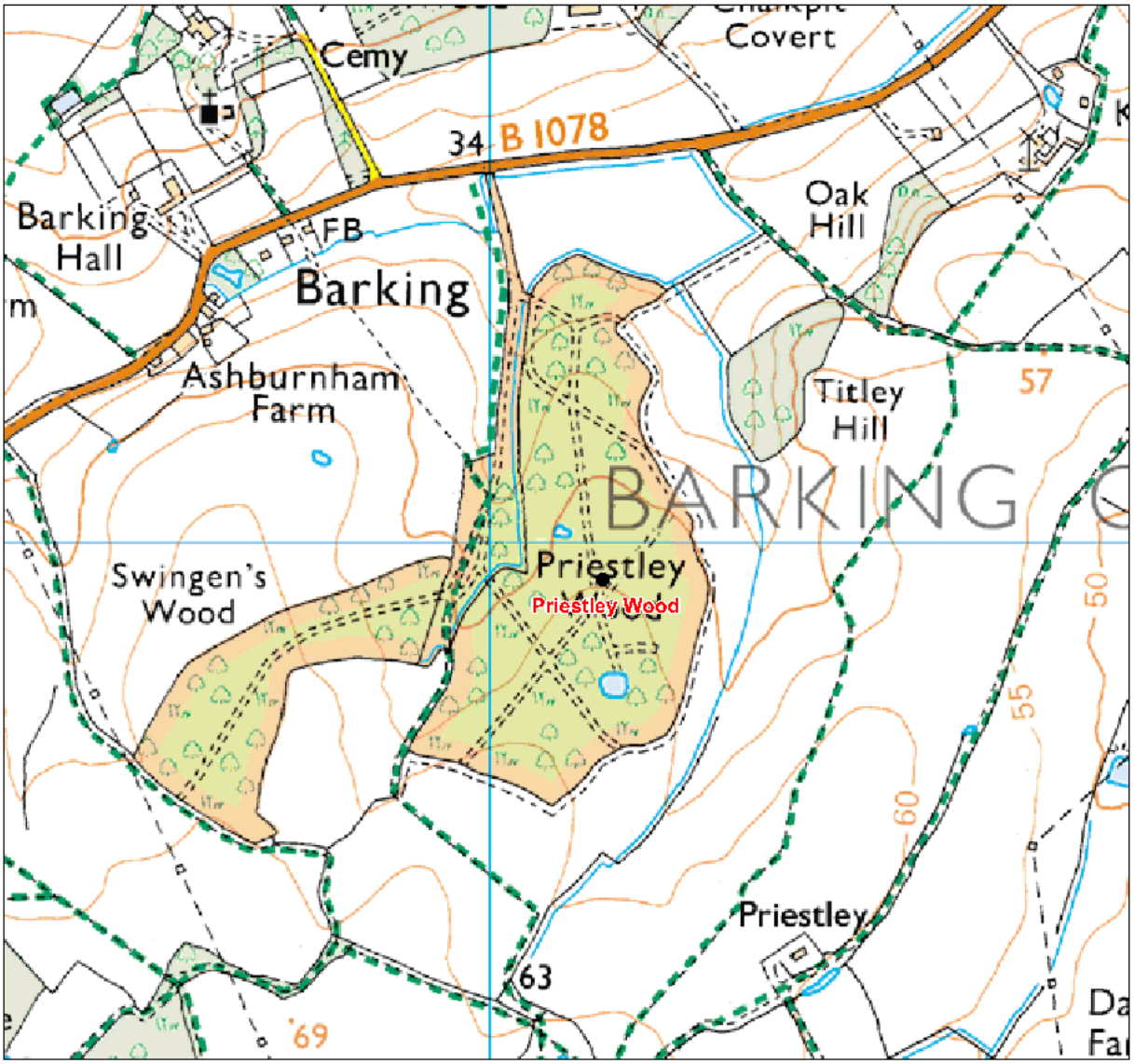
Priestley Wood is owned by The Woodland Trust and relatively nearby, is Bonny Wood, partly owned by the Suffolk Wildlife Trust. Although of suitable habitat, dormouse surveys in the 1990s proved negative. There is a hedgerow between Priestley and Bonny Woods, offering a potential corridor for colonisation, though it did have, at the time of the Priestley release, some significant gaps, which would usually be considered a barrier to dormouse colonisation. In 2002, some nest tubes were put in this hedge, and a few dormice were found. As a result, nest boxes were subsequently put into Bonny Wood and dormice recorded. Recent genetic studies show that there was and remains a native population in Bonny Wood which is now mixing with the reintroduced population in Priestley wood.

The early stages of the reintroduction at Priestley wood has been documented by Liz Cutting

- Cutting L (2010) *The Priestley Wood Dormouse Project – the first decade*

Woodland management

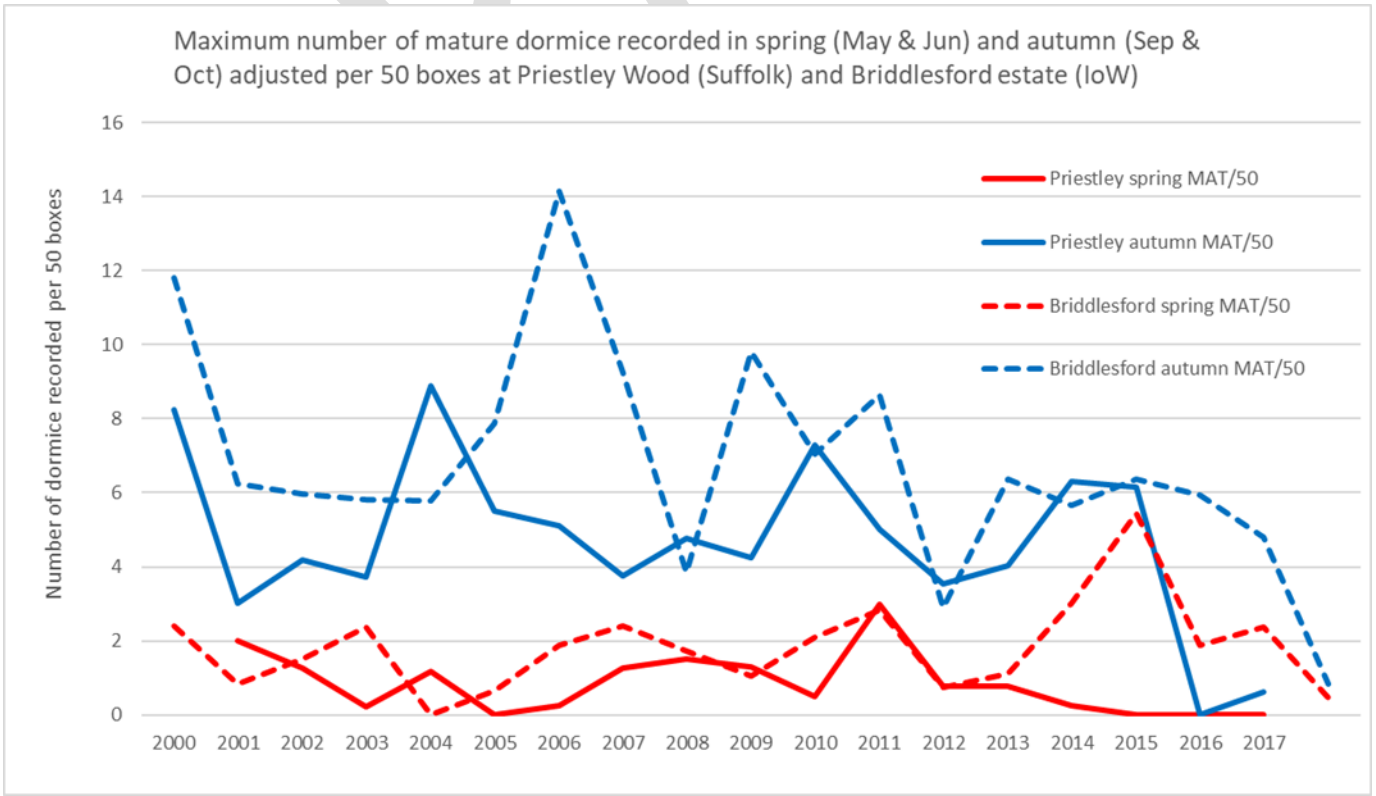
Priestley Wood has had ongoing woodland management but it would be useful to review the plan to encourage gapping up coppice coupes, greater deer management and improved ride management to benefit dormice. In 2015/16, there was some extensive woodland work that could have impacted the dormouse population such that none were recorded in Priestley wood in that year. The wood is unlikely to have an area exceeding 10 ha of successional growth.

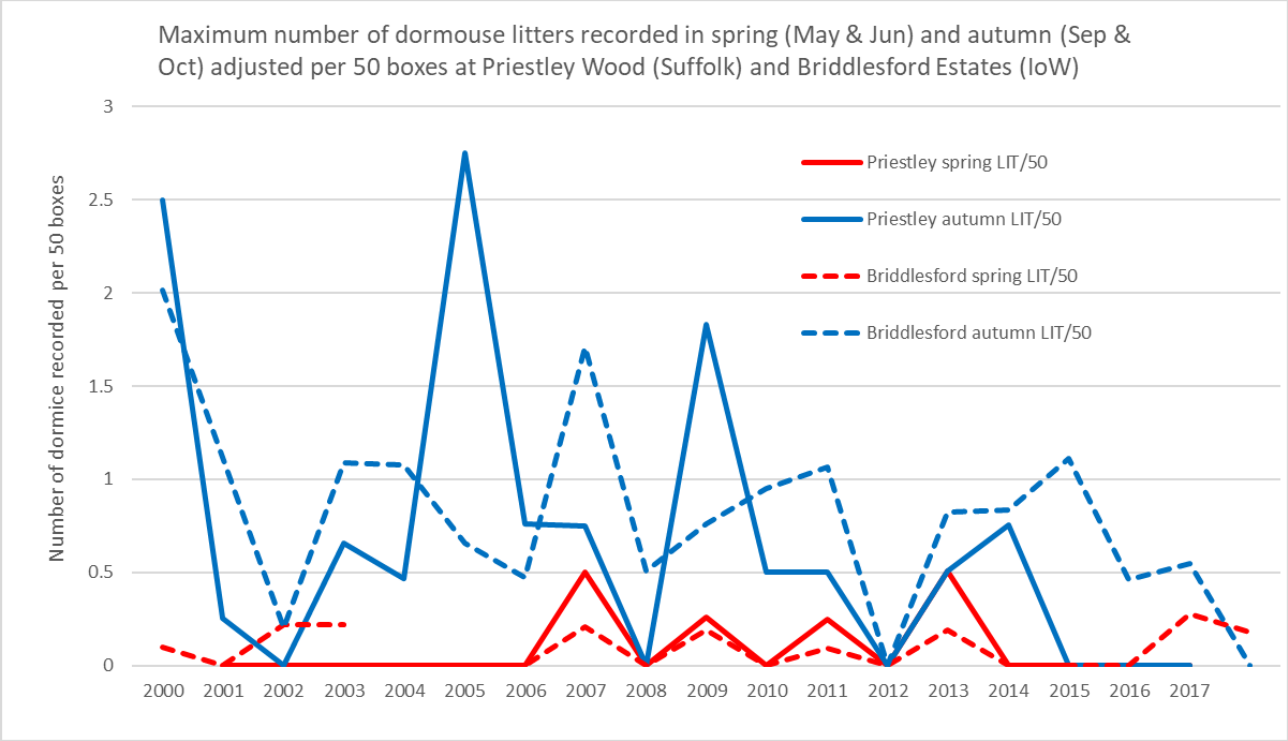


Future development

There are currently no future plans to undertake a further reintroduction in Suffolk but a top up to improve the genetic diversity at both sites is under consideration.

Ian White
Sep. 2017





Site 7. Priestley Wood 2000		
Term	**Definition**	**Comment 2017**
Management	*Woodland management*	**YES** Woodland management ongoing but not always sympathetic to dormice
Short term	*Dormice survive the first two winters*	**YES** the dormouse population survived the first two winters
Medium term	*The dormouse population remains stable over 5-10 years*	**STABLE** 2005 - 2010 The dormouse population appeared stable and has continued to remain so
Long term	*The dormouse population increases in size and expands its range*	**DISPERSING** – the population is known to have dispersed into neighbouring Bonny wood
Long term Success	*The dormouse population has a reduced risk of extinction*	**YES**

8. **Maulden Wood, Bedfordshire**

Woodland Owner:	Forestry Commission	
Grid reference:	TL068390	NDMP Site No. 167
Woodland size:	161 ha (95 ha broadleaf, 66 ha conifer)	
Release date and number of animals: 30 dormice were released in 2001		

Introduction

Maulden Woods is a wood of two halves with a deciduous wood to the north with some conifer on a clay substrate. The southern part of the wood is mostly conifer plantation on sand. Although it is the intention of the Forestry Commission to clear this conifer over time and allow for natural regeneration, due to the nature of the substrate this is unlikely to ever develop into suitable dormouse habitat. The boxes that are monitored are in the northern part of the wood.

The woodland part of a wooded mosaic but bounded by the A6 to the east. Kings wood lies to the north west, and Montague wood is close to Maulden wood separated by Limbersey Lane. Dormous nests have been recorded beyond the woodland but there are increasing concerns that the amount of potential development in this area would negatively impact on the dormice.

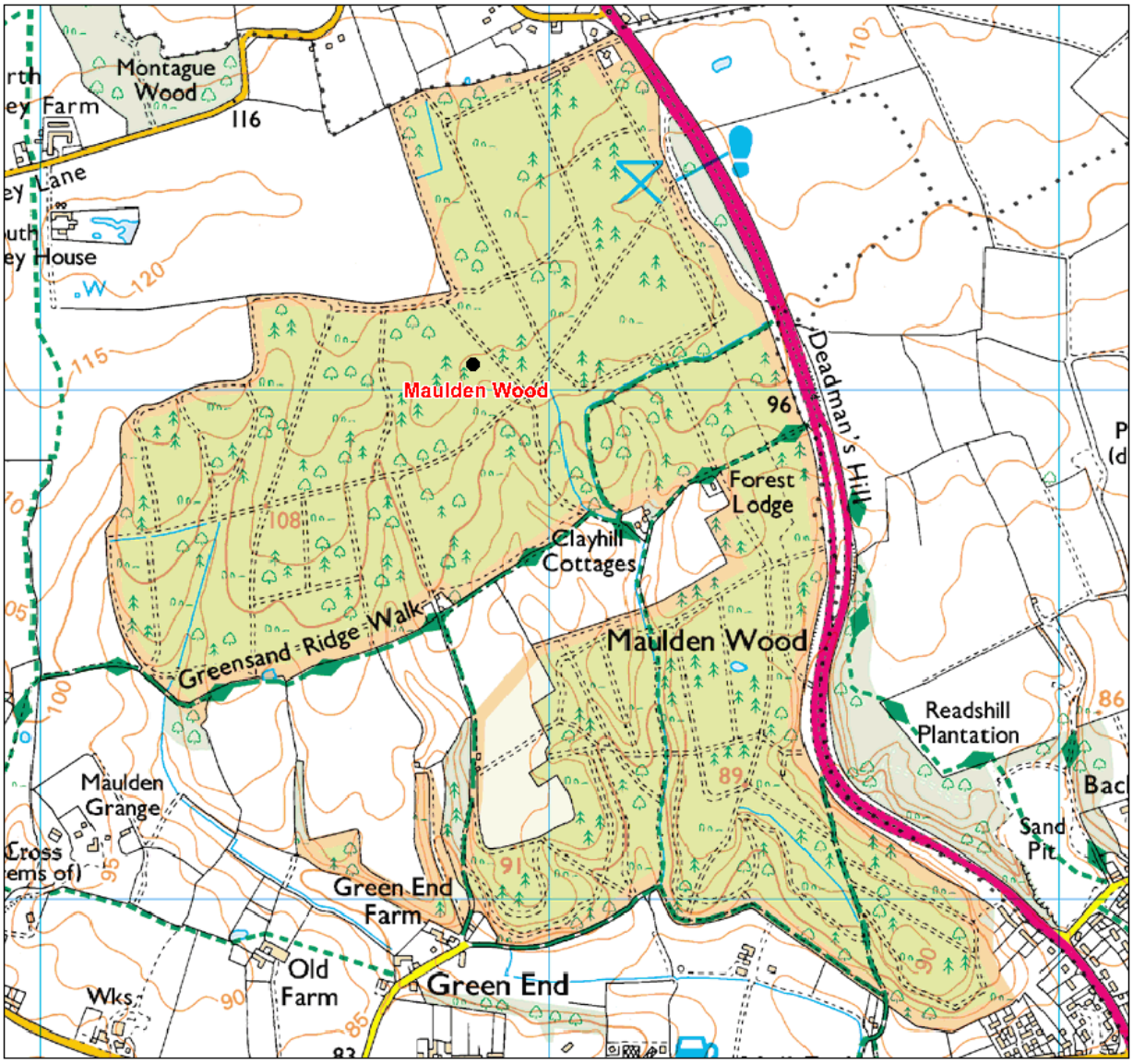
Dormouse population

Maulden wood had the lowest starter population at a reintroduction site of only 30 animals with no further release (the starter population at Windmill Naps was 25 animals but a further 21 dormice were released the following year).

The numbers of dormice recorded in Maulden appears to have been relatively stable. The highest number of litters recorded in the autumn was in 2015. This is a possible consequence of management work undertaken by the FC. 50 new dormouse boxes were sited in new areas of the woodland that should now be more suitable for dormice and this may have led to more animals being recorded in the boxes.

Dormouse nest recorded in the hedgerow in Limbersey Lane, Feb. 2014

A few natural nests have been discovered in another part of the woodland in 2013, which shows that they have dispersed from the reintroduction site to other areas of the woodland. A nest was also found in a hedgerow alongside the wood suggesting that they have also moved beyond Maulden Wood. There have also been some anecdotal reports of nests being found in Montague wood.



Woodland management

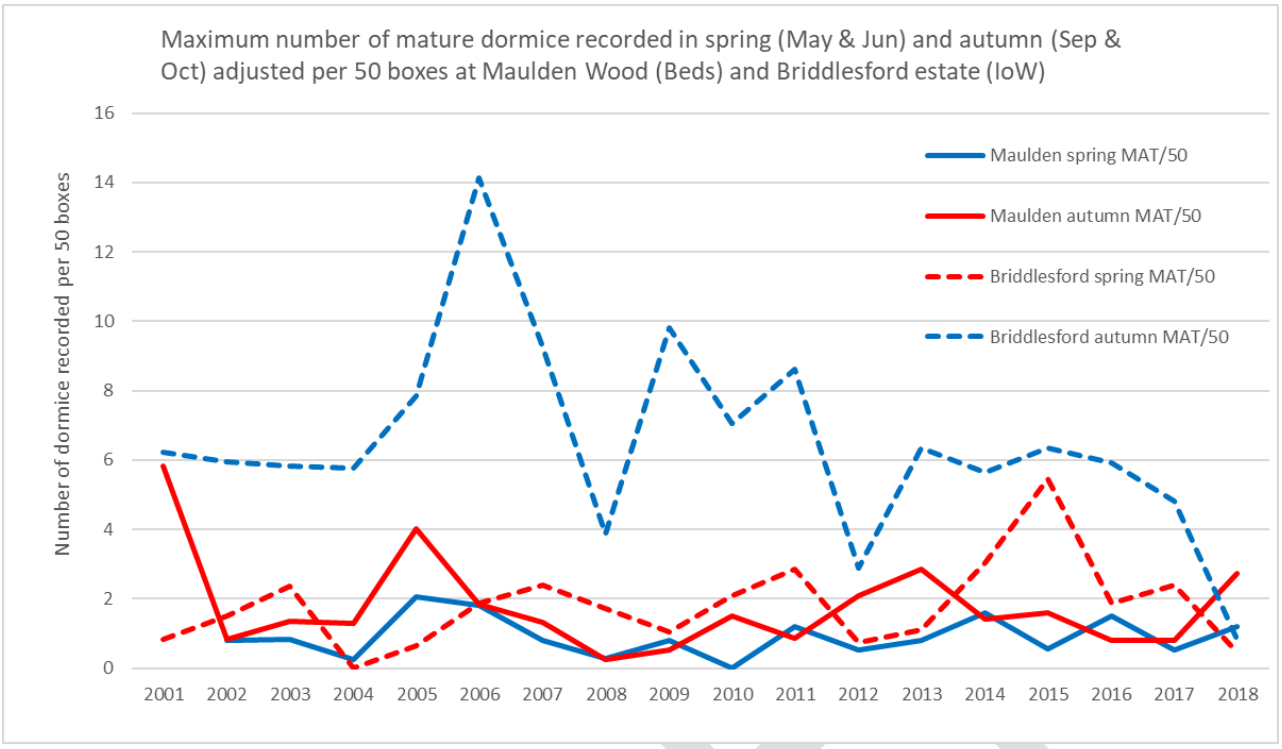
The long-term plan for the woodland is to clear the conifer over time and allow for natural regeneration. It is understood that this work is proceeding. There is a negative impact of deer in some parts of the woodland but not all areas are affected equally and there are good areas of high quality dormouse habitat; these areas are likely to be at least 10 ha in extent.

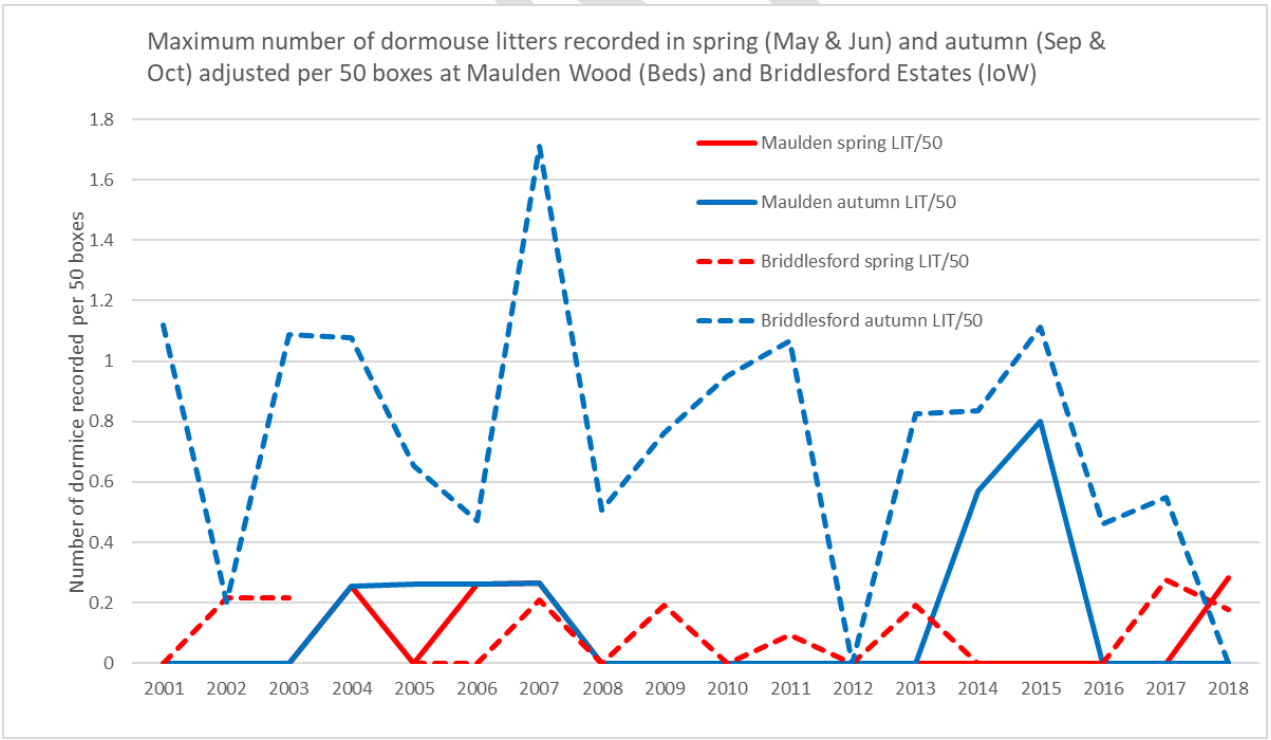
Future development

Due to the unavailability of other suitable woodlands in the area and the potential risk from development, a further reintroduction in the vicinity is not being considered. However, a further release could be undertaken to improve the genetic variability of the local population.

A further reintroduction at Marston Thrift in Bedfordshire is under consideration.

Ian White
Sep 2018


Maximum number of mature dormice recorded in spring (May & Jun) and autumn (Sep & Oct) adjusted per 50 boxes at Maulden Wood (Beds) and Briddlesford estate (IoW)
Number of dormice recorded per 50 boxes
0
2
4
6
8
10
12
14
16
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
Maulden spring MAT/50
Maulden autumn MAT/50
Briddlesford spring MAT/50
Briddlesford autumn MAT/50


Maximum number of dormouse litters recorded in spring (May & Jun) and autumn (Sep & Oct) adjusted per 50 boxes at Maulden Wood (Beds) and Briddlesford Estates (IoW)
Number of dormice recorded per 50 boxes
0
0.2
0.4
0.6
0.8
1
1.2
1.4
1.6
1.8
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
Maulden spring LIT/50
Maulden autumn LIT/50
Briddlesford spring LIT/50
Briddlesford autumn LIT/50

Site 8. Maulden Wood 2001		
Term	**Definition**	**Comment 2019**
Management	*Woodland management*	**YES** –woodland management ongoing but may not always be sympathetic to dormice
Short term	*Dormice survive the first two winters*	**YES** the dormouse population survived the first two winters
Medium term	*The dormouse population remains stable over 5-10 years*	**STABLE 2006** - 2011 The dormouse population appeared stable
Long term	*The dormouse population increases in size and expands its range*	**DISPERSING** there is evidence of dormice beyond the woodland boundary
Long term Success	*The dormouse population has a reduced risk of extinction*	**YES**

9. Bedford Purlieus, Bedfordshire

Woodland Owner:	Forestry Commission	
Grid reference	TL042994	NDMP Site No. 103
Woodland size:	207 ha	
Release date and number of animals: 42 dormice were released in 2001		

Introduction

Bedford Purlieus is a Forest Enterprise wood managed by the Forestry Commission with Natural England. The wood was once part of a larger wood (the centre of which is still apparent) that connected with Eastern Hornstocks. Currently it forms part of the Rockingham Forest with Fineshades and Westhay woods to the west. The fields to the east of the wood will be a future quarry site and there are existing workings at the North West corner of the woodland.

The introduced dormice appear to be doing well within Bedford Purlieus, their population has grown and they are believed to have spread to other parts of the wood. To the north and east of the wood are major roads and few woodlands. It is thought that the most appropriate dispersal corridors would be to the south east and to the west to link up with native populations that are known to be present in Fineshades wood.

Dormouse population

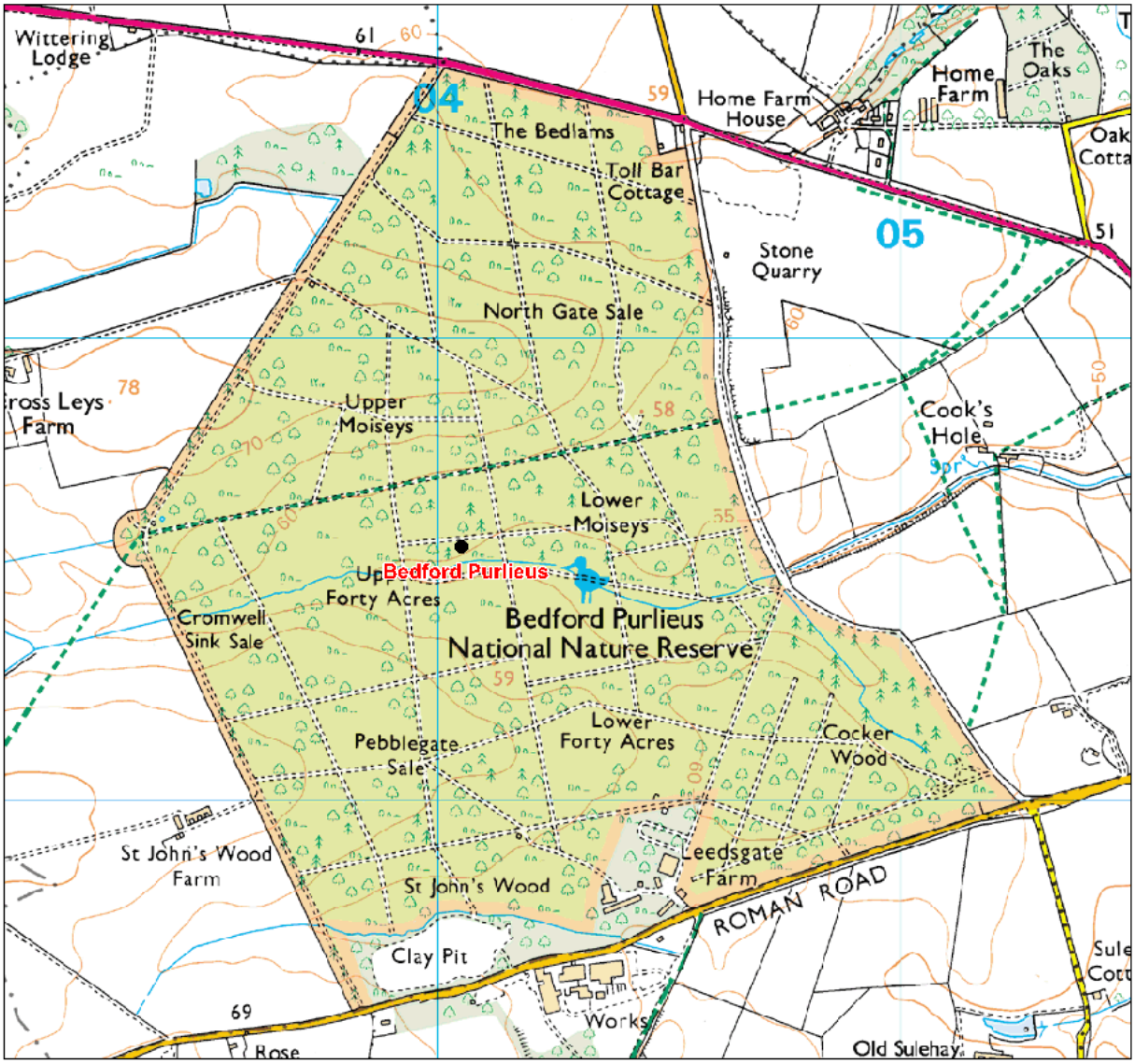
Good numbers of dormice have been recorded at Bedford Purlieus in recent years. Although many of those found were recorded in a 13 ha deer-fenced area they have also been found about 100m beyond the reintroduction site. The Forestry Commission has plans to manage some of the main rides in the wood which should provide more suitable habitat for dispersal.

There has been hedge planting between Bedford Purlieus and Eastern Hornstocks and dormice have been recorded on the western side of Bedford Purlieus.

Dormouse populations in the area have been reported by Hitchcock (see 1. Brampton Wood)

Woodland management

This is a large woodland and work has been ongoing – for example much of Cocker wood was clear-felled some years ago and is now in an excellent condition to support dormice. It is thought that the area of woodland in the 8 – 20yr age structure would easily exceed 10 hectares.

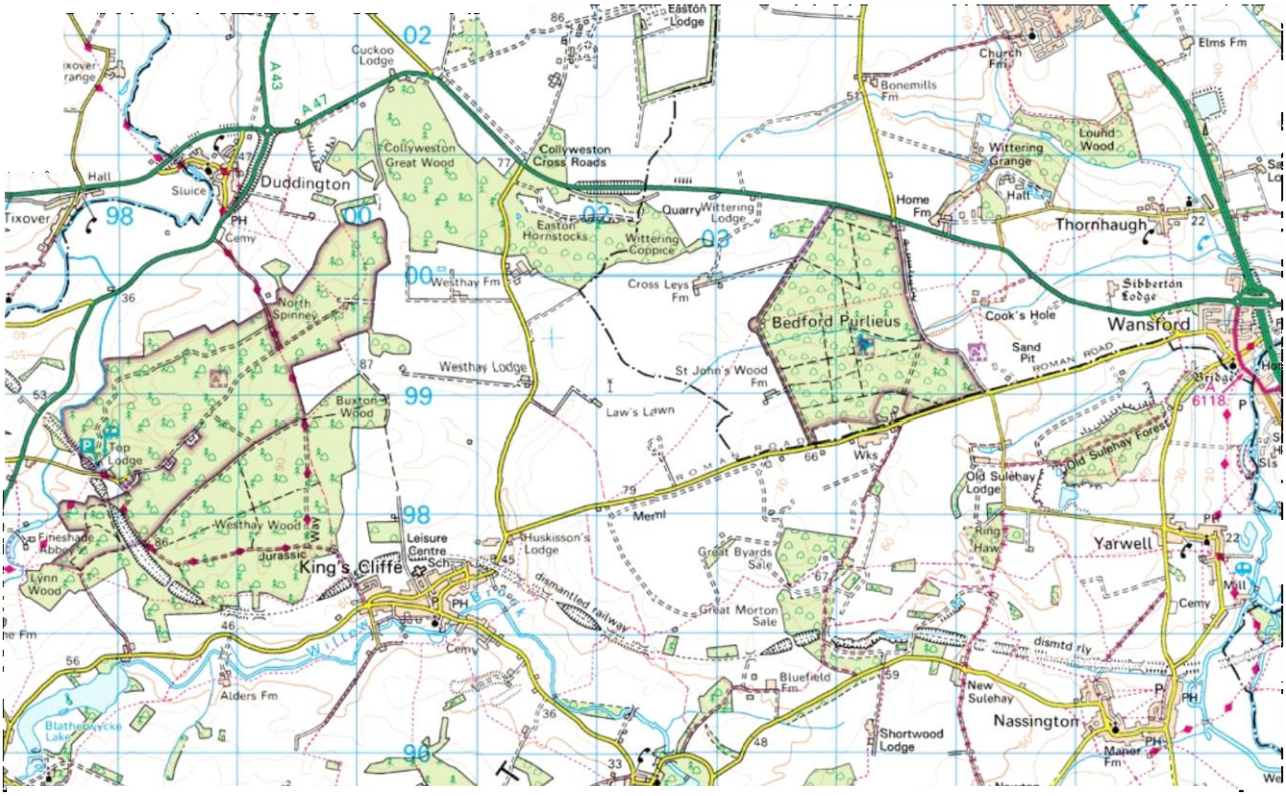


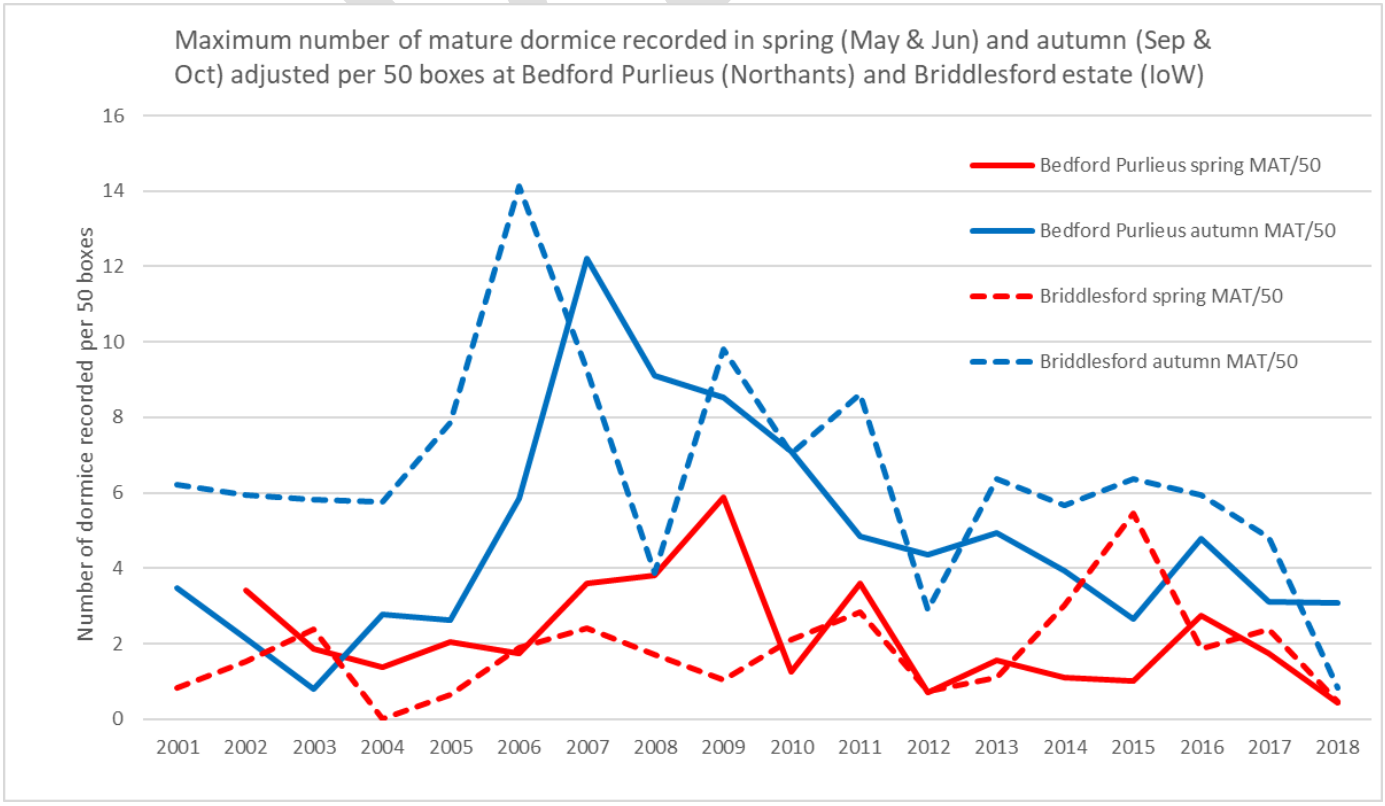
Future development

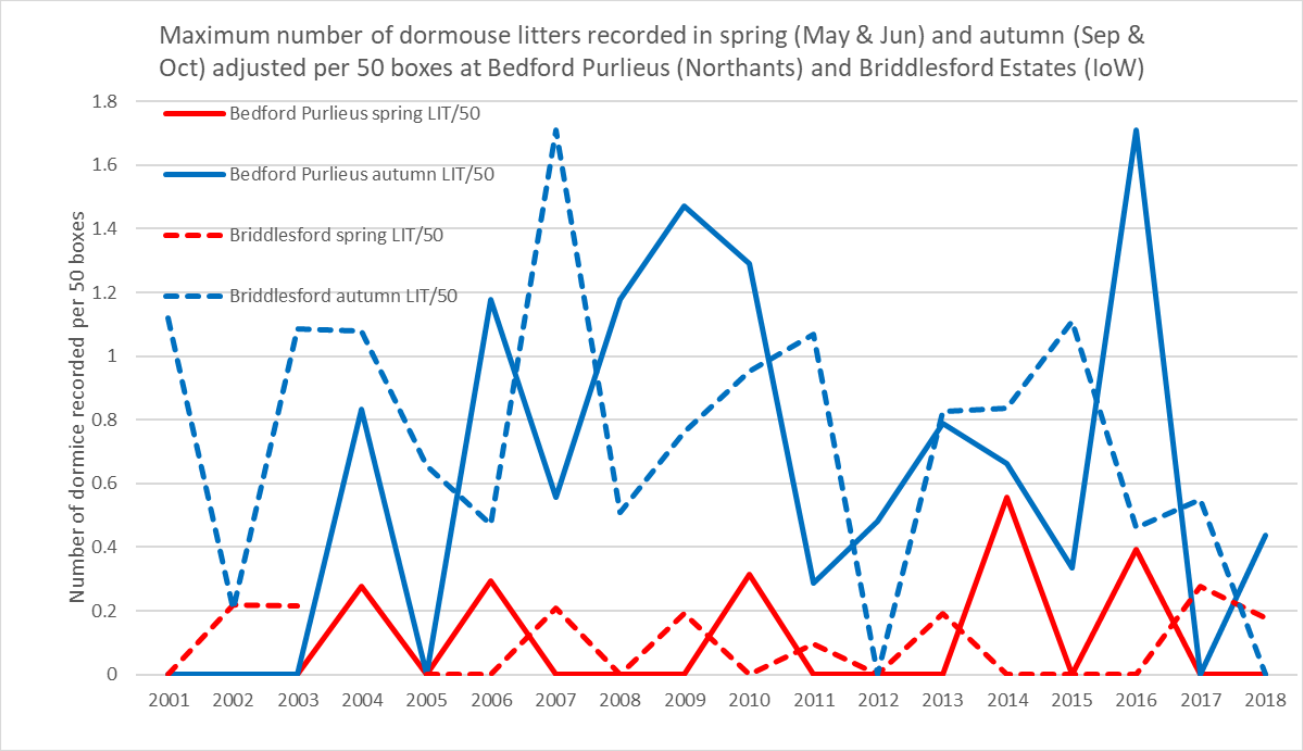
At present there are no plans to undertake a further reintroduction in the area although a further release at Bedford Purlieus to improve the genetic diversity of the population is being considered.

There are known to be small populations in the woods to the west of Bedford Purlieus and – if appropriate habitat management can be undertaken - it may be worth considering a reintroduction here in an effort to bolster the local population. However, such a reintroduction would be dependent on a landscape project between Bedford Purlieu and Fineshades wood.

Ian White
Feb. 2019







Site 9. Bedford Purlieus 2001		
Term	**Definition**	**Comment 2019**
Management	*Woodland management*	**YES** Woodland management is ongoing
Short term	*Dormice survive the first two winters*	**YES** the dormouse population survived the first two winters
Medium term	*The dormouse population remains stable over 5-10 years*	**STABLE** 2006 - 2011 The dormouse population appeared stable
Long term	*The dormouse population increases in size and expands its range*	**DISPERSING**
Long term Success	*The dormouse population has a reduced risk of extinction*	**YES**

10. Hamps Valley, Staffordshire

Woodland Owner:	National Trust	
Grid reference:	SK095528	NDMP Site No. 208
Woodland size:	84 ha	
Release date and number of animals: 35 dormice were released in 2002		

Introduction

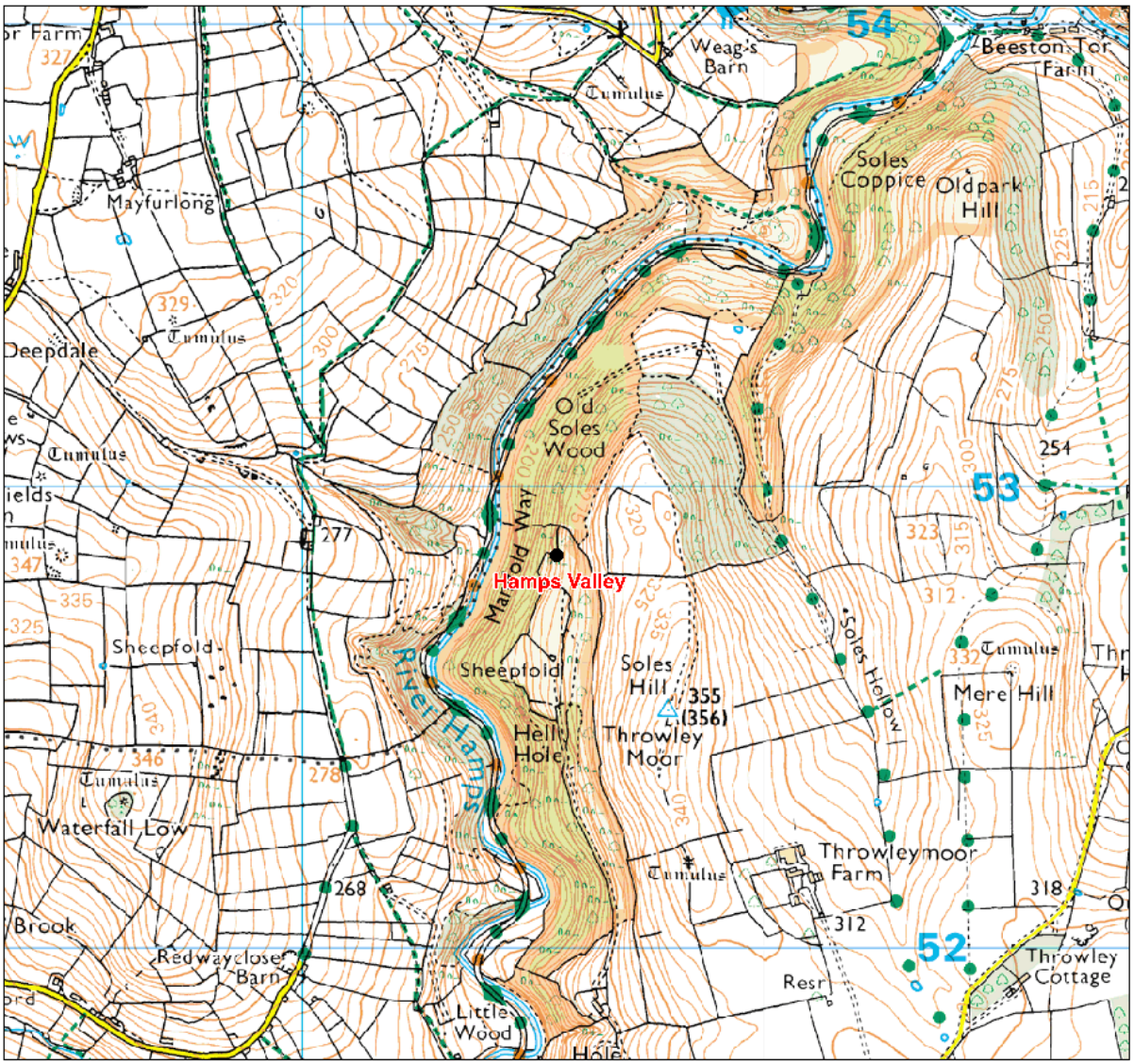
The Hamps Valley area, part of the Peak District National Park, comprises steep valleys and gorges surrounded predominantly by stock farms at the top of the slopes. There is a well-used cycle track that follows the river at the bottom of the valley. Travelling from south to north, Hamps Valley is divided into Little Wood, Hell Hole, The Sheepfold, Old Soles Wood and Soles Coppice.

Up until 2006, there were at least two known native dormouse populations in Staffordshire. However, no dormice were recorded in the county in 2012 and only two nests were found at sites in the west of the county in 2013. There have been no further records.

Dormouse population

The dormouse reintroduction took place in 2002 when 35 dormice were released in an area of the valley known as Hell hole. The site is on the side of a steep valley comprising hazel/hawthorn coppice and scrub. There is some contention as to how long the valley has been wooded and it is thought that is may have been grazed until relatively recently

There has been some evidence that the dormice have moved from the release site along the woodland but it is not substantial. 100 dormouse boxes were provided in 2012 to support the Hamps Valley NDMP site both to replace existing damaged boxes and to survey new areas of the woodland. Occasional nut evidence is apparently still found at the Hamps Valley site but no other evidence that dormice still exist there.



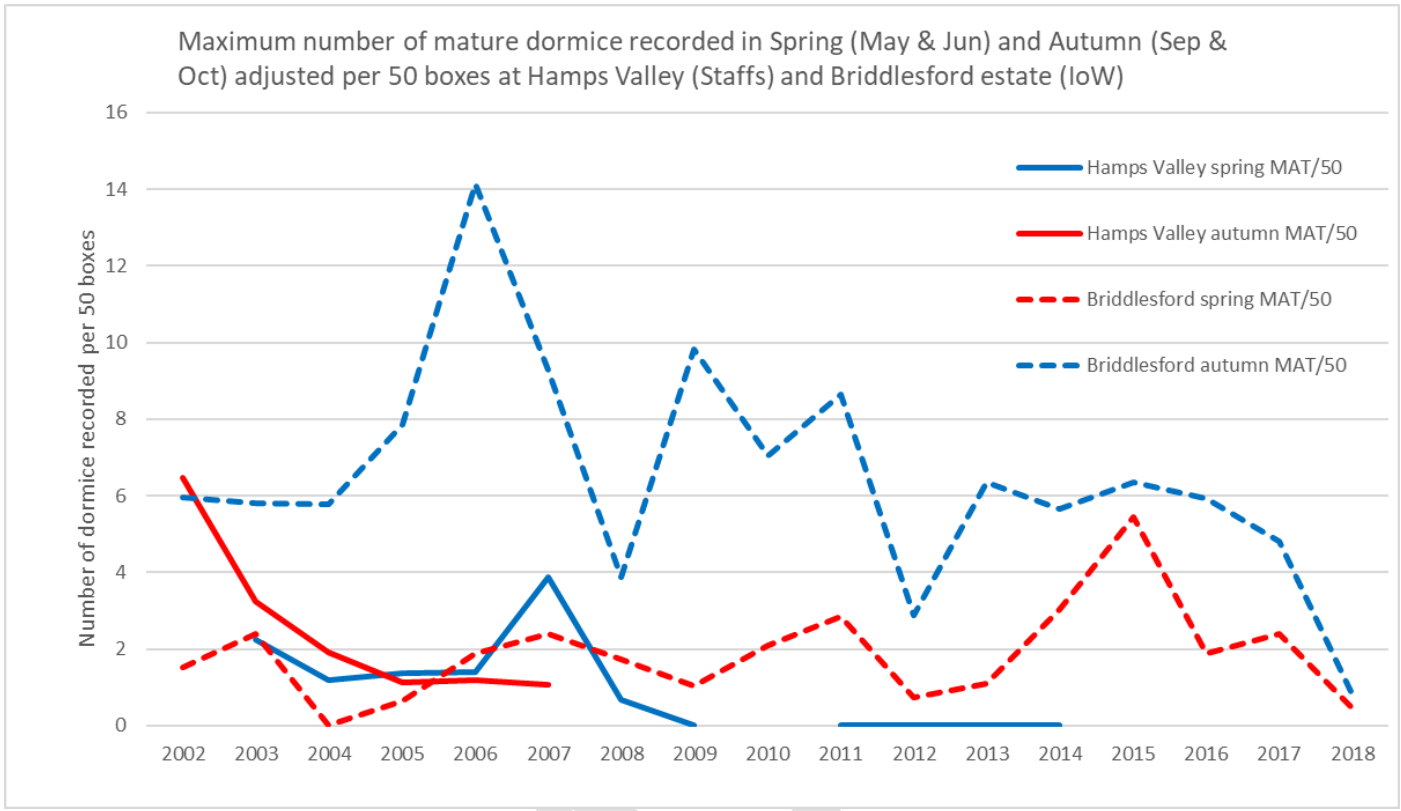
Woodland management

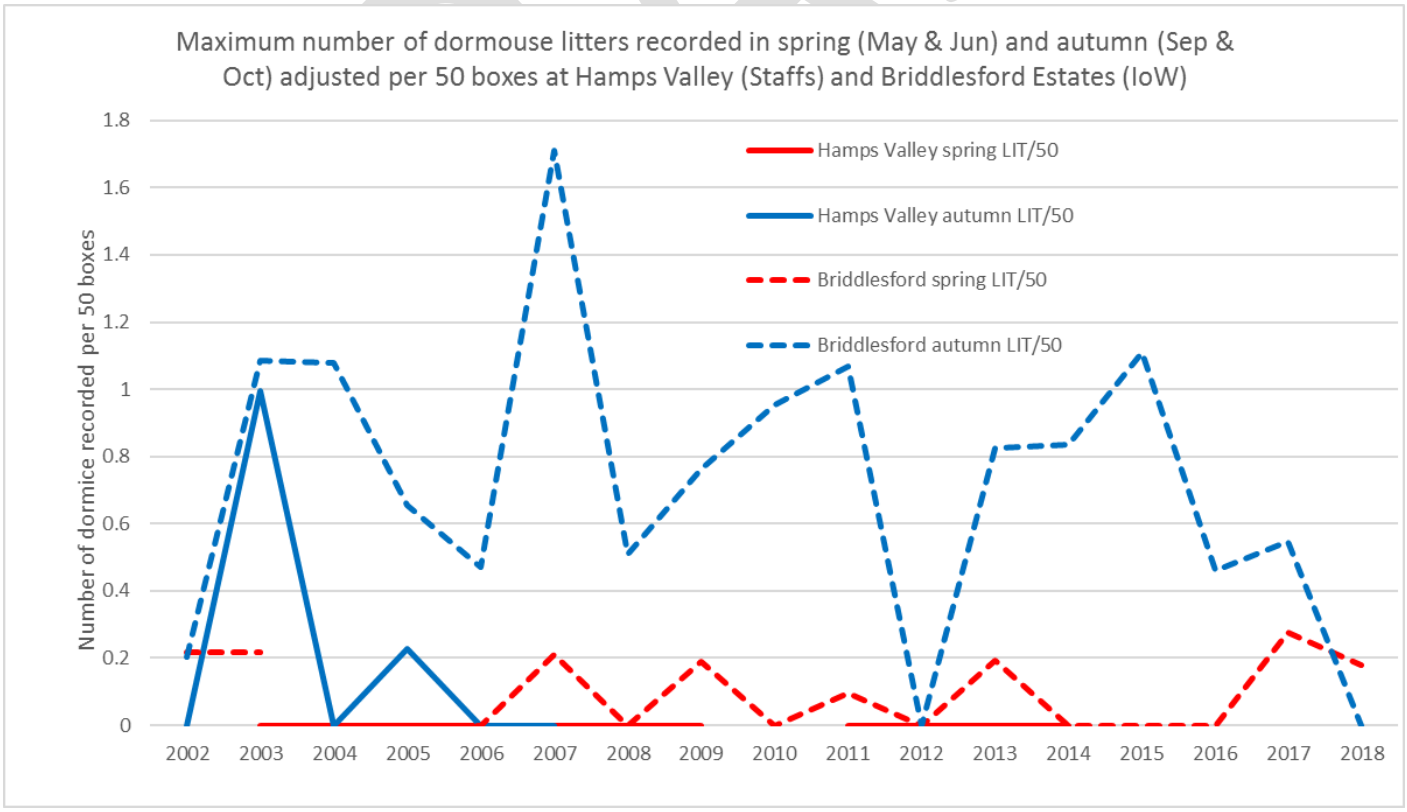
In 2010, efforts were made to get some woodland management undertaken in the wood but unfortunately this was not implemented by the National Trust. The woodland is mostly over-stood coppice with no areas known to be in the 8 – 20 year age structure.

Future development

There are no plans for any further reintroductions in the area

Ian White
Mar. 2013


Maximum number of mature dormice recorded in Spring (May & Jun) and Autumn (Sep & Oct) adjusted per 50 boxes at Hamps Valley (Staffs) and Briddlesford estate (IoW)
Number of dormice recorded per 50 boxes
0
2
4
6
8
10
12
14
16
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
Hamps Valley spring MAT/50
Hamps Valley autumn MAT/50
Briddlesford spring MAT/50
Briddlesford autumn MAT/50


Maximum number of dormouse litters recorded in spring (May & Jun) and autumn (Sep & Oct) adjusted per 50 boxes at Hamps Valley (Staffs) and Briddlesford Estates (IoW)
Number of dormice recorded per 50 boxes
0
0.2
0.4
0.6
0.8
1
1.2
1.4
1.6
1.8
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
Hamps Valley spring LIT/50
Hamps Valley autumn LIT/50
Briddlesford spring LIT/50
Briddlesford autumn LIT/50

Site 10. Hamps Valley 2002		
Term	**Definition**	**Comment 2017**
Management	*Woodland management*	**NO** None implemented since the reintroduction was undertaken
Short term	*Dormice survive the first two winters*	**YES** the dormouse population survived the first two winters
Medium term	*The dormouse population remains stable over 5-10 years*	**NO** 2007 – 2012 The dormouse population appeared to decline up to 2008 and no further dormice were recorded after 2009
Long term	*The dormouse population increases in size and expands its range*	**N/A**
Long term Success	*The dormouse population has a reduced risk of extinction*	**NO**

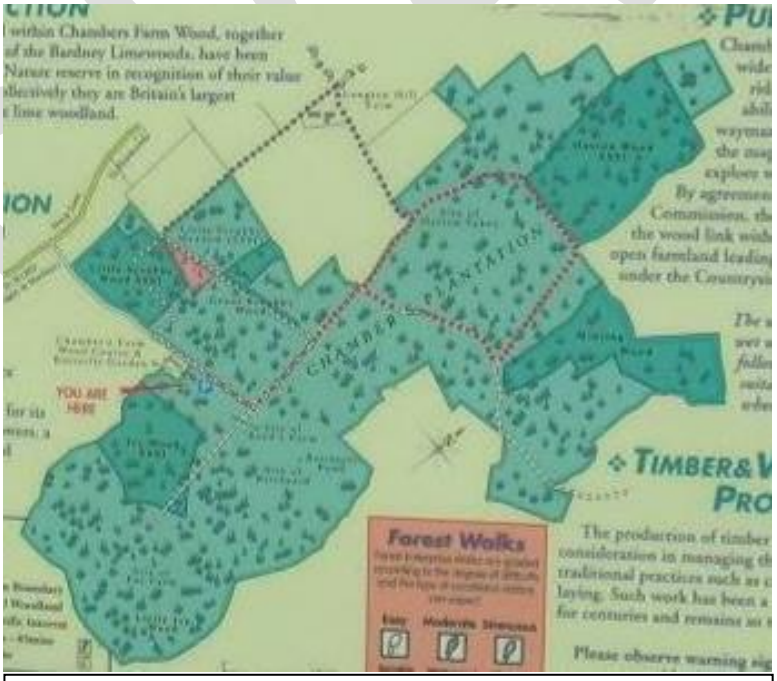
11. Chambers Farm, Lincolnshire

Woodland Owner:	Forestry Commission	
Grid reference:	TF144744	NDMP Site No. 209
Woodland size:	347 ha	
Release date and number of animals: 32 dormice were released in 2002		

Introduction

Chambers Farm Wood is one of the few remaining woods in Lincolnshire. It forms part of The Lincolnshire Limewoods Project which is a partnership working to protect, enhance and promote the natural and historic landscapes of the Limewoods area.

The wood is an assemblage of 5 semi-ancient natural woodlands that have been connected by plantation woodland on agricultural land. The old field boundaries are still apparent both on the ground and from the ordnance survey map. The site is owned and managed by The Forestry Commission and they are slowly thinning and removing the plantation woodland.



The ancient woodland sites (darker green) located within Chambers Fame Wood

The Lincolnshire Dormouse Group was formed in 2010 to encourage wider involvement in the original project. The group consists of licence-holders, trainees and other volunteers who meet regularly to monitor the population and undertake habitat management for the benefit of the dormouse.

Dormouse population

The dormouse release took place in 2002 and the site has been regularly monitored since. The original release site was mostly within Ivy Wood, one of the old semi-ancient natural woodlands.

The dormouse population appeared to peak in 2004 and a dormouse nest was found in an adjacent woodland in 2012 indicating that the population was starting to disperse from the wood. In 2015 the group set up a new monitoring site in Minting wood and in 2017 the purchase of new boxes allowed the Lincs dormouse group to set up a new monitoring site at Gosling's Corner Wood owned by Lincolnshire Wildlife Trust Nature Reserve.

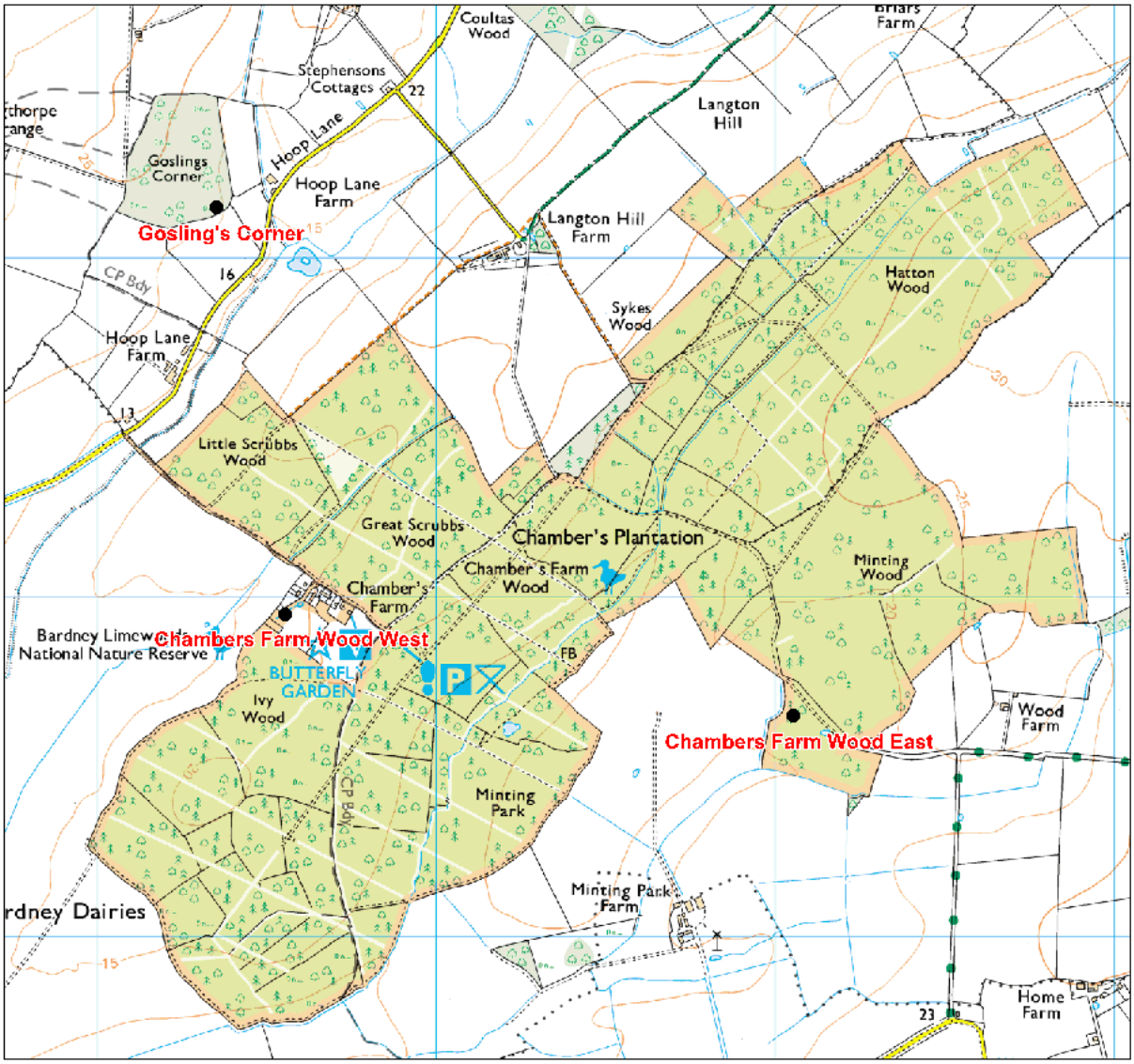
The population appears stable and over three dormice per 50 boxes have been recorded in spring in 2005, 2012 and 2017; this compares with national data of 23.09, 2.21 and 1.70 respectively.

In 2017 dormice were recorded in the following areas

Monitoring Site	**Number of dormouse individually marked**	**Number of dormice unmarked in October check**	**Total individual count**
Ivy Wood East and West	24	2	26
Little Scrubs	1	0	1
Minting Triangle	5	2	7
Minting Far End	0	2	2
Gosling's Corner	0	0	0
			36

The group had had a display stand at the Countryside Lincs event at the Lincolnshire Showground, to further educate the public about dormice, the project and the work of the group. In addition, 29 visitors have been welcomed on box checks. They have also led two Wildlife Watch groups and a group from the Horncastle Guides on box checks, giving members of the public including children and young adults a chance to see a dormouse up close.

In 2019 a further 11 dormice were released into Chambers Farm wood with the aim of increasing the genetic variability of the existing population.



Woodland management

Much of the woodland outside the ancient woodland compartments is open canopy wood which is being selectively felled by the Forestry Commission. The plantation woodland was generally considered to be unsuitable for dormice, however broad, linear scrub areas at the margins of the main tracks should provide effective suitable corridors for dormice through the wood.

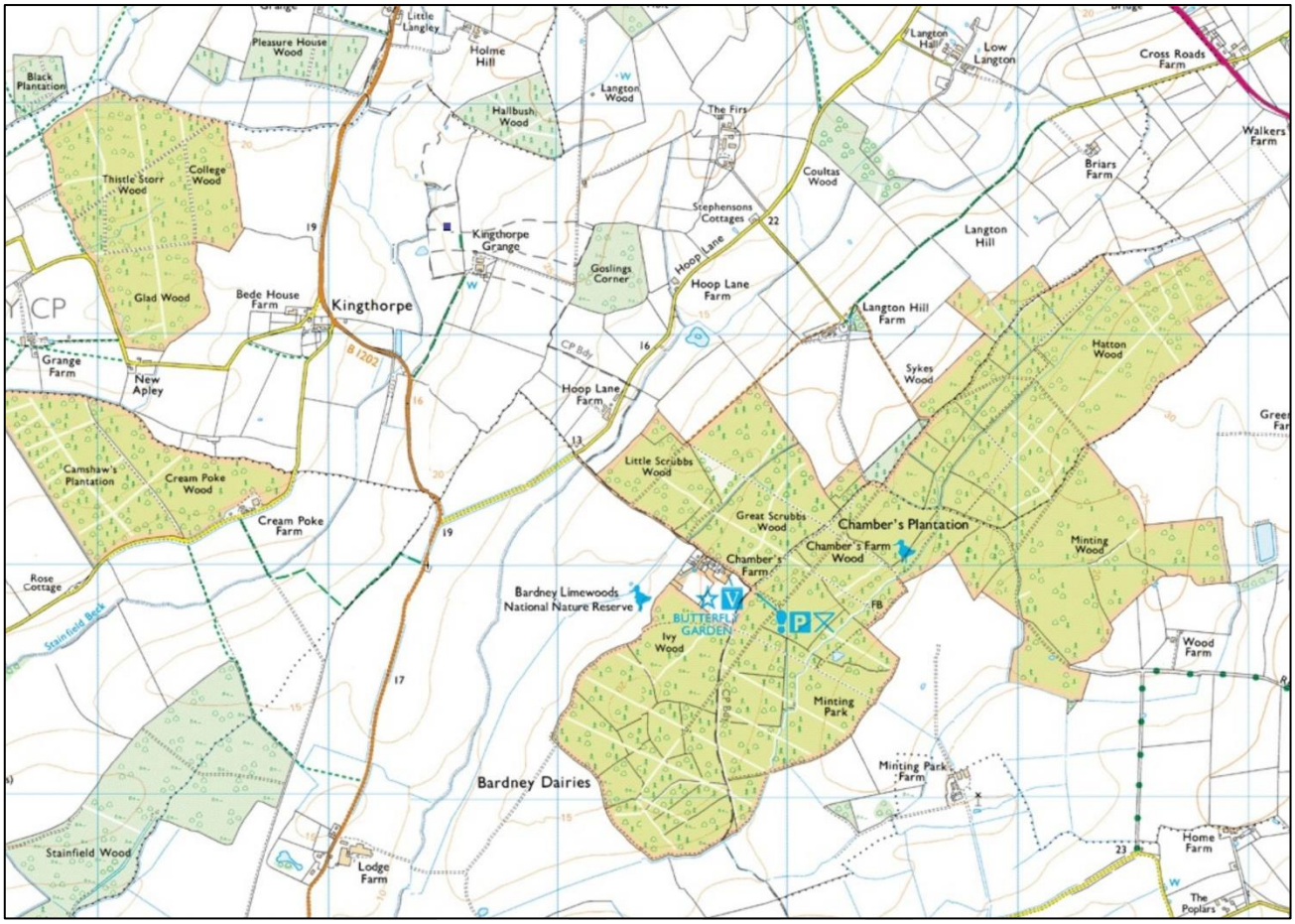
Chambers Farm Wood is generally surrounded by agricultural fields that are intensively farmed. However, there are some links to other woodlands that that could aid dormouse dispersal in the future.

Management by the FC continues to be implemented at Chambers Farm with continuing input from the local dormouse group. This is a large woodland and it is thought that the area of woodland in the 8 – 20yr age structure would easily exceed 10 hectares.

Future development

There has been substantial further planting in the area which should create future potential dormouse habitat. Another wood in the area, Camshaw plantation, is being considered as a future reintroduction site. However, there does appear to be a degree of resistance from the Forestry Commission (that also owns Camshaws) with concerns that the introduction of dormice will impact on their management for the wood. This is in spite of the fact that the management of Chamber Farm wood appears to be proceeding well even in the presence of dormice.

Ian White
Jun. 2019



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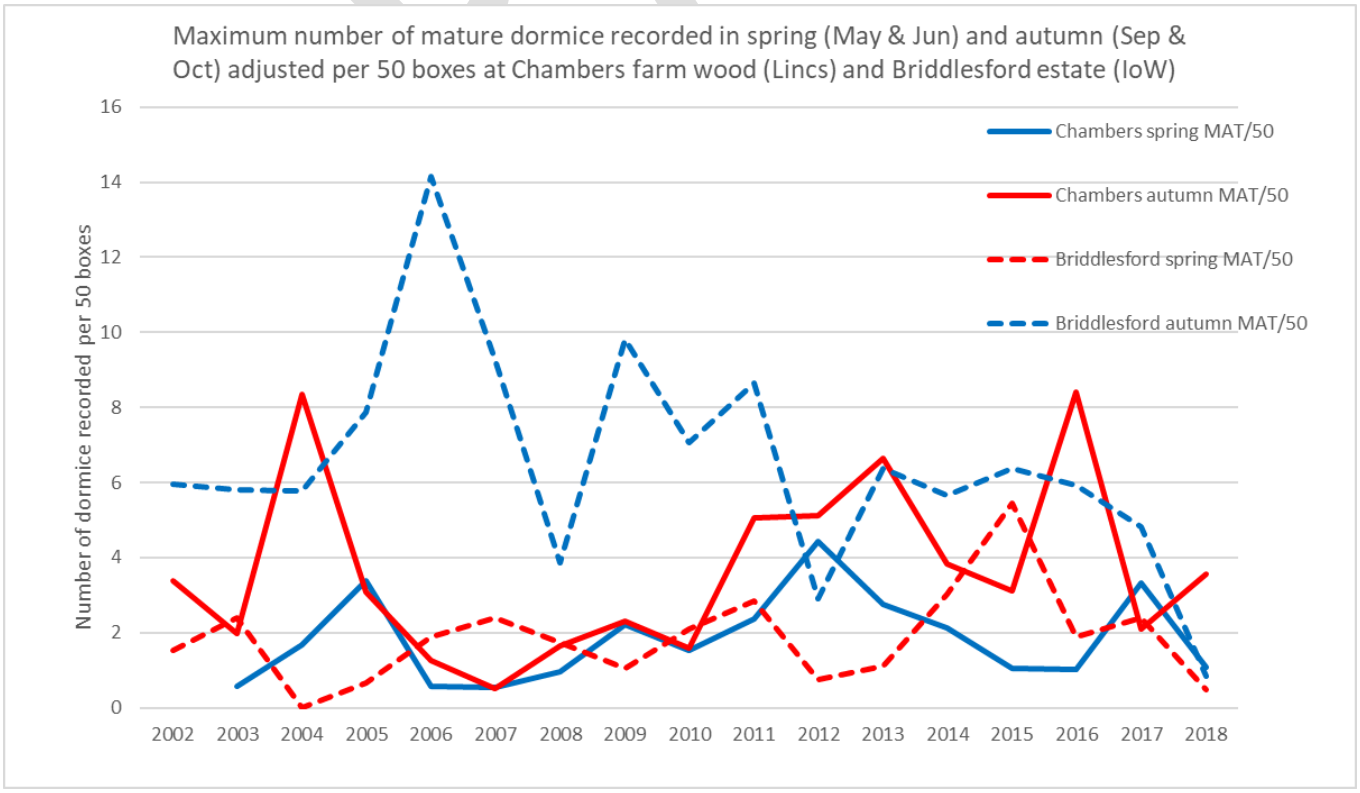
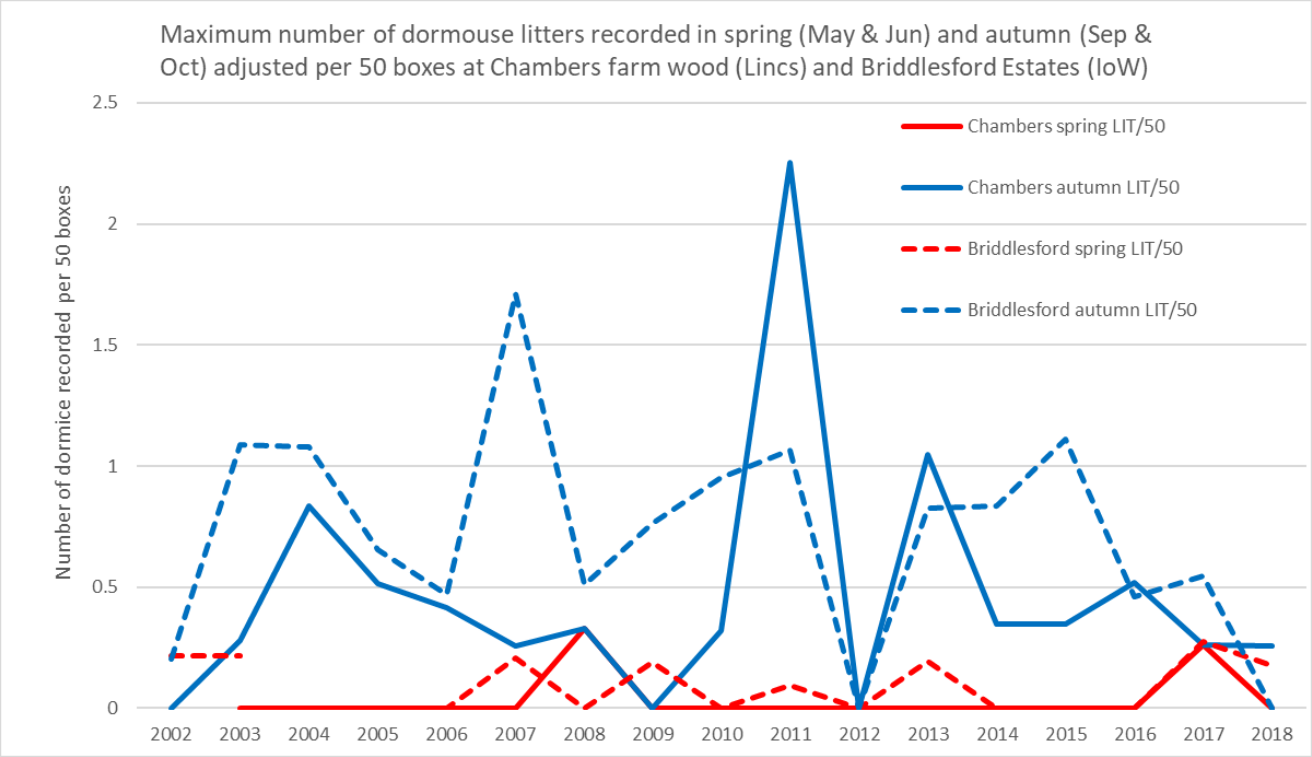




Site 11. Chambers Farm Wood 2002		
Term	**Definition**	**Comment 2019**
Management	*Woodland management*	Ongoing
Short term	*Dormice survive the first two winters*	**YES** the dormouse population survived the first two winters
Medium term	*The dormouse population remains stable over 5-10 years*	**STABLE 2007 - 2012** The dormouse population appeared stable
Long term	*The dormouse population increases in size and expands its range*	**DISPERSING**
Long term Success	*The dormouse population has a reduced risk of extinction*	**YES**

12. Leashaw Wood, Derbyshire

Woodland Owner:	Private landowner	
Grid reference:	SK331555	NDMP Site No. 234
Woodland size:	21 ha	
Release date and number of animals: 34 dormice were released in 2003		

Introduction

Of all the dormouse reintroduction sites, this was one that should not perhaps have been done. There are suggestions that the site was chosen in haste and that one of the reasons for the sites' selection was that the four key plant species for dormice were deemed to be present. The site itself was privately owned by an elderly couple whose reason for purchasing the wood was that they wished to prevent a dirt bike track to be extended into it.

Dormouse population

The population declined rapidly and there have been no signs of dormice at Leashaw since 2006. A suspected dormouse nest was found in 2009 in scrub along the Cromford Canal about 1.5km away from Leashaw. A dormouse nest was thought to be found earlier (2007 or 2008) in a bird box at a DWT reserve immediately south of Leashaw: tubes were installed and checked a couple of times but proved negative, as did a nut hunt there. It is thought that dormouse records in the area are inconclusive.

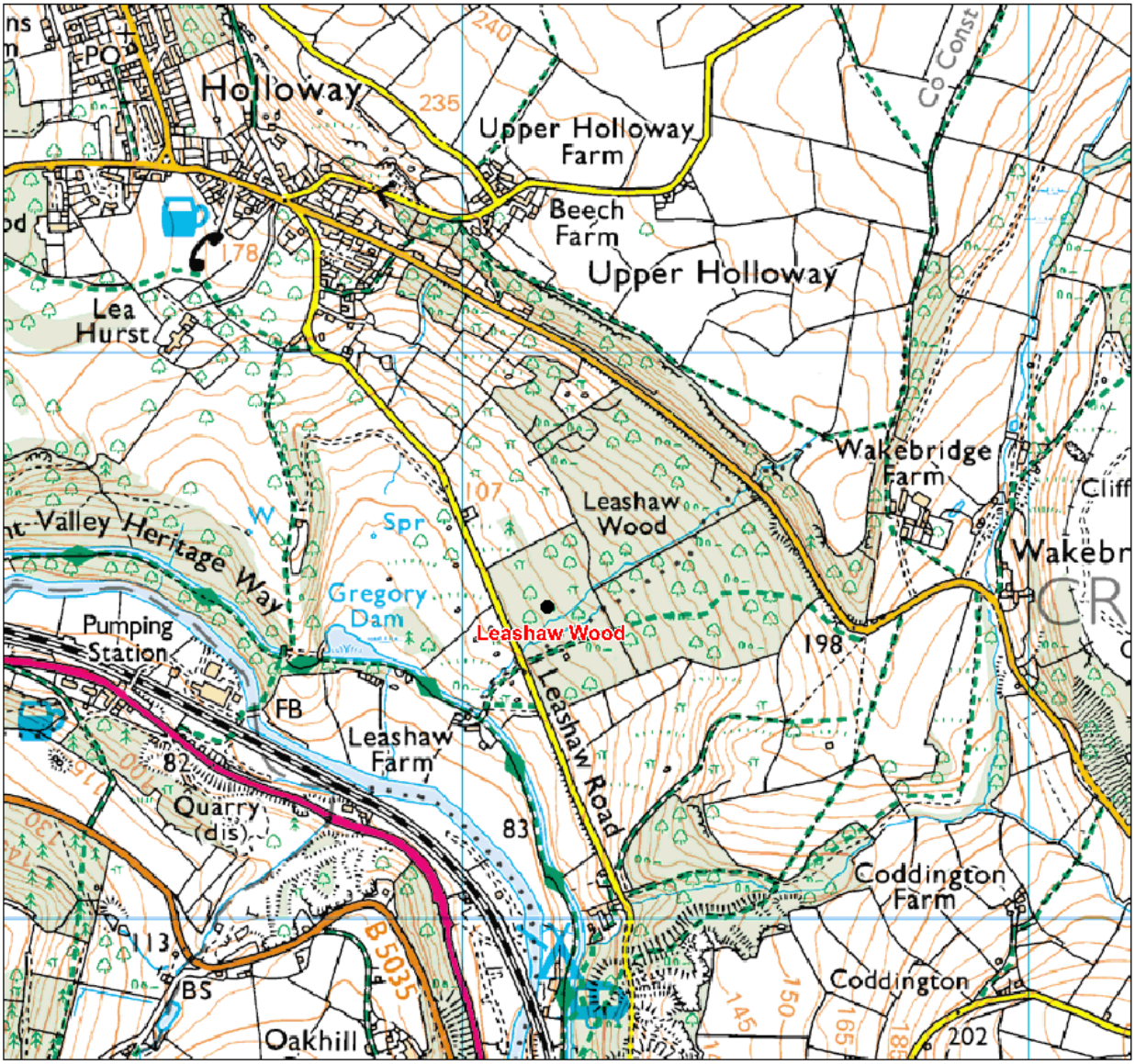
Woodland management

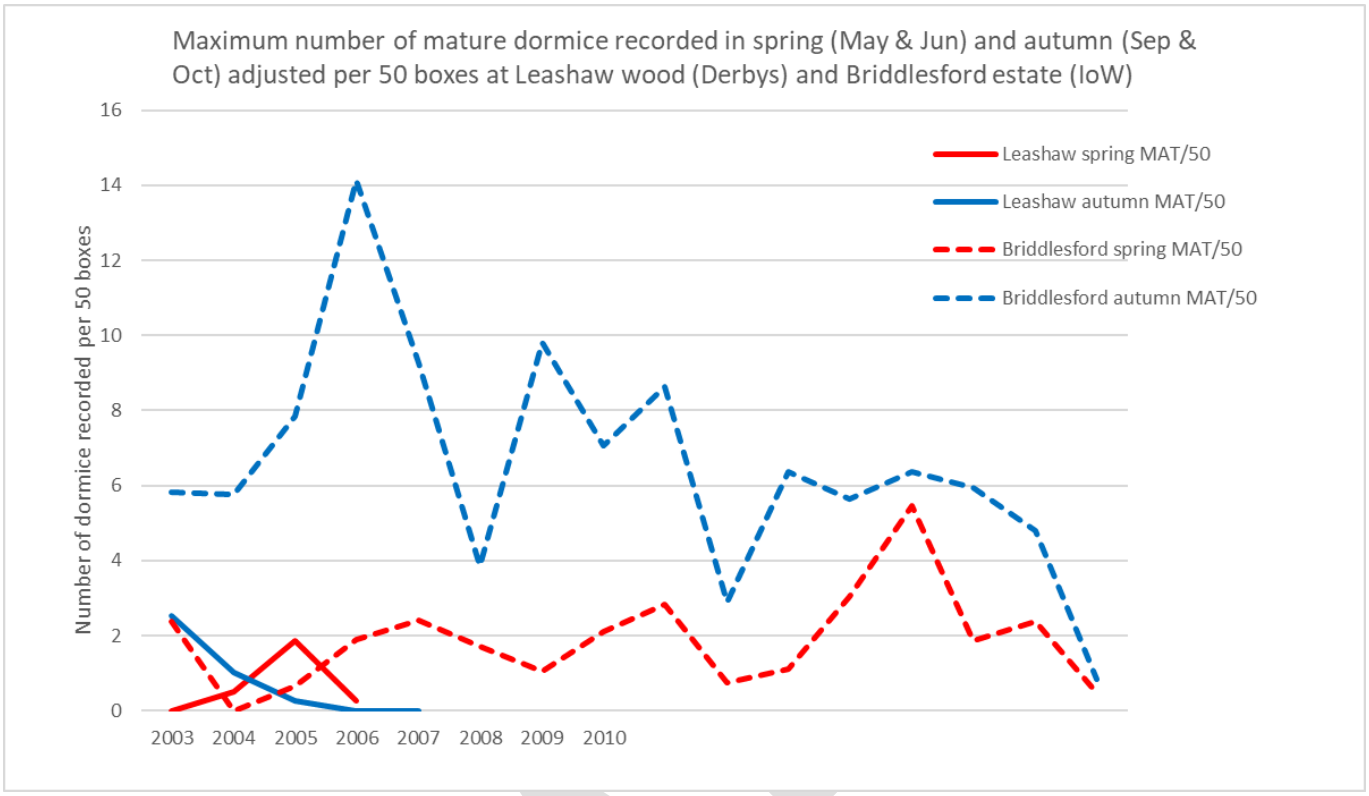
Very little to no management was undertaken at Leashaw wood. When the woodland was seen in 2006, it was described as a canopy sycamore woodland and there was no obvious understory in any part of the wood.

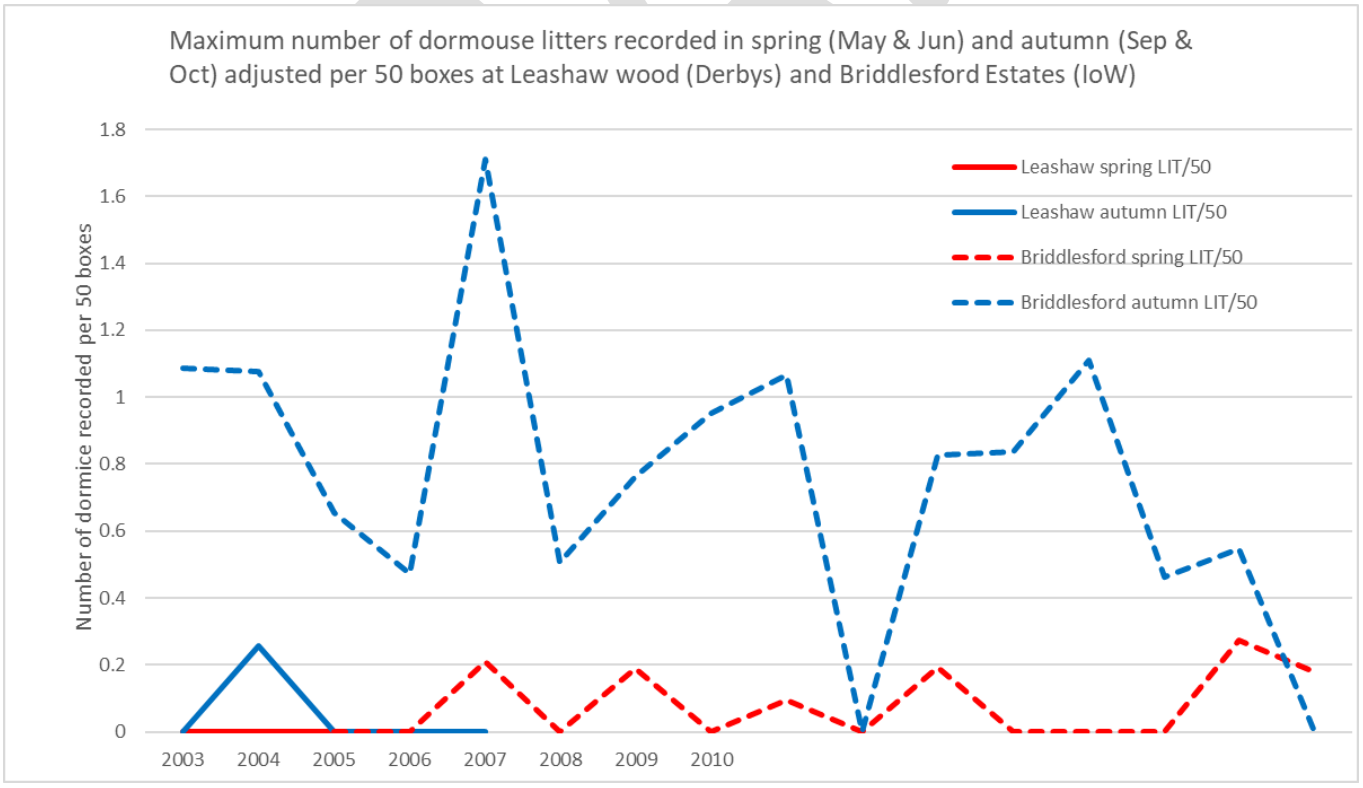
Future development

There are no plans to undertake any further releases in this area

Ian White
Apr 2013




Maximum number of mature dormice recorded in spring (May & Jun) and autumn (Sep & Oct) adjusted per 50 boxes at Leashaw wood (Derbys) and Briddlesford estate (IoW)
Number of dormice recorded per 50 boxes
16
14
12
10
8
6
4
2
0
2003
2004
2005
2006
2007
2008
2009
2010
Leashaw spring MAT/50
Leashaw autumn MAT/50
Briddlesford spring MAT/50
Briddlesford autumn MAT/50


Maximum number of dormouse litters recorded in spring (May & Jun) and autumn (Sep & Oct) adjusted per 50 boxes at Leashaw wood (Derbys) and Briddlesford Estates (IoW)
Number of dormice recorded per 50 boxes
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
2003
2004
2005
2006
2007
2008
2009
2010
Leashaw spring LIT/50
Leashaw autumn LIT/50
Briddlesford spring LIT/50
Briddlesford autumn LIT/50

Site 12. Leashaw Wood 2003		
Term	**Definition**	**Comment 2013**
Management	*Woodland management*	No woodland management is known to have been undertaken
Short term	*Dormice survive the first two winters*	**YES** the dormouse population survived the first two winters
Medium term	*The dormouse population remains stable over 5-10 years*	**NO** The dormouse population appeared to decline up to 2006 and no further dormice were recorded after 2009
Long term	*The dormouse population increases in size and expands its range*	**N/A**
Long term Success	*The dormouse population has a reduced risk of extinction*	**NO**

13. Heslett and Peter Woods, North Yorkshire

Woodland Owner:	Private Landowner	
Grid reference:	SE250785	NDMP Site No. 260
Woodland size:	23.6 and 14 ha	
Release date and number of animals: 62 dormice were released in 2004		

Introduction

Heslett and Peter woods are two privately owned plantation woods in close proximity linked by hedges. A disused railway line also almost links the sites. The woodlands are managed both for timber and for a small shoot that takes place on the estate. As the site was considered large, 62 dormice were released, double the usual compliment at the time which was about 30 animals. The reintroduction was documented by Beer in *Imprint*, the journal of the Yorkshire Mammal Society

- Beer (2004) *A furry tale – the 2004 Yorkshire dormouse reintroduction*.

Dormice were recorded in the woods, albeit at a low number up, until 2013. Monitoring continued for a couple of years after that and then ceased.

Dormouse population

After the release dormice were recorded in the hedge connecting the two woods but no further dispersal was recorded. Dormice were recorded in low numbers and there was little evidence of breeding with only two litters ever recorded. The last dormouse recorded was in June 2013. Checks continued up to 2016 but with no further dormice found these were stopped.

Woodland management

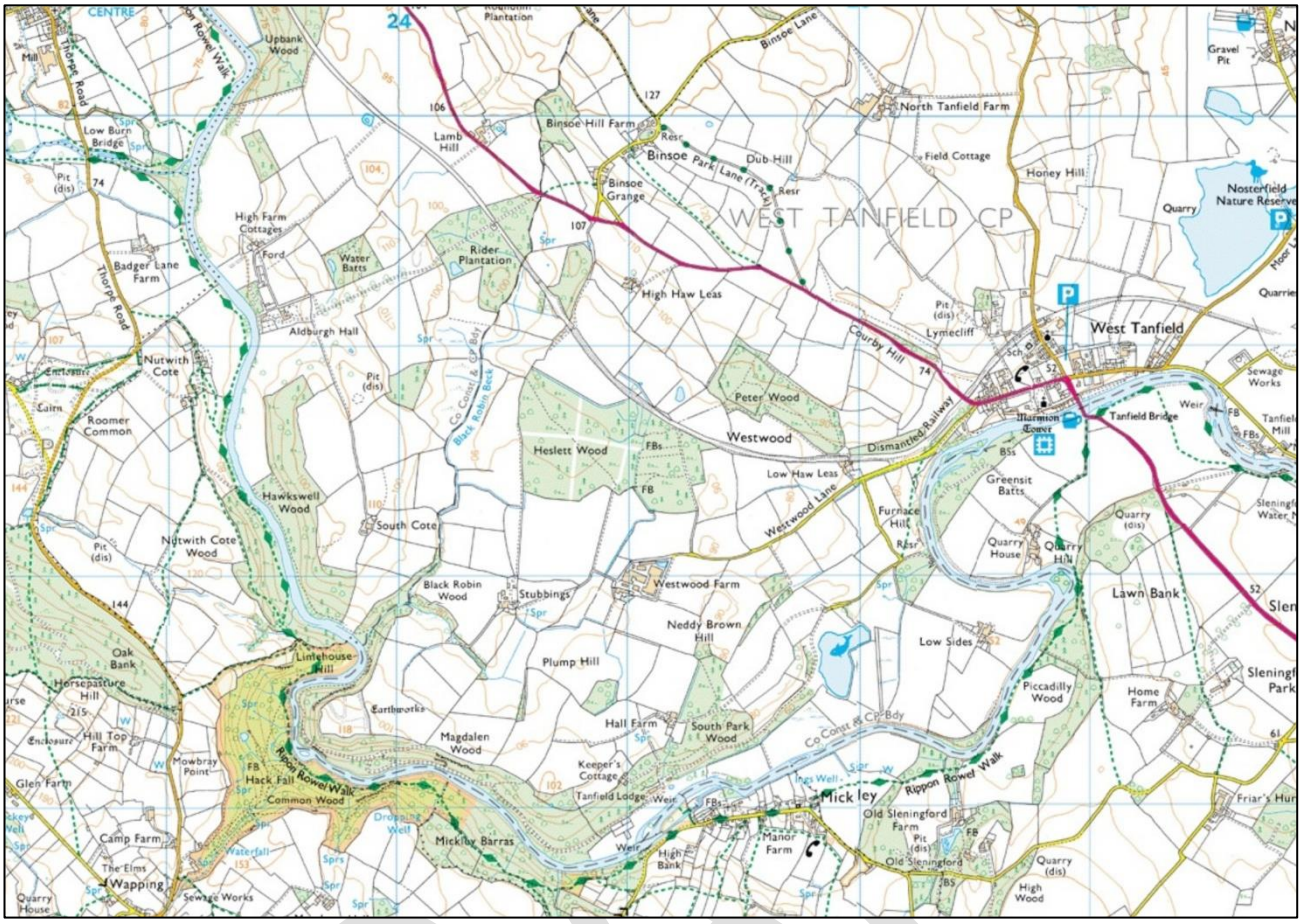
There was little management within the woodlands as they were managed as plantations. In 2012, much of Peter wood was clear-felled although a scrubby margin was retained around the periphery. The cleared area was replanted with native trees. The management work had been discussed with the landowner and the local monitors to try and ensure that it would be sympathetic to dormice. However, whilst the regenerating vegetation may have become highly suitable, it also required that there was sufficient suitable existing habitat for the dormice to persist.

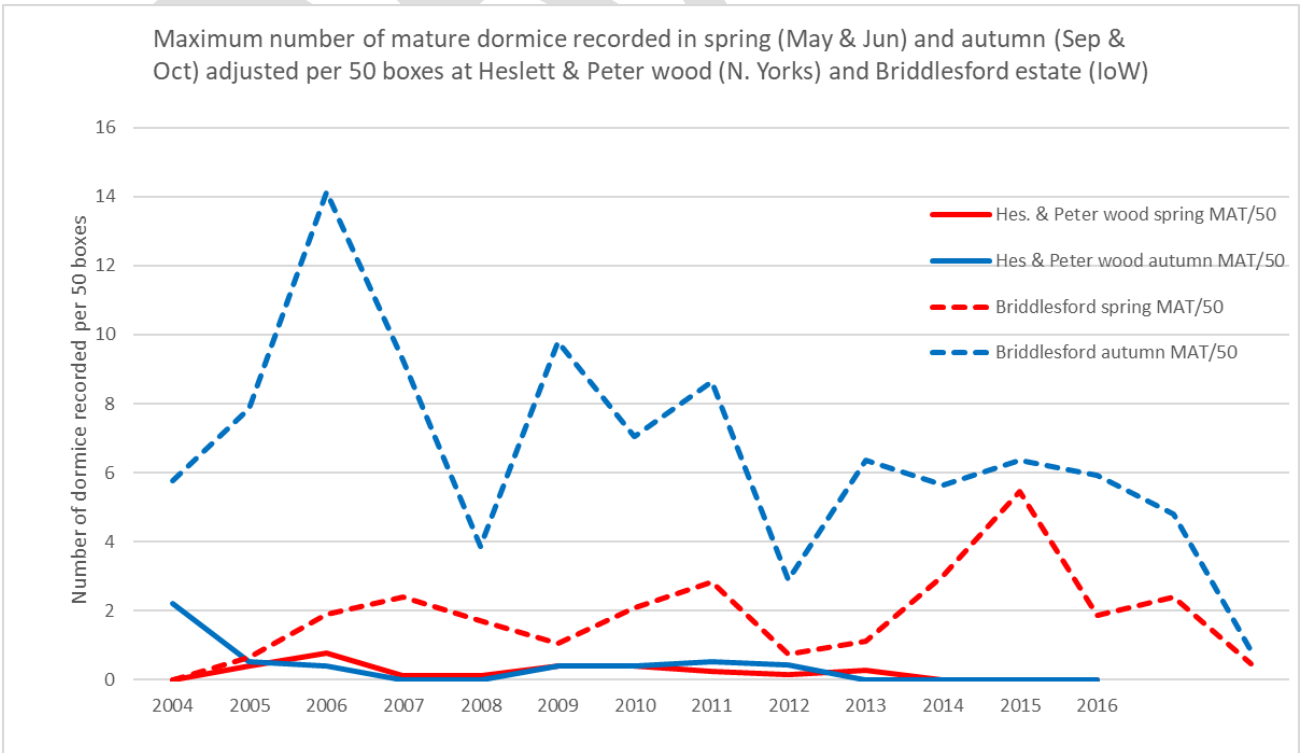
It is not thought that the areas of habitat in the 8 – 20 year age structure ever exceeded 10 ha

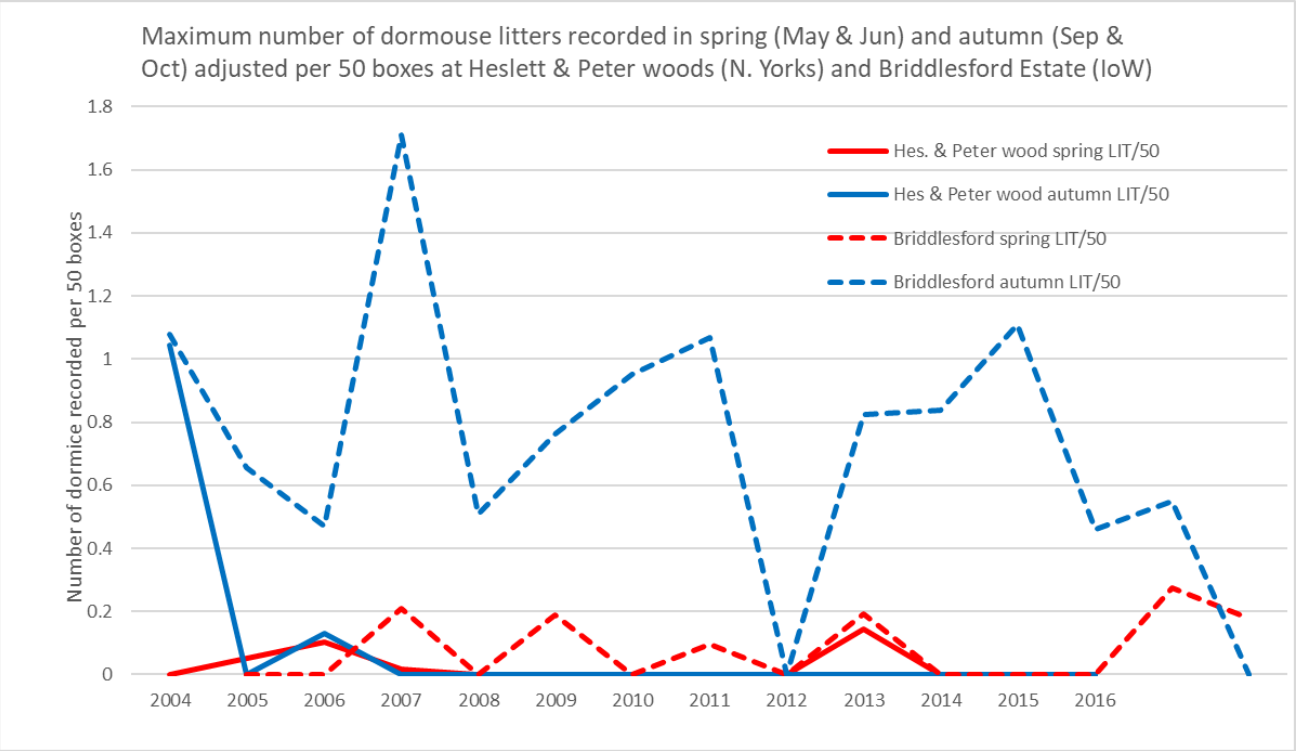
Future development

There are no future plans for any further dormouse reintroductions in this area.

Ian White
Apr 2018







Site 13. Heslett & Peter Wood 2004		
Term	**Definition**	**Comment 2019**
Management	*Woodland management*	No woodland management undertaken with the exception of a large clearfell operation in 2012
Short term	*Dormice survive the first two winters*	**YES** the dormouse population survived the first two winters
Medium term	*The dormouse population remains stable over 5-10 years*	**STABLE** 2009 - 2014 The dormouse population appeared stable albeit at a low level
Long term	*The dormouse population increases in size and expands its range*	**DISPERSING(?)**
Long term Success	*The dormouse population has a reduced risk of extinction*	**NO**

14. Monsal Dale, Derbyshire

Woodland Owner:	Chatsworth Estate	
Grid reference	SK178715	NDMP Site No. 293
Woodland size:	22 ha	
Release date and number of animals: 33 dormice were released in 2005		

Introduction

Monsal Dale is probably one of the largest areas of coppice hazel in the Derbyshire Dales but there has been very little management work in the woodland over the past 50-60 years.

Dormouse population

Since the original release in 2005, the dormouse population has been monitored at least twice a year, to conform with the National Dormouse Monitoring Programme (NDMP). Additional nest boxes have been installed and now number around 300. Dormouse tubes have also been installed to monitor use of marginal areas and 'nut hunts' are conducted each year to search for the hazelnuts opened in the characteristic way by dormice, as an additional survey technique. Some limited coppicing has been conducted and other management work.

The progress of the reintroduction has been reported by Mallon in Derbyshire Mammal Group newsletters

- Mallon (2007-2012) *Dormouse reintroduction at Chatsworth.*

Woodland management

Monsal Dale is probably one of the largest areas of coppice hazel in the Derbyshire Dales but there has been very little management work in the woodland over the past 50-60 years. As a result of the Ravine Woodlife Project (2003-07), some sycamore was felled within the wood to encourage the regeneration of native tree species and to increase the amount of deadwood. The Derbyshire Mammal Group (DMG), whichө monitors the dormouse population in the wood, hasve undertaken some very limited coppicing. Two of the ancient stools, the DMG coppiced in 2007, have put on considerable growth due partly to the lack of rabbit or deer browsing pressure. In general, the mortality of stumps tends to increase with both age and size but this example suggests that old stools in Monsal Dale could be regenerated by coppicing as long as sufficient standards were felled to allow light to the woodland floor.

It is recognised that any management undertaken in Monsal Dale for dormice will need to be small in scale but repeated annually over the longer term. Ideally this work would be undertaken by a combination of estate workers and local volunteers from the dormouse management team who

have both an understanding and an interest in the wood. There is a practical limit to the extent of coppicing that can be carried out by volunteers using hand tools, and this work needs to be accompanied by qualified chain saw operators from the estate to be more effective. There is no intention to change the nature of the wood overall, but to undertake limited work to enhance its value for dormice.

To encourage the continuation of this dormouse habitat structure at Monsal Dale, there has been substantial effort by PTES and DMG to try and get some woodland management work implemented in the woodland and a draft woodland management plan was written in 2011.

- White (2011) *Coppice woodland management plan for Monsal Dale, Chatsworth Estate, Derbyshire.*

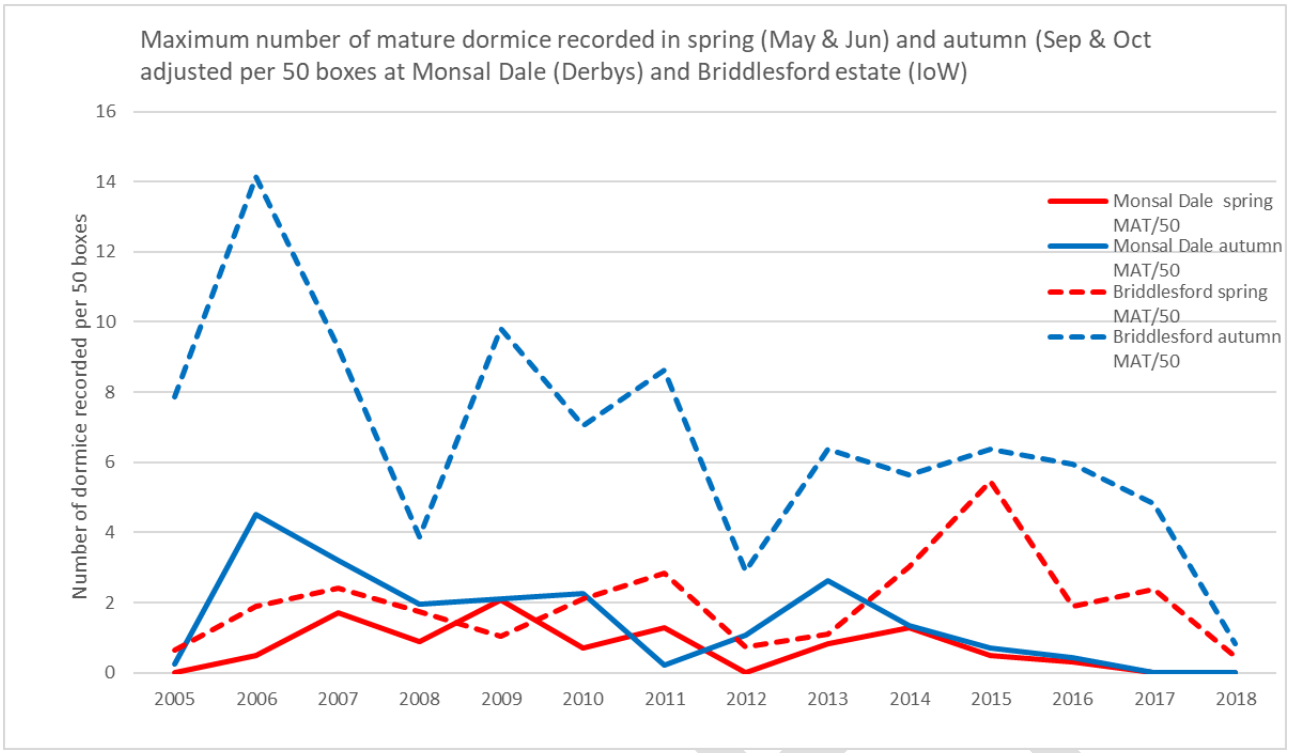
Management of the site must take into consideration that it lies within the Wye Valley SSSI. The SSSI designation identifies the woodland as a 'Broadleaved mixed and yew woodland – upland secondary and core ash woodland' there is no mention that this is a coppice wood. However, the woodland is predominantly overstood hazel with some regenerating ash stands. There does not appear to be any written documentation with regard the woods' previous use but the age and spacing of the coppice stools indicates that historically, this was a managed coppice woodland. This may be one of the larger, relic coppice woodlands in the area that were used to support the local mining industry Monsal Dale has not been coppiced for at least 50 years and the hazel is becoming overstood and self-shading. In places where the hazel branches are growing towards gaps in the canopy, uneven weight distribution is causing ancient stools to uproot in the thin soil. This action further reduces stool density and will ultimately result in a high canopy woodland with no understory.

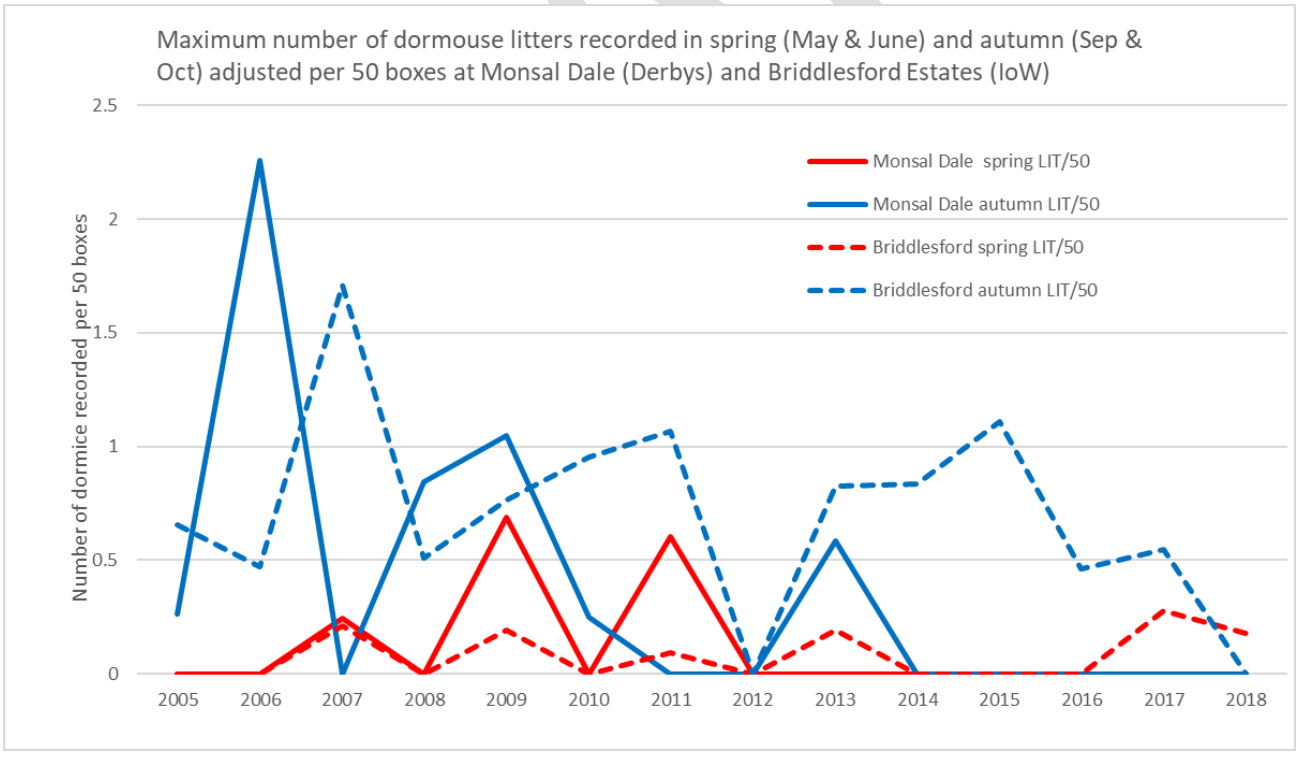
The local NE office has acknowledged the value of the dormice at the site and has consented to limited hazel coppicing to improve the habitat for dormice. Unfortunately, the woodland management plan for Monsal Dale was never progressed as the woodland manager at Chatsworth applied for a Woodland Management Grant for other woods on the estate where he felt there may be greater benefit.

Future development

There has been some discussion of a further reintroduction in the area but no sites have been identified that fulfil the current criteria. There are plans to undertake a reintroduction at Calke Abbey in Derbyshire about 30 miles to the north of Monsal Dale

Ian White
Apr. 2017


Maximum number of mature dormice recorded in spring (May & Jun) and autumn (Sep & Oct adjusted per 50 boxes at Monsal Dale (Derbys) and Briddlesford estate (IoW)
Number of dormice recorded per 50 boxes
16
14
12
10
8
6
4
2
0
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
Monsal Dale spring MAT/50
Monsal Dale autumn MAT/50
Briddlesford spring MAT/50
Briddlesford autumn MAT/50


Maximum number of dormouse litters recorded in spring (May & June) and autumn (Sep & Oct) adjusted per 50 boxes at Monsal Dale (Derbys) and Briddlesford Estates (IoW)
Number of dormice recorded per 50 boxes
2.5
2
1.5
1
0.5
0
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
Monsal Dale spring LIT/50
Monsal Dale autumn LIT/50
Briddlesford spring LIT/50
Briddlesford autumn LIT/50

Site 14. Monsal Dale 2005		
Term	**Definition**	**Comment 2017**
Management	*Woodland management*	Very limited woodland management undertaken. SSSI does not recognise the coppice woodland
Short term	*Dormice survive the first two winters*	**YES**: the dormouse population survived the first two winters
Medium term	*The dormouse population remains stable over 5-10 years*	**STABLE**: 2007 - 2012 Population appears relatively stable 2012 - 2016 Population showing a slow decline
Long term	*The dormouse population increases in size and expands its range*	**DISPERSING(?)** The dormouse population has not increased in size but has moved beyond the reintroduction area
Long term Success	*The dormouse population has a reduced risk of extinction*	**NO**

15. Bradfield Wood, Suffolk

Woodland Owner:	Suffolk Wildlife Trust	
Grid reference:	TL935575	NDMP Site No. 317
Woodland size:	72 ha	
Release date and number of animals: 34 dormice were released in 2006		

Introduction

Bradfield woods is a working wood that has uniquely been mostly under continuous traditional coppice management since 1252, fulfilling local needs for firewood and hazel products. The wood is managed on a 25 year rotation with 2 x 1ha coupes cut each year. Dormice have dispersed through the woodland and there is nut evidence on the woodland margins.

Suffolk Wildlife Trust have planted new hedgerows leading out from the wood for future dispersal corridors.

Dormouse population

Of all the reintroduction sites, the dormouse numbers recorded at Bradfield wood have been impressive. It is the only site where numbers have regularly exceeded those recorded at Briddlesford woods. The population appears to have occupied the available niches within the woodland and is now starting to expand.

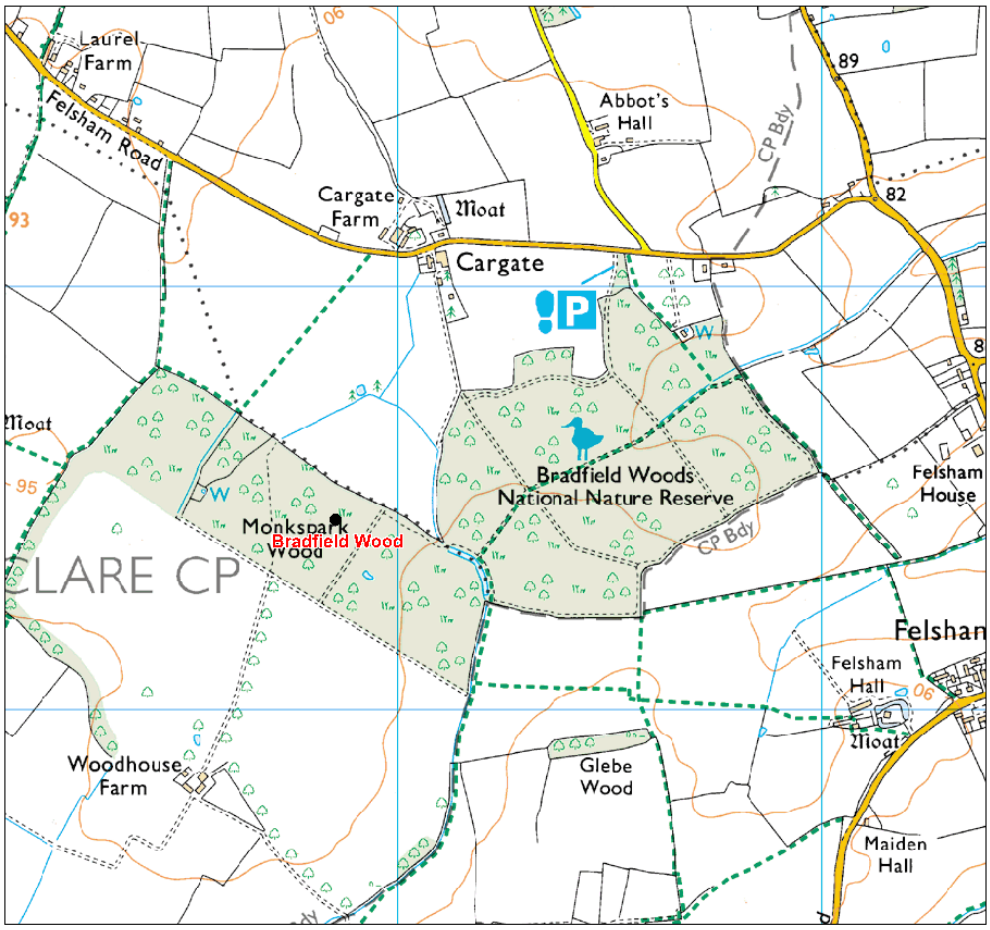
Woodland management

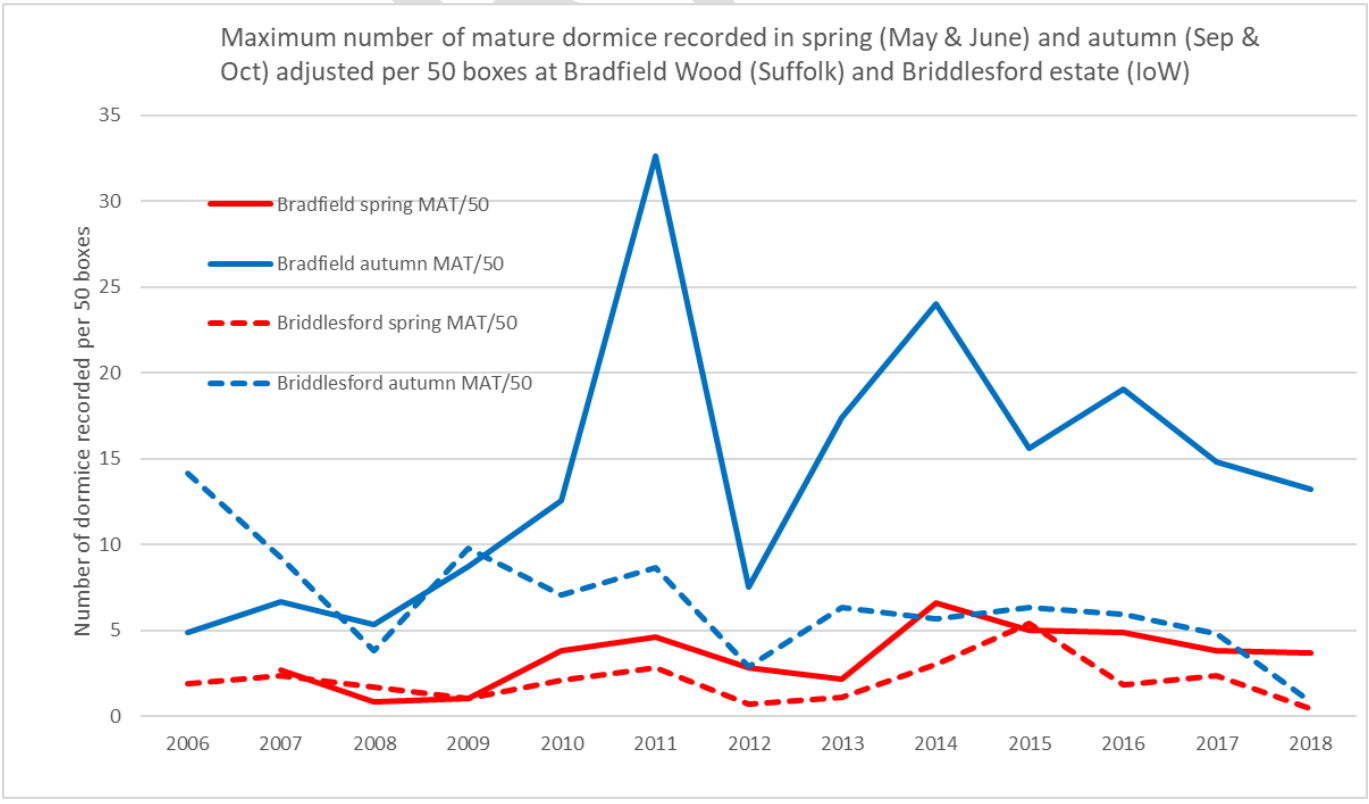
There was known to be a native population of dormice in Bradfield wood in the 1970s but they were considered to extinct by 2000, It is possible that reduced management in the 1960's left much of the woodland aged over 30 years and hence of declining suitability for dormice (Fuller et al 2019)

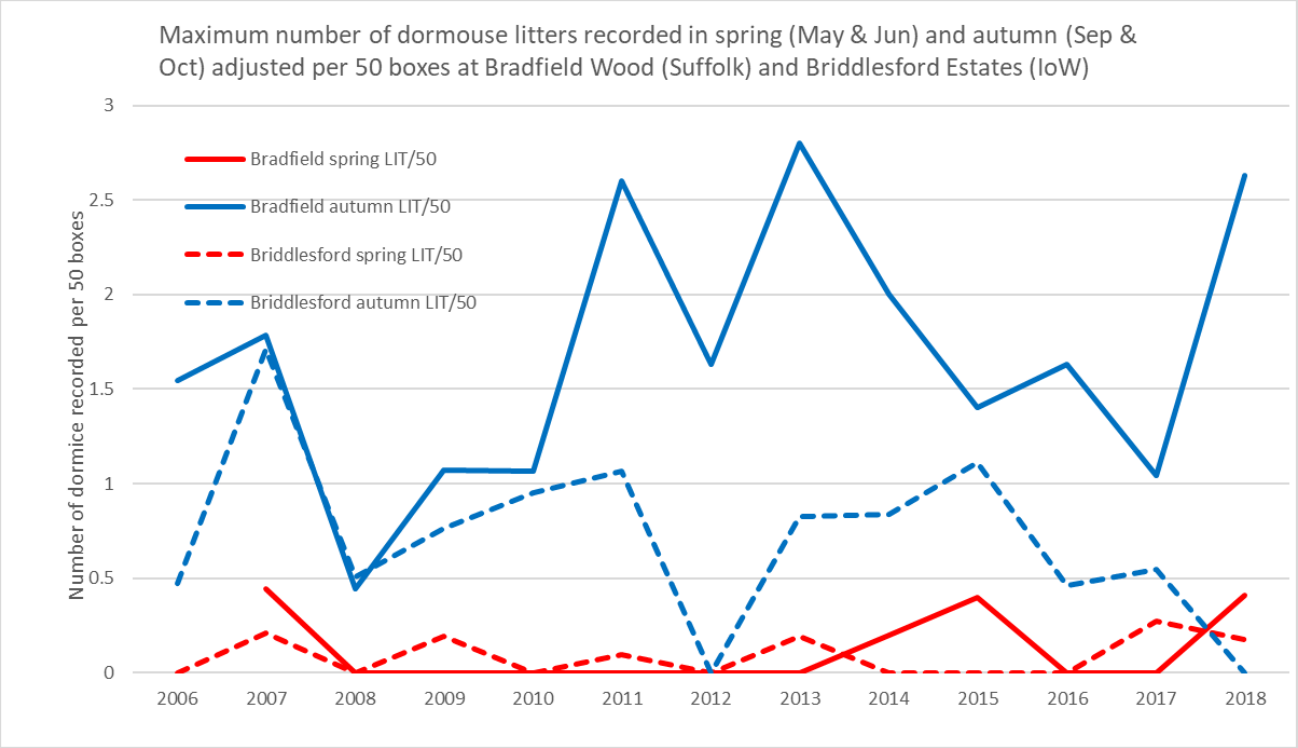
Since the 1980's the wood has been under a coppice management programme. 20 ha is left as a non-intervention woodland and 50ha is coppice on a long rotation with 2 ha undertaken each year. When the coppice is cut, the coupes are well protected from deer with both dead hedging and fencing. Under this regime about 30 ha of successional vegetation will be at the 8 – 20-year stage.

Future development

There are no further plans for another reintroduction in the area but a further release to improve the genetic variability will be considered**.**







Site 15 Bradfield Woods 2006		
Term	**Definition**	**Comment 2015**
Management	*Woodland management*	Ongoing woodland management
Short term	*Dormice survive the first two winters*	**YES** the dormouse population survived the first two winters
Medium term	*The dormouse population remains stable over 5-10 years*	**STABLE** 2011 - 2015 The dormouse population appeared stable
Long term	*The dormouse population increases in size and expands its range*	**DISPERSING**
Long term Success	*The dormouse population has a reduced risk of extinction*	**YES**

16. Freeholders Wood, North Yorkshire

Woodland Owner:	Yorkshire Dales National Park	
Grid reference:	SE013888	NDMP Site No. 373
Woodland size:	10 ha	
Release date and number of animals: 35 dormice were released in 2008		

Introduction

Freeholders' Wood Local Nature Reserve (LNR) consists of ancient semi-natural woodland, which means it has had tree cover since at least the year 1600 and many species of plants have colonised the site during this time. This site is one of the best places to see hazel coppice woodland in the National Park. The rotation coppice system of woodland management is vital on this site in order to maintain and enhance the biodiversity present

Dormouse population

The dormouse reintroduction took place in 2008 when 35 animals were released in the wood. When the autumn checks where undertaken 58 dormice were recorded comprising 28 mature dormice and 5 litters. Dormice have continued to be recorded in good numbers at the site. One anomaly at the site is the frequency with which early litters appear to be recorded. In June in the years 2009-2018, litters were recorded in Freeholders wood in 8 out of 10 years. This compares to Briddlesford, where only 5 litters were recorded in June over the same period and Bradfield wood where only 3 litters have been recorded in June since 2009.

In 2010, one of the monitors at Freeholders left and it became apparent that no one else had been trained to monitor the dormouse population. This left only a single licenced monitor who was aware of the box locations. Further training was given to ensure that the dormouse monitoring could continue and the boxes were all remapped

Dormice have been identified throughout the wood with one adult raising a litter close to a bird feeding station, on which there were suspicions the animal had fed. This suggests that it may be suitable to aid small introduced population with supplementary feeding.

Woodland Management

Freeholders wood is one of the smallest woodlands that has received a dormouse reintroduction (the smallest was Stockton Dingle at only 8 ha) but it has an ongoing woodland management programme. The rotational coppice system of woodland management is recognised as being vital

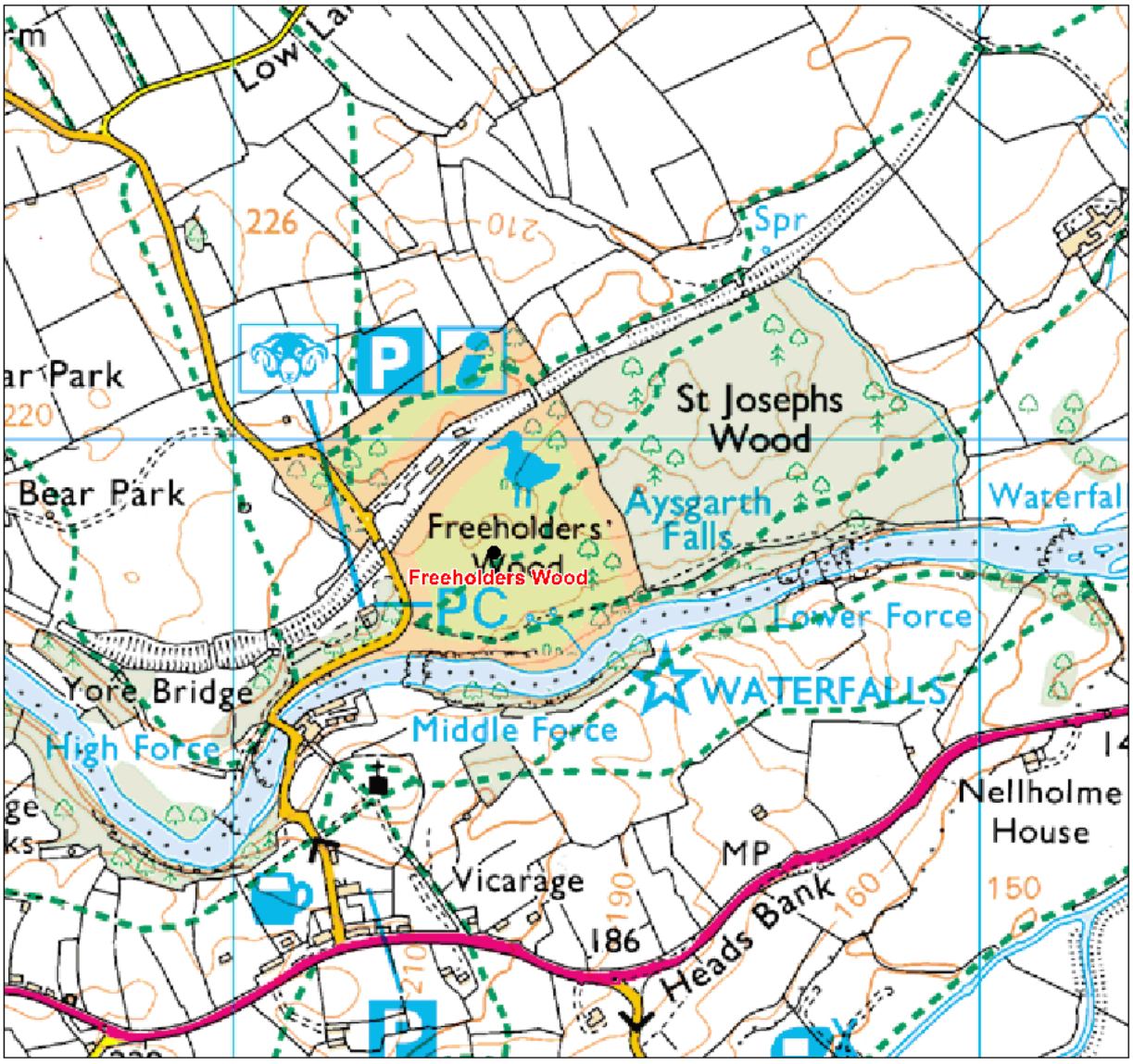
on the site in order to maintain and enhance the biodiversity present. In addition, there is a covenant on the woodland that obliges the owner to make firewood available to the villagers of Carperby that also helps promote woodland management. The woodland management plan for the wood has been re-written in order to make it more sympathetic for dormice.

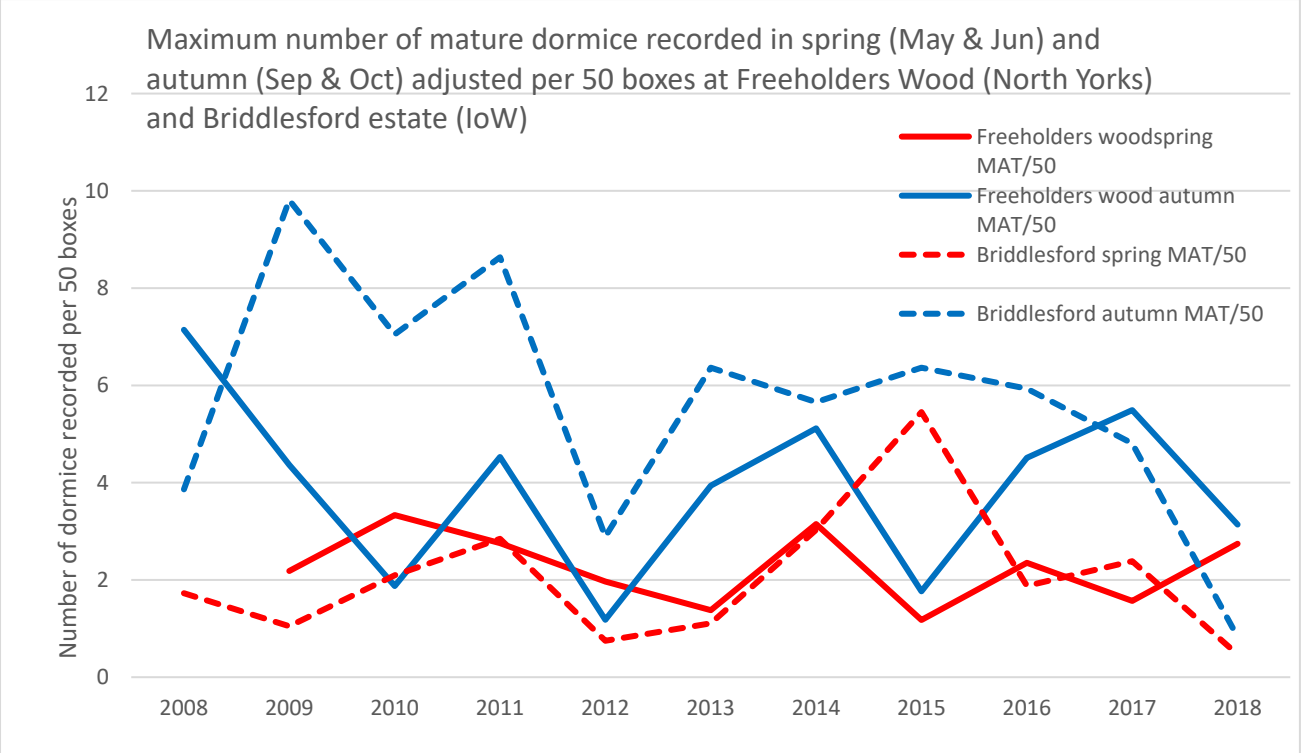
The Yorkshire Dales National Park has been encouraging coppicing in some local woods about 3 or 4 km distant, and the aim is over the next two years to ensure there is a robust woodland/hedge link from Freeholders to these newly worked woodlands (see also The Wensleyday Dormouse Project Page 125).

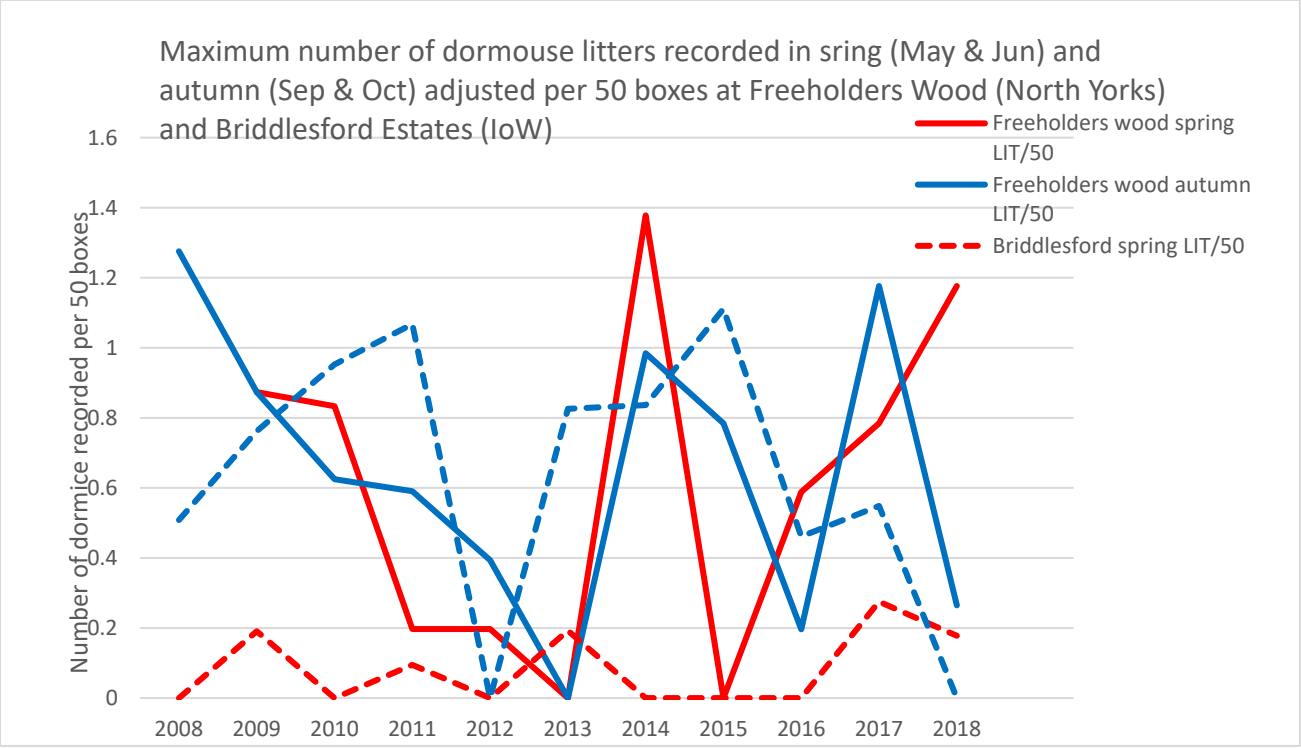
Future development

A further reintroduction was undertaken at Hawes banks in 2016 and although there are no further plans for another reintroduction in the area, a further release to improve the genetic variability will be considered.

Ian White
Jun. 2019




Maximum number of mature dormice recorded in spring (May & Jun) and autumn (Sep & Oct) adjusted per 50 boxes at Freeholders Wood (North Yorks) and Briddlesford estate (IoW)
Number of dormice recorded per 50 boxes
0
2
4
6
8
10
12
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
Freeholders woodspring MAT/50
Freeholders wood autumn MAT/50
Briddlesford spring MAT/50
Briddlesford autumn MAT/50


Maximum number of dormouse litters recorded in sring (May & Jun) and autumn (Sep & Oct) adjusted per 50 boxes at Freeholders Wood (North Yorks) and Briddlesford Estates (IoW)
Number of dormice recorded per 50 boxes
0
0.2
0.4
0.6
0.8
1
1.2
1.4
1.6
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
Freeholders wood spring LIT/50
Freeholders wood autumn LIT/50
Briddlesford spring LIT/50

Site 16. Freeholders Wood 2008		
Term	**Definition**	**Comment 2019**
Management	*Woodland management*	Ongoing coppice management
Short term	*Dormice survive the first two winters*	**YES** the dormouse population survived the first two winters
Medium term	*The dormouse population remains stable over 5-10 years*	**STABLE** 2009-2015 The dormouse population appeared stable
Long term	*The dormouse population increases in size and expands its range*	**DISPERSING**
Long term Success	*The dormouse population has a reduced risk of extinction*	**YES**

17. Windmill Naps, Warwickshire

Woodland Owner:	Private Owner	
Grid reference:	SP092723	NDMP Site No. 442
Woodland size:	38 ha	
Release date and number of animals: 25 and 21 dormice were released in 2009 and 2010		

Introduction

Windmill Naps Wood is a SSSI woodland that lies to the south of Birmingham. The wood contains two parcels of ancient semi-natural woodland, Tylers Grove and Ladbrookpark Coppice, of a type now rare in lowland Britain. Windmill Naps Wood is an example of lowland mixed oakwood where both sessile and oak are found. Two forms of this woodland are present and can be distinguished by the presence or absence of hazel in the understorey

Dormouse population

In the two years after the reintroductions, the number of dormice recorded at the check was low. However, the number found increased dramatically in 2013 when 37 dormice were recorded in the October checks. The maximal number recorded at the site is 56 comprising 24 mature dormice and 8 litters.

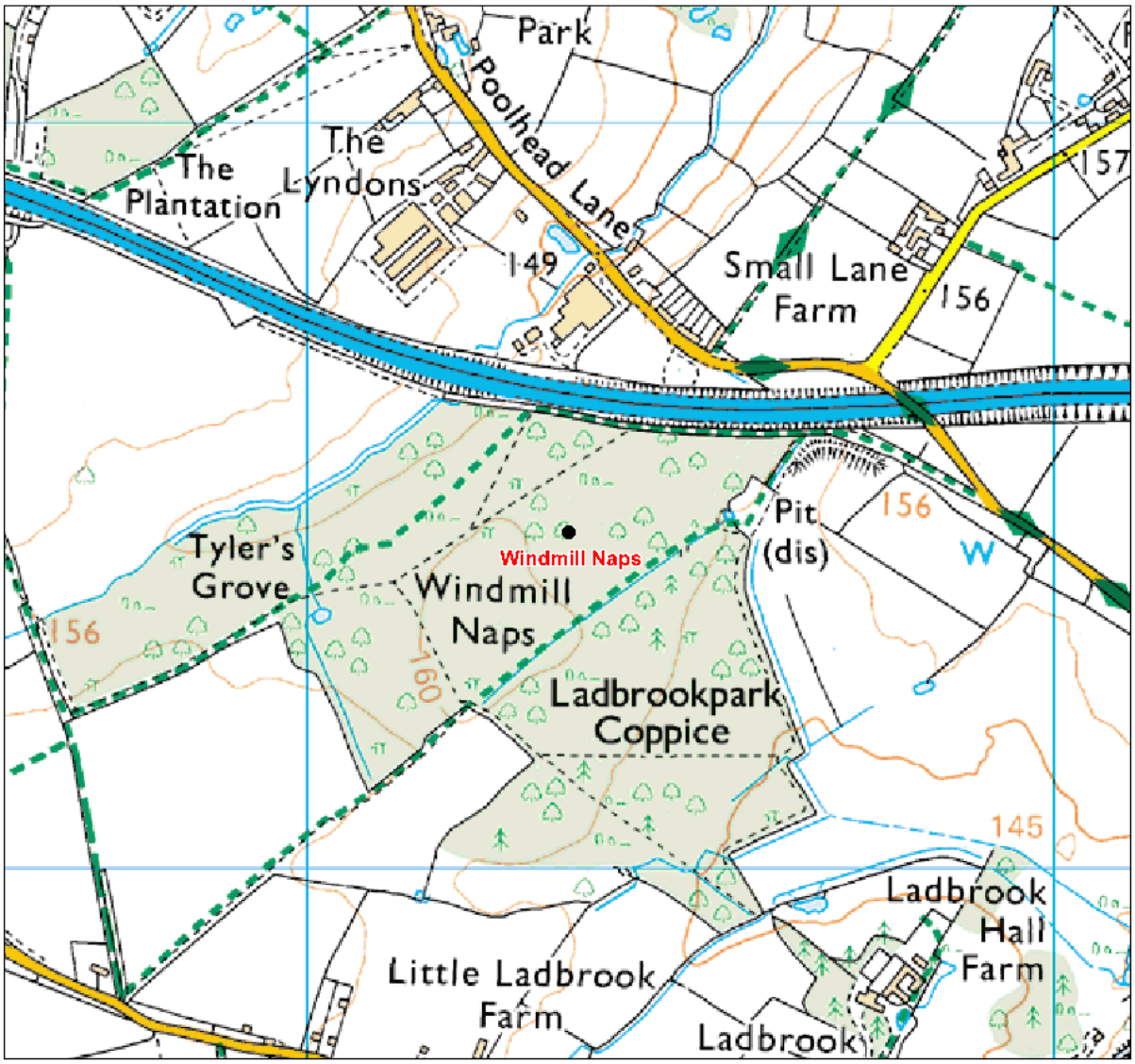
A recent survey undertaken on the M42 (due to be upgraded to a smart motorway) using both footprint tunnels and nest tubes, identified the presence of dormice on the motorway verge and in the verge alongside the farm track, north west of Windmill Naps.

Windmill Naps is one of the woodlands surveys by the Warwickshire Dormouse Group surveyed and a study of dormice in Warwickshire has recently been published

- Moffatt (2017) *Securing a future for Warwickshire's dormice*

Woodland management

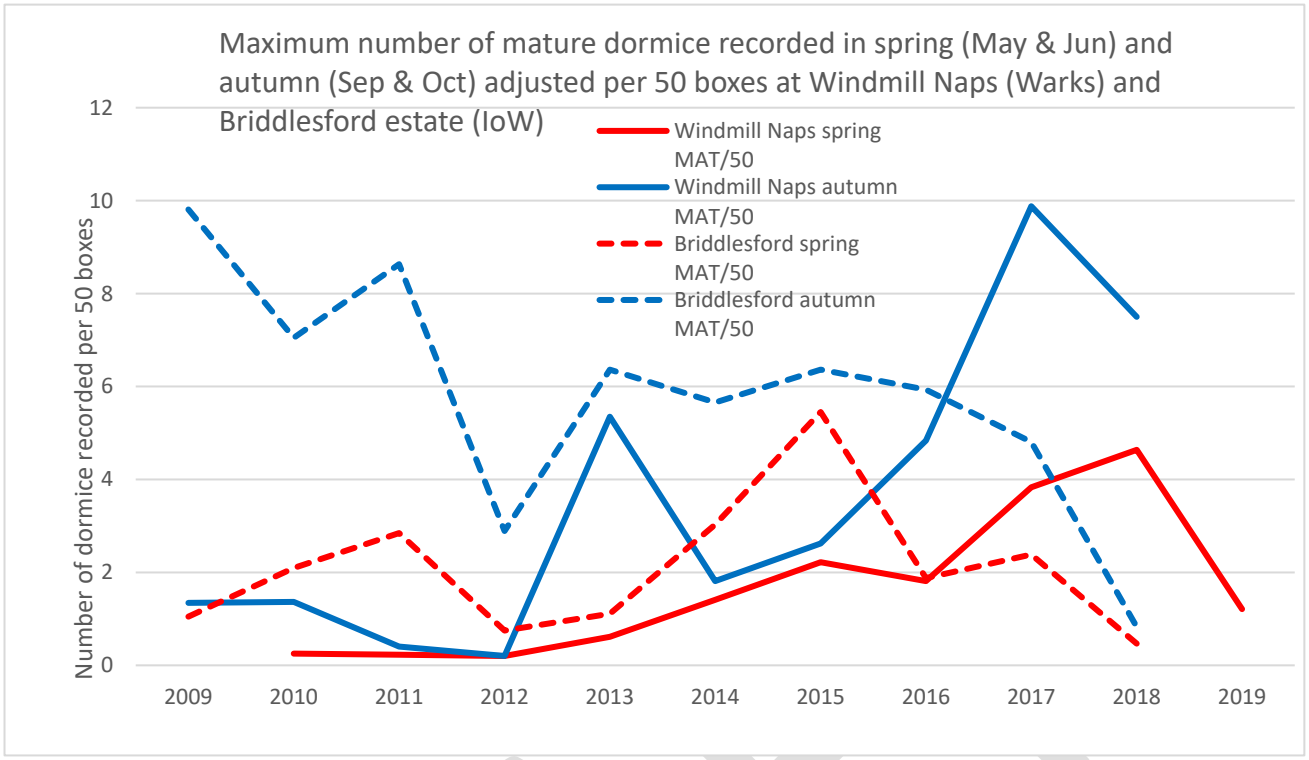
The woodland has a low input woodland management programme but it is ongoing

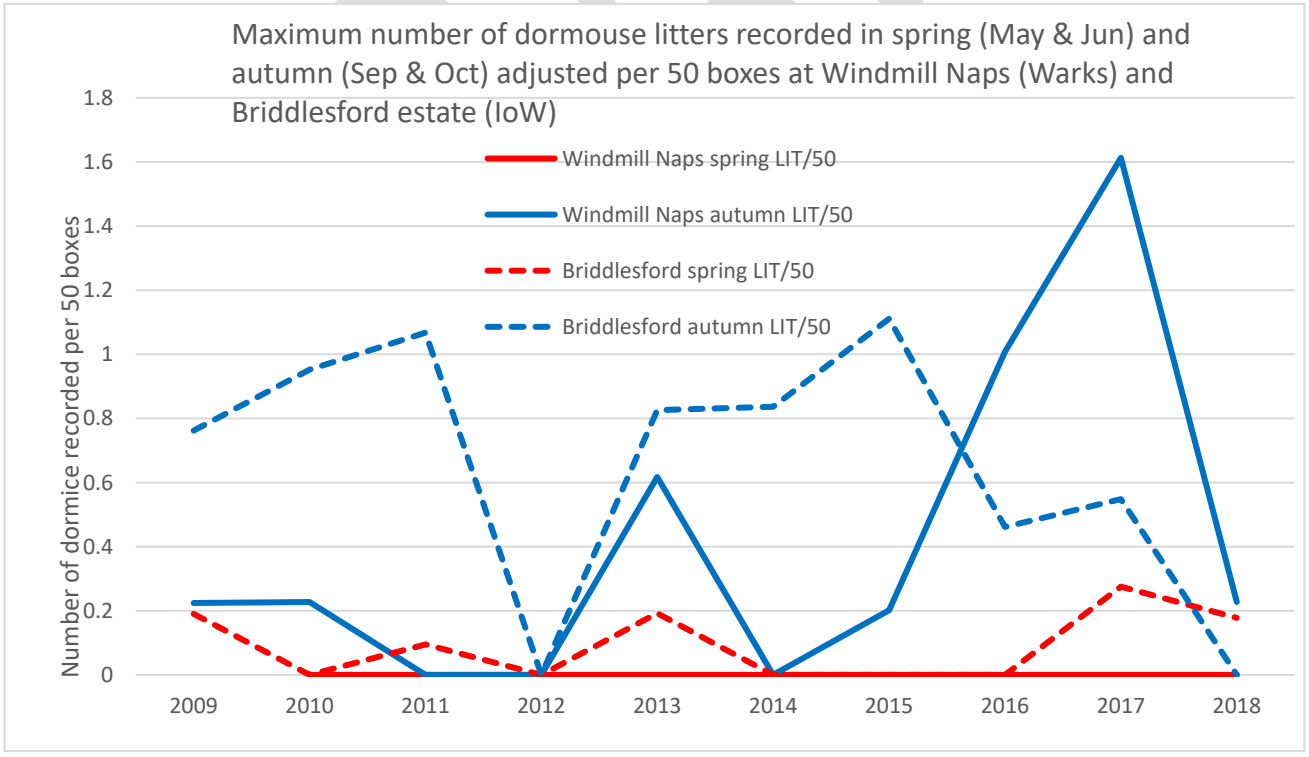


Future development

There are no further plans for another reintroduction in the area but a further release to improve the genetic variability will be considered.

Ian White
Jun. 2019


Maximum number of mature dormice recorded in spring (May & Jun) and autumn (Sep & Oct) adjusted per 50 boxes at Windmill Naps (Warks) and Briddlesford estate (IoW)
Number of dormice recorded per 50 boxes
0
2
4
6
8
10
12
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
Windmill Naps spring MAT/50
Windmill Naps autumn MAT/50
Briddlesford spring MAT/50
Briddlesford autumn MAT/50


Maximum number of dormouse litters recorded in spring (May & Jun) and autumn (Sep & Oct) adjusted per 50 boxes at Windmill Naps (Warks) and Briddlesford estate (IoW)
Number of dormice recorded per 50 boxes
0
0.2
0.4
0.6
0.8
1
1.2
1.4
1.6
1.8
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
Windmill Naps spring LIT/50
Windmill Naps autumn LIT/50
Briddlesford spring LIT/50
Briddlesford autumn LIT/50

Site 17. Windmill Naps 2009		
Term	**Definition**	**Comment 2019**
Management	*Woodland management*	Ongoing woodland management
Short term	*Dormice survive the first two winters*	**YES** the dormouse population survived the first two winters
Medium term	*The dormouse population remains stable over 5-10 years*	**STABLE** 2007 - 2012 The dormouse population appeared stable
Long term	*The dormouse population increases in size and expands its range*	**DISPERSING**
Long term Success	*The dormouse population has a reduced risk of extinction*	**YES**

18. Alne Wood, Warwickshire

Woodland Owner:	Private Owner	
Grid reference:	SP107613	NDMP Site No. 582
Woodland size:	19 ha	
Release date and number of animals: 36 dormice were released in 2012		

Introduction

Alne wood is a woodland within the Heart of England forest which is a project that was initiated by Felix Dennis. Although Alne wood itself is not a newly planted wood, it forms part of a wider woodland complex that is in the process of being created and developed. The Heart of England Forest aims to create:

- a forest for people and wildlife – not timber production
- a mixed range of habitats including pasture, glades, ponds and wetlands
- an area of public amenity and access
- a continuous woodland across the heart of England

Dormouse population

41 dormice were release at Alne wood in June 2012. Since the introduction, little evidence of the dormice has been found during box checks. And a viable population is no longer considered to be present.

There are a number of possible reasons for the apparent disappearance of dormice from this wood including predation, competition, climate, where mild winters can impact on dormouse survival, and poor breeding success. However, the most likely reasons are the poor quality and available area of scrub understory which in many parts of the wood was lacking. In addition, 2012 was an unusual year where the spring and summer was generally quite wet that appeared to negatively impacted on dormouse breeding nationally. The apparent effect of the weather on the dormouse population in 2012 was reported in *The Dormouse Monitor.*

- White (2012) *Dormouse Monitoring throughout England and Wales 2012*

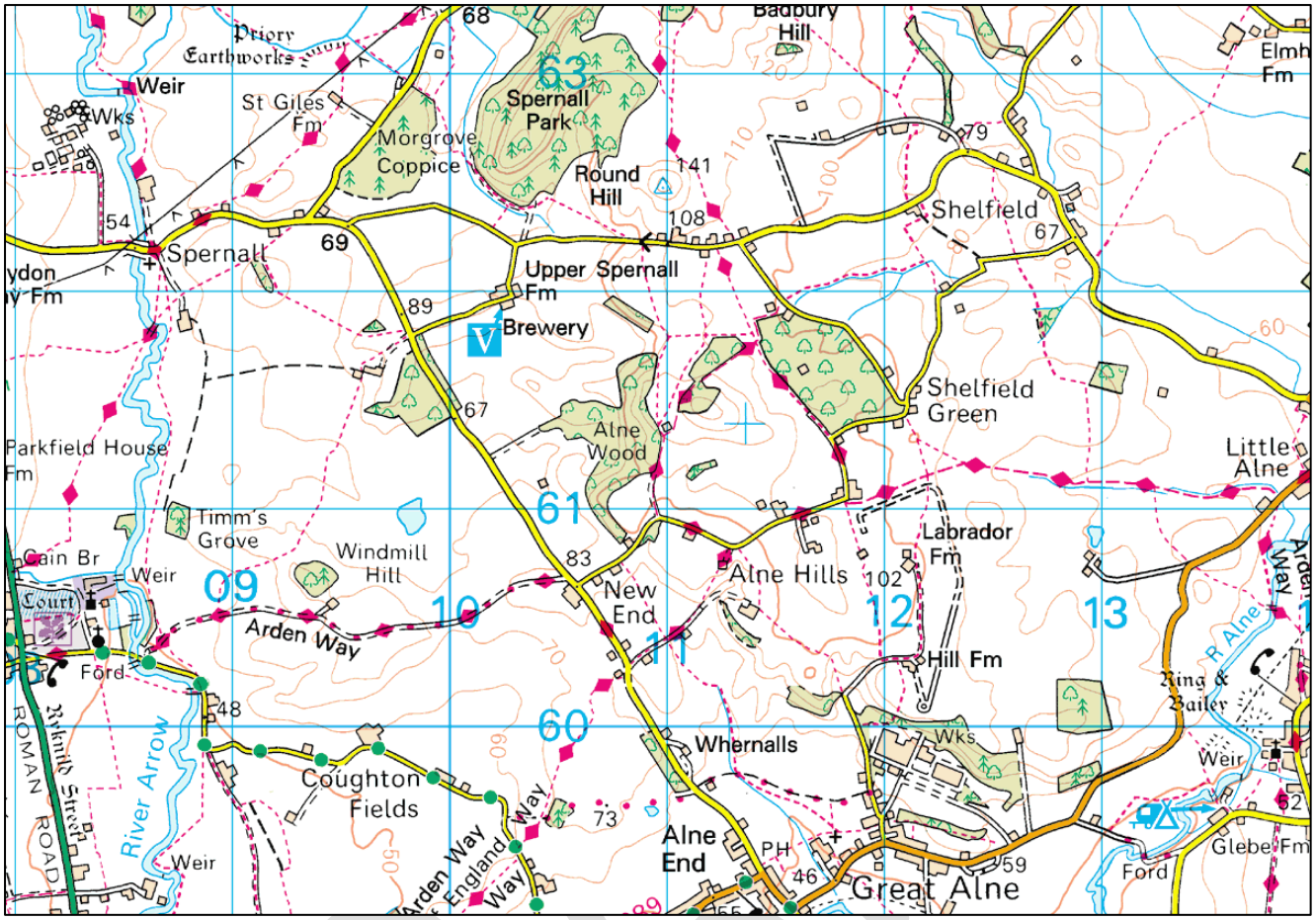
Woodland management

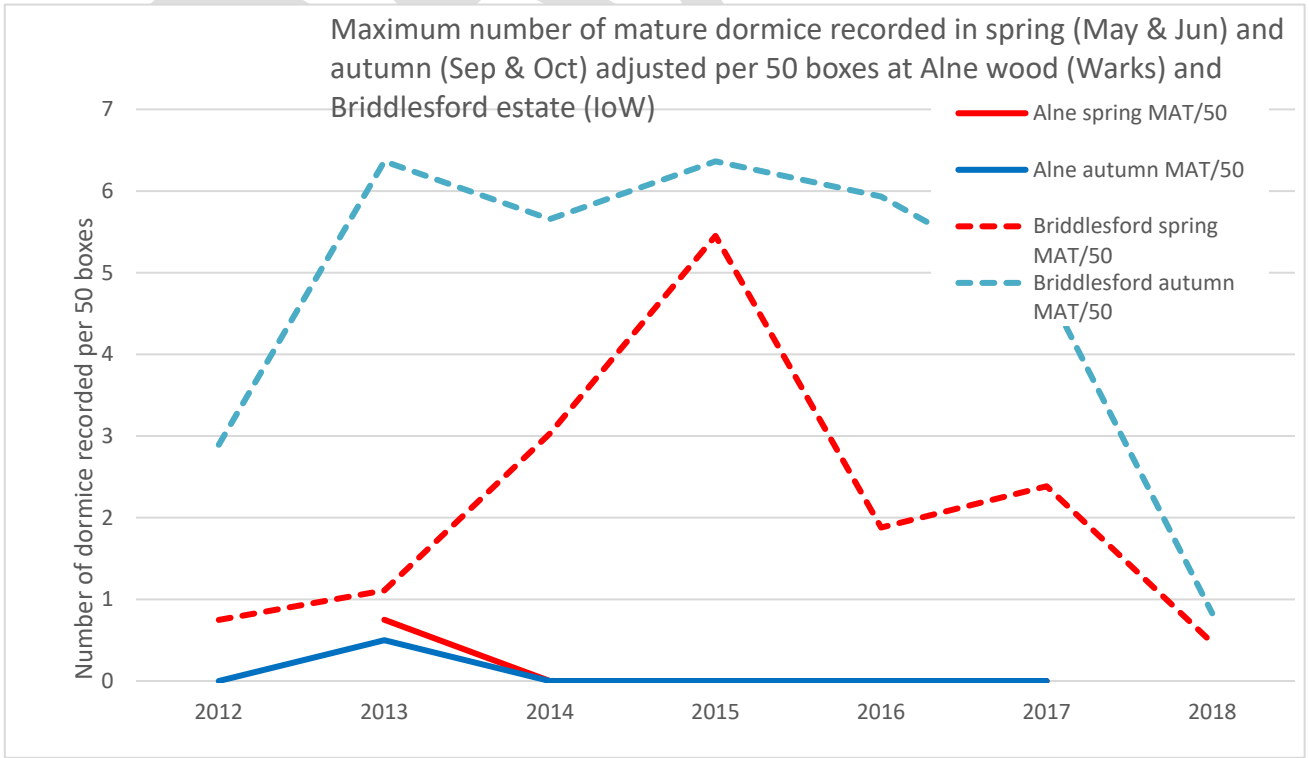
The woodland size was in the process of being increased and management was being undertaken within the wood itself. However, it was possibly too early in the management cycle to support a dormouse population.

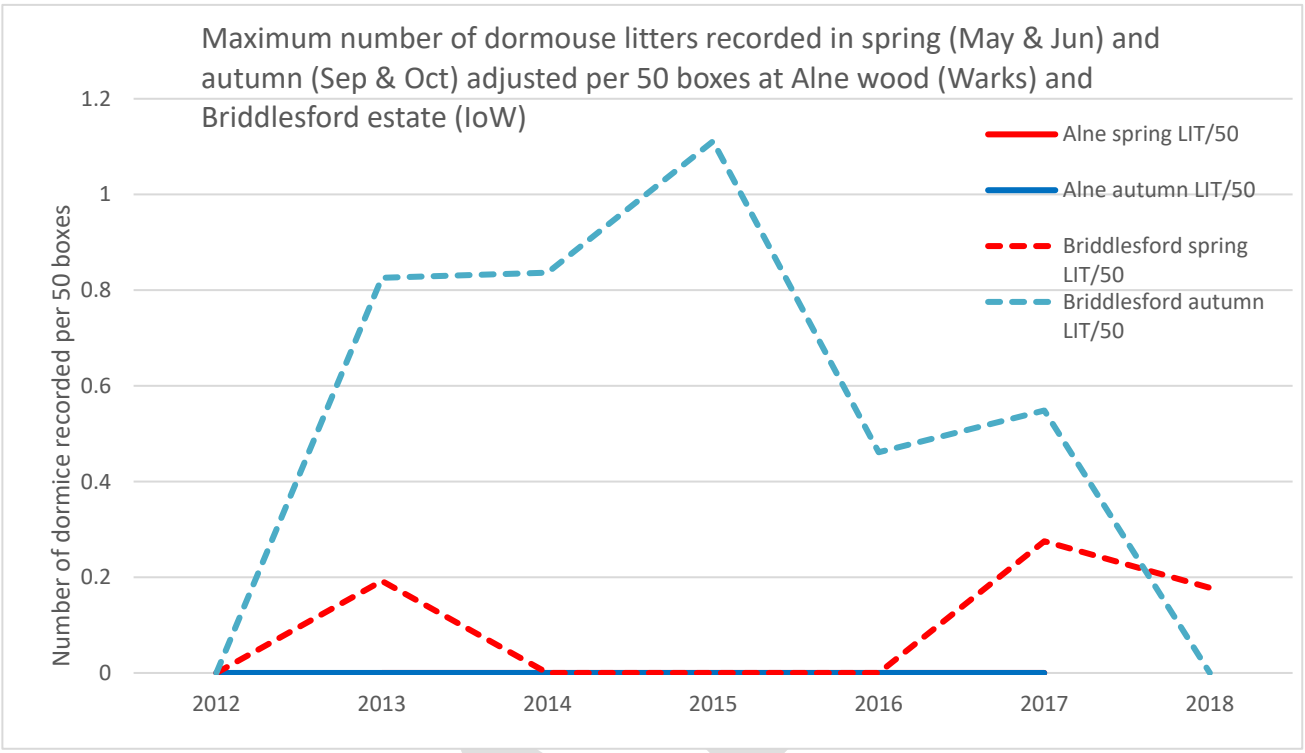
Future development

There are no plans to undertake a further reintroduction in this area

Ian White
Mar. 2017







Site 18. Alne Wood 2012		
Term	**Definition**	**Comment 2017**
Management	*Woodland management*	A relatively new wood with limited understory
Short term	*Dormice survive the first two winters*	**NO**
Medium term	*The dormouse population remains stable over 5-10 years*	**NO**
Long term	*The dormouse population increases in size and expands its range*	**N/A**
Long term Success	*The dormouse population has a reduced risk of extinction*	**NO**

19. Treswell Wood, Nottinghamshire

Woodland Owner:	The Nottinghamshire Wildlife Trust	
Grid reference:	SK762796	NDMP Site No. 144
Woodland size:	48 ha	
Release date and number of animals: 34 dormice in June 2013		

Introduction

The dormouse reintroductions into Treswell wood in Nottinghamshire may be considered as part of a long-term, albeit unintended plan. The first reintroduction was undertaken in 1994 and 1995 but, by 2004, they were considered extinct in the wood. However, woodland management that had begun to be implemented at the time of the first two releases meant that when a second attempt was made about half of the woodland was in an ideal condition for dormice. Furthermore, the initial release had engaged local volunteers and the Wildlife Trust and they were keen to be involved when the decision was made to undertake another reintroduction in 2013.

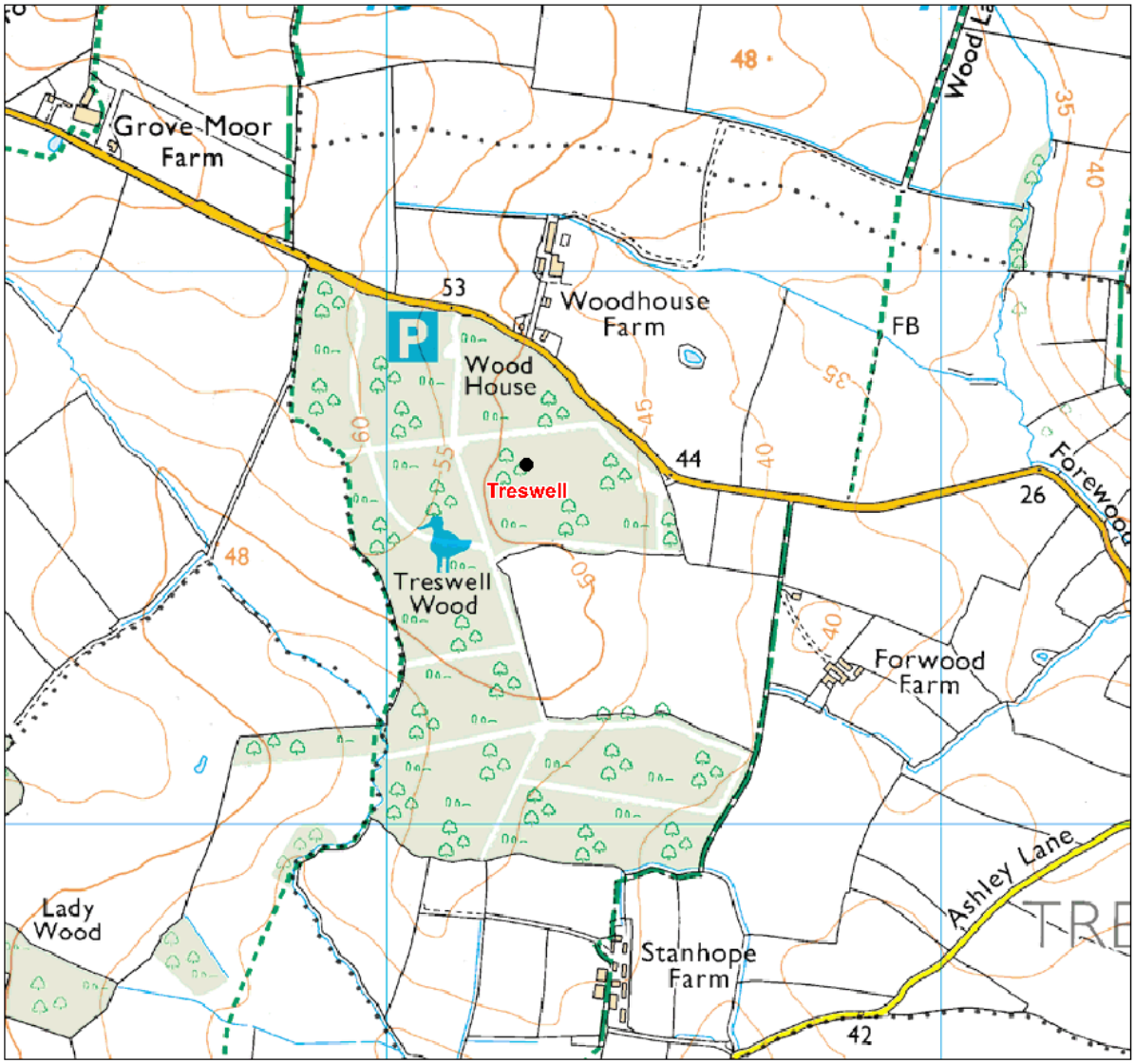
Dormouse population

When the 2013 reintroduction took place, the practical process was, in hindsight, far from ideal. There had been a long history of bird monitoring at the woodland and after a meeting with the bird ringers, and a desire to follow the original release protocol after Bright and Morris (1994), the release cages were set up about 100 metres from each other.

This separation made it difficult for the volunteers to feed the dormice while in the cages and may have made it difficult for the establishment of a dormouse population within the woodland. Low numbers were recorded in 2014, 2015 and 2016 but by 2017 both mature dormice and litters were recorded in the wood and the population was recorded reasonably well dispersed throughout the wood.

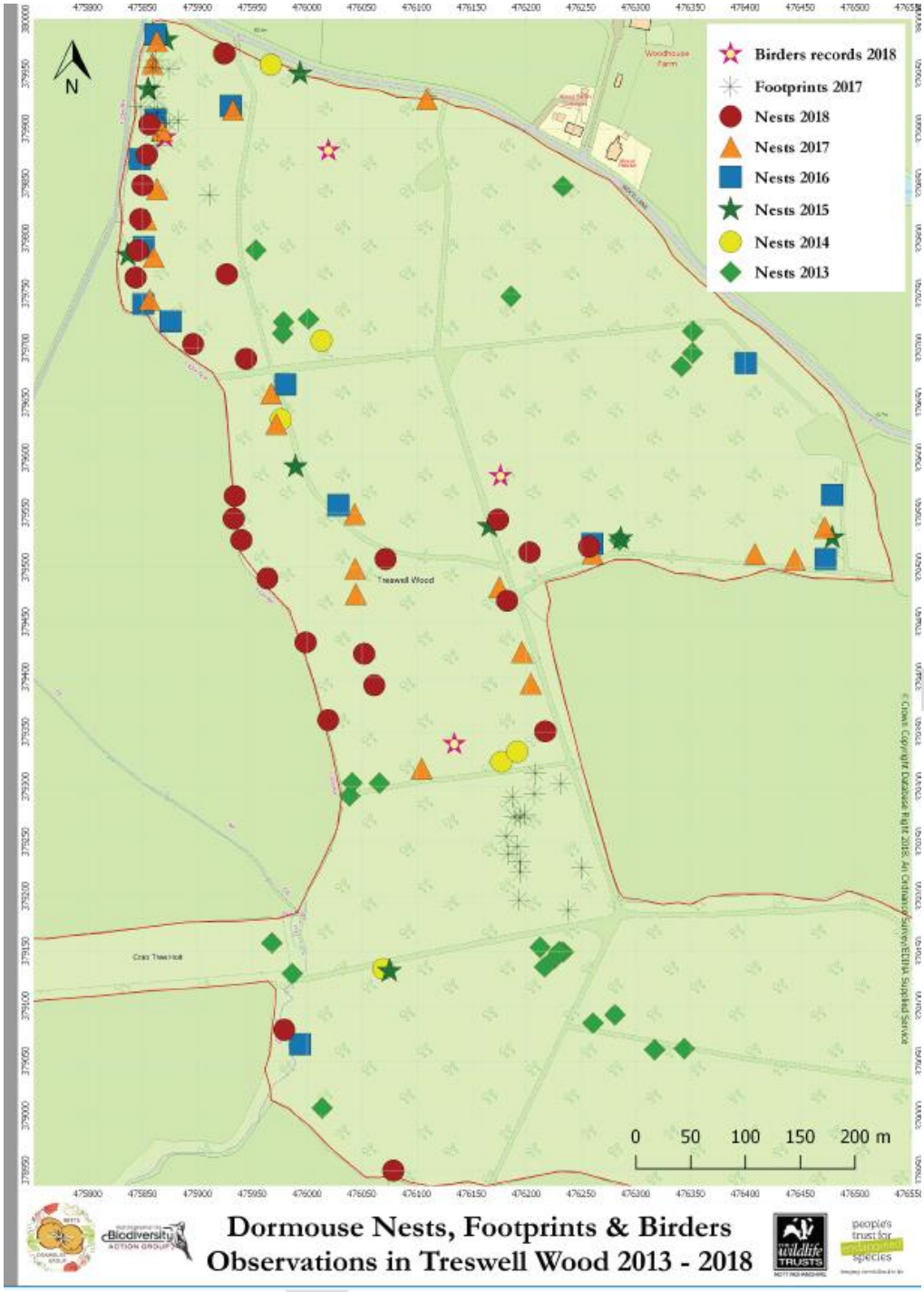
There were also records of dormice outside the NDMP boxes. Two active dormice were found in wren's nests in bird boxes and three dormouse nests were found in dense bramble There was a dead DM found in one of these nests which was sent for post-mortem, but the results were inconclusive.

In 2019 a further 11 mature dormice were released in Treswell with the aim of improving the genetic diversity of the population.



Woodland management

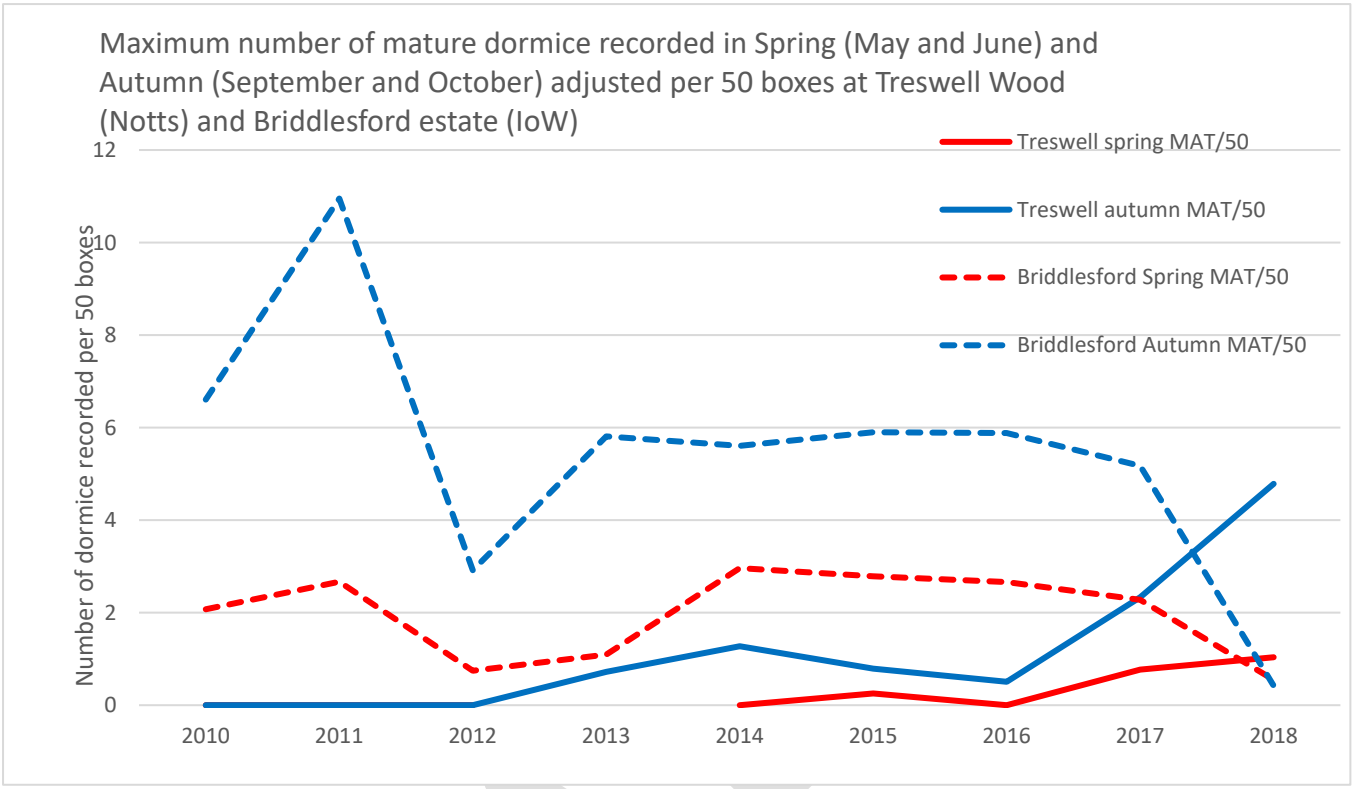
The plan for the woodland restructuring in 1993 was to convert approximately half of the wood to coppice with standards management. 22 hectares was to be non-intervention; 17 hectares was to be long rotation coppice of between 20-25 years and 9 hectares was to be short rotation coppice at 7 years. A coppice worker was engaged to undertake the work and utilise the product from the coppiced areas. With a planned 26 hectares of in rotation coppice the area of coppice age between 8-20 years should easily exceed 10 hectares

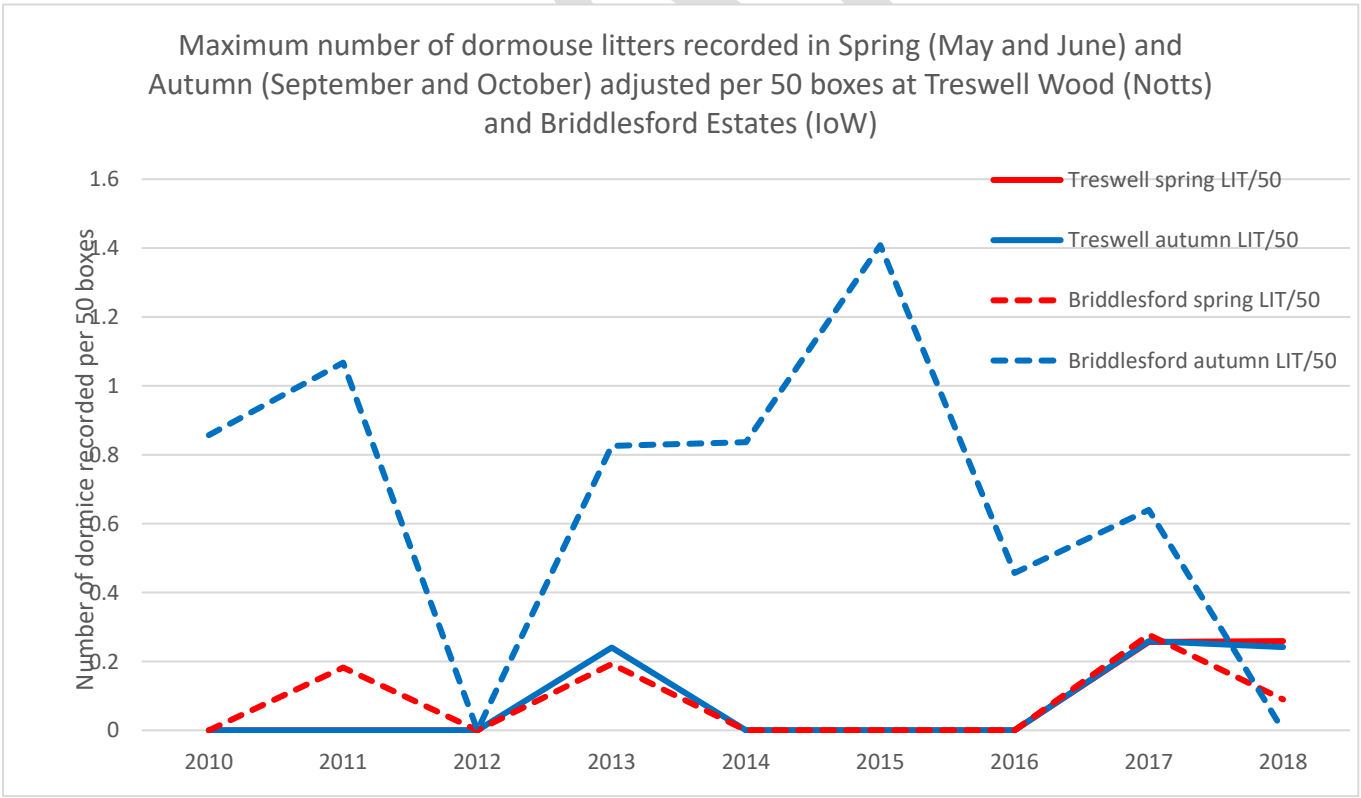


Future development

There have been three dormouse reintroduction in this region of Nottinghamshire and a landscape project has been developed to improve the linear features between the woodlands. Further details on this project is given in 'The Nottinghamshire Dormouse Project'

Ian White
Jun. 2019


Maximum number of mature dormice recorded in Spring (May and June) and Autumn (September and October) adjusted per 50 boxes at Treswell Wood (Notts) and Briddlesford estate (IoW)
Number of dormice recorded per 50 boxes
12
10
8
6
4
2
0
2010
2011
2012
2013
2014
2015
2016
2017
2018
Treswell spring MAT/50
Treswell autumn MAT/50
Briddlesford Spring MAT/50
Briddlesford Autumn MAT/50


Maximum number of dormouse litters recorded in Spring (May and June) and Autumn (September and October) adjusted per 50 boxes at Treswell Wood (Notts) and Briddlesford Estates (IoW)
Number of dormice recorded per 50 boxes
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
2010
2011
2012
2013
2014
2015
2016
2017
2018
Treswell spring LIT/50
Treswell autumn LIT/50
Briddlesford spring LIT/50
Briddlesford autumn LIT/50

Site 19. Treswell wood 2013		
Term	**Definition**	Comment 2015
Management	*Woodland management*	Woodland management ongoing
Short term	*Dormice survive the first two winters*	**YES** the dormouse population survived the first two winters
Medium term	*The dormouse population remains stable over 5-10 years*	**STABLE 2013 – 2018** The dormouse population appeared stable
Long term	*The dormouse population increases in size and expands its range*	**YES** – too early to determine but dormice have moved out the release are.
Long term Success	*The dormouse population has a reduced risk of extinction*	N/A

20. Eaton Wood, Nottinghamshire

Woodland Owner:	The Nottinghamshire Wildlife Trust	
Grid reference:	SK727775	NDMP Site No. 696
Woodland size:	24 ha	
Release date and number of animals: 40 dormice in June 2014		

Introduction

Eaton wood is one of the three reintroduction sites in Nottinghamshire and is a keystone site for the Nottinghamshire Dormouse Project

Dormouse population

The dormouse reintroduction took place at Eaton Wood in Nottinghamshire on 10th June 2014 when 40 dormice were placed in soft release cages. These were opened on the 20th June and the first NDMP check took place on Sept 10th when 13 dormice were recorded.

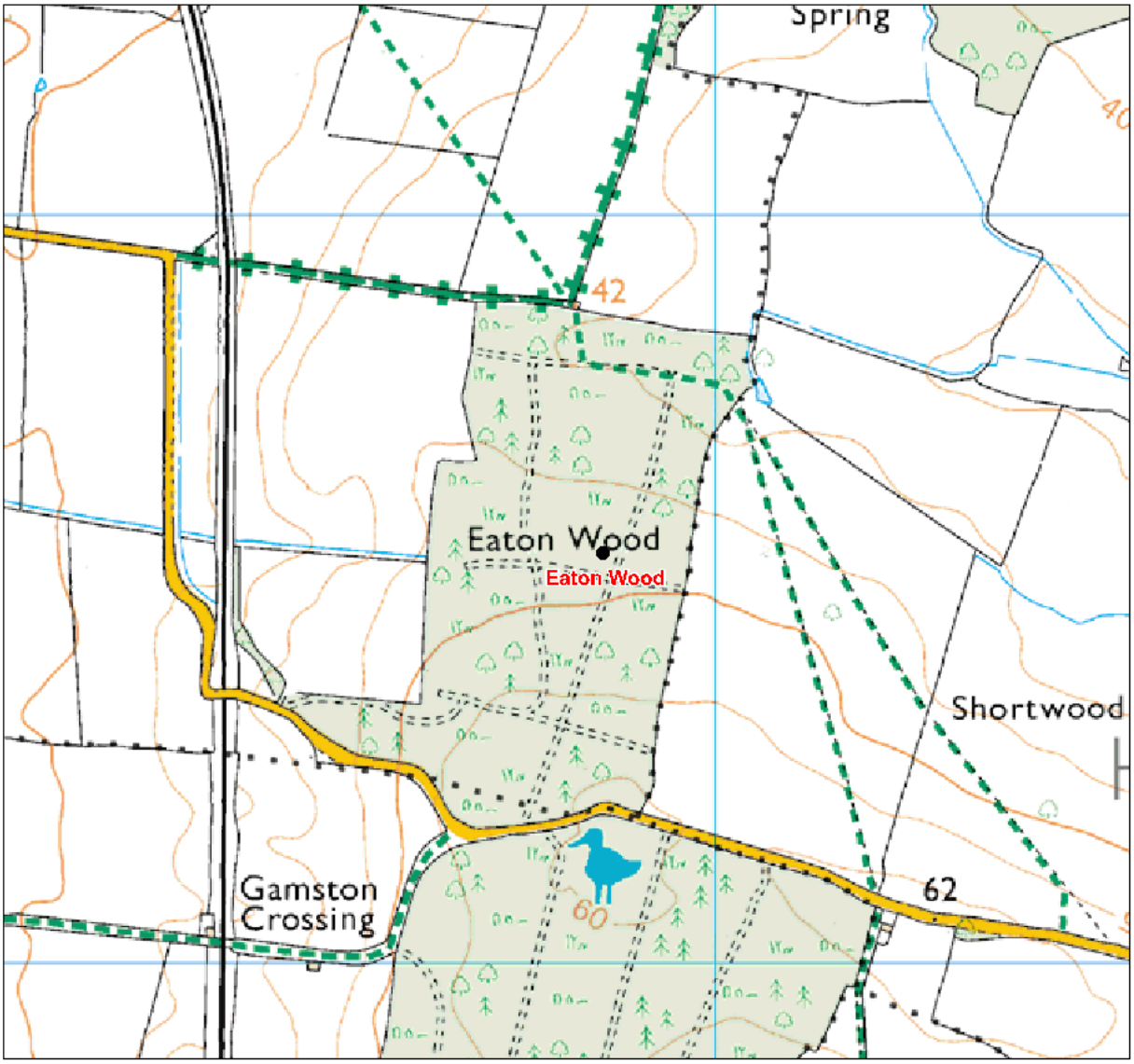
There were only 6 records of dormice in 2018 recorded over 7 checks but this was up from 2017 - 3 were adults and 3 juveniles. Several wild nests were also observed.

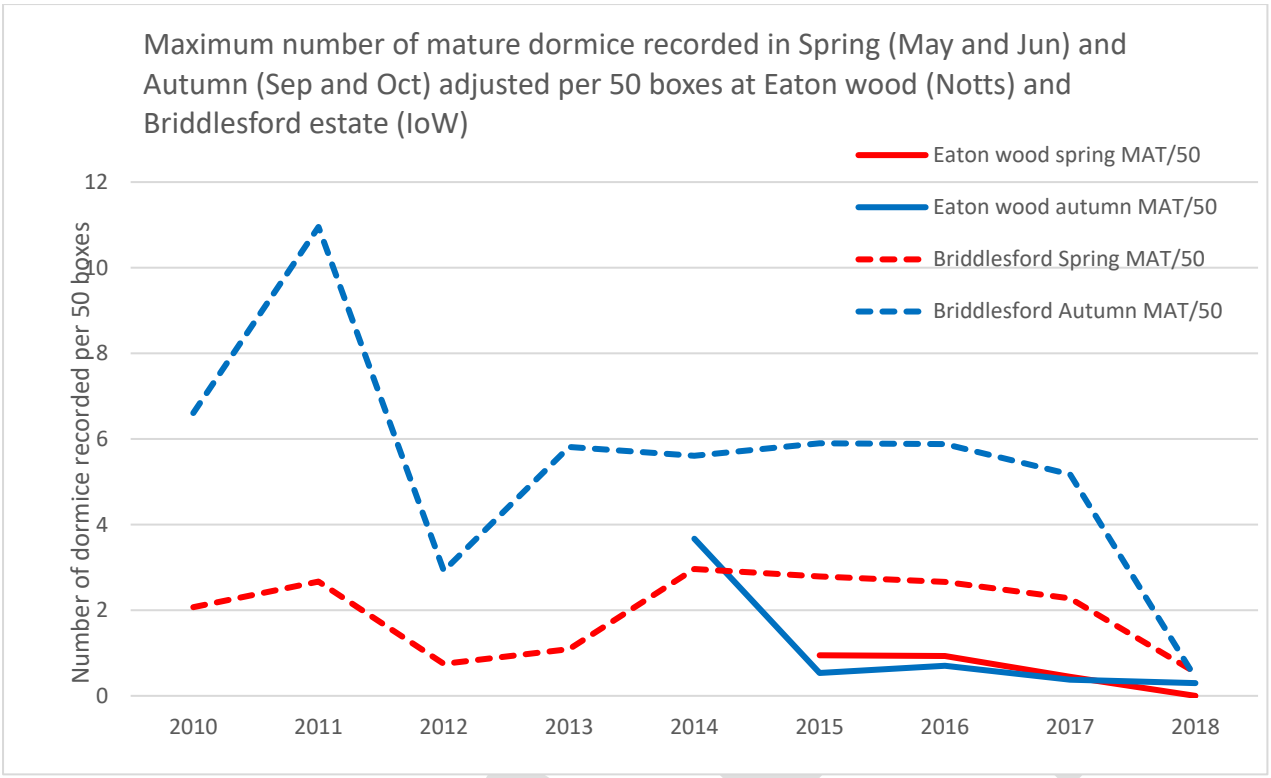
Woodland management

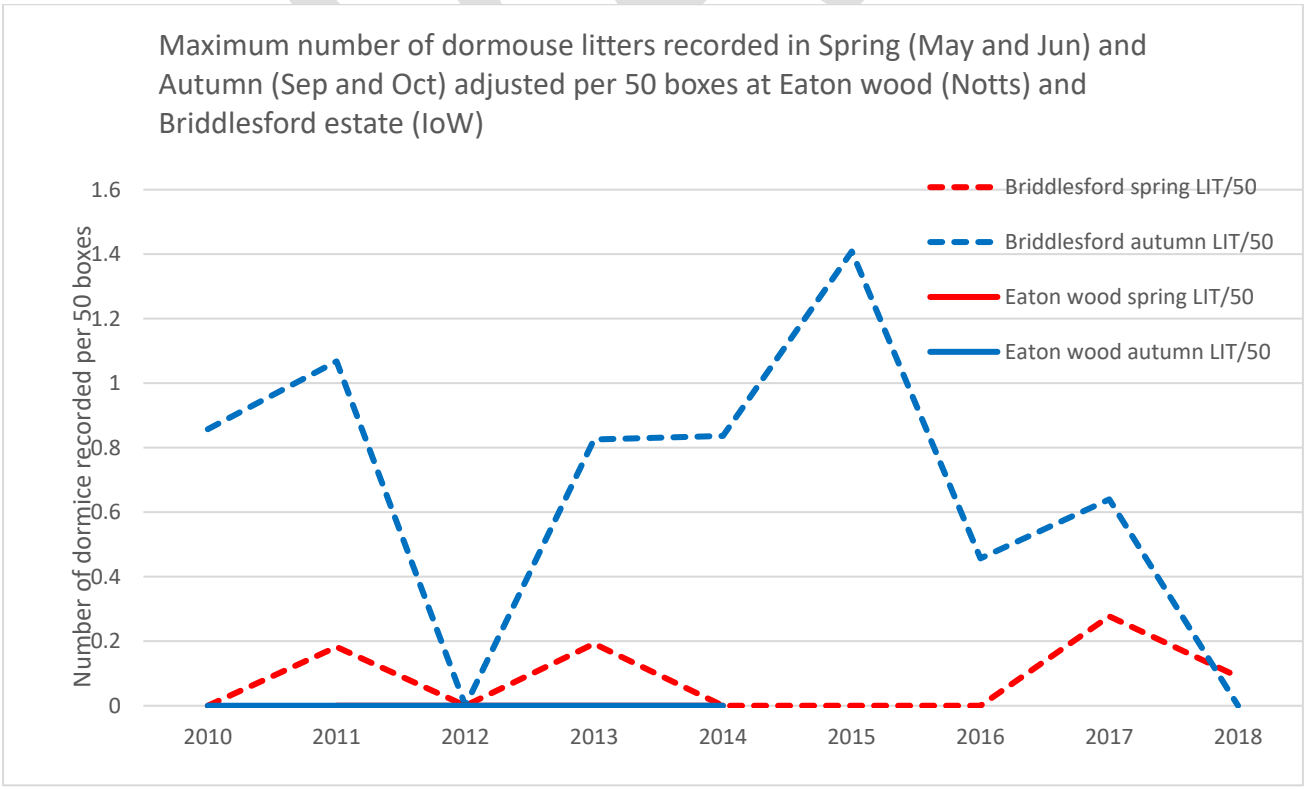
The woodland management is ongoing but details are unknown

Future development

There have been three dormouse reintroductions in this region of Nottinghamshire and a landscape project has been developed to improve the linear features between the woodlands. Further details on this project is given in 'The Nottinghamshire Dormouse Project'




Maximum number of mature dormice recorded in Spring (May and Jun) and Autumn (Sep and Oct) adjusted per 50 boxes at Eaton wood (Notts) and Briddlesford estate (IoW)
Eaton wood spring MAT/50
Eaton wood autumn MAT/50
Briddlesford Spring MAT/50
Briddlesford Autumn MAT/50
Number of dormice recorded per 50 boxes
0
2
4
6
8
10
12
2010
2011
2012
2013
2014
2015
2016
2017
2018


Maximum number of dormouse litters recorded in Spring (May and Jun) and Autumn (Sep and Oct) adjusted per 50 boxes at Eaton wood (Notts) and Briddlesford estate (IoW)
Briddlesford spring LIT/50
Briddlesford autumn LIT/50
Eaton wood spring LIT/50
Eaton wood autumn LIT/50
Number of dormice recorded per 50 boxes
0
0.2
0.4
0.6
0.8
1
1.2
1.4
1.6
2010
2011
2012
2013
2014
2015
2016
2017
2018

Site 20. Eaton wood 2014		
Term	**Definition**	Comment 2019
Management	*Woodland management*	Ongoing woodland management
Short term	*Dormice survive the first two winters*	**YES** the dormouse population survived the first two winters
Medium term	*The dormouse population remains stable over 5-10 years*	**N/A**
Long term	*The dormouse population increases in size and expands its range*	**N/A**
Long term Success	*The dormouse population has a reduced risk of extinction*	**N/A**

21. Gamston Wood, Nottinghamshire

Woodland Owner:	The Nottinghamshire Wildlife Trust	
Grid reference:	SK727768	NDMP Site No. 724
Woodland size:	41 ha	
Release date and number of animals: 40 dormice in June 2015		

Introduction

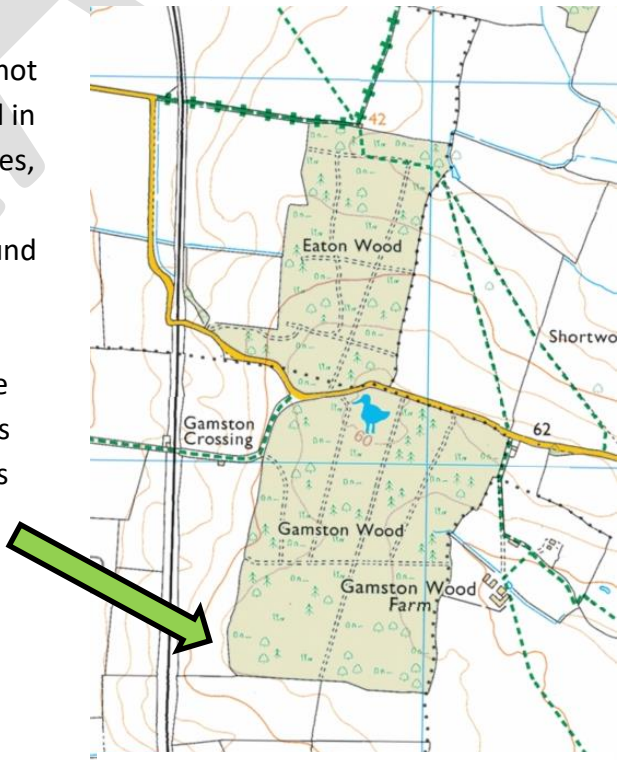
Gamston wood is one of the three reintroduction sites in Nottinghamshire and is a keystone site for the Nottinghamshire Dormouse Project

Dormouse population

The dormouse reintroduction took place at Gamston wood in Nottinghamshire on 18th June 2015 when 40 dormice were placed in soft release cages. These were opened on the 28th June and the first NDMP check took place in Sept when 18 dormice were recorded.

In 2018, 6 dormice were recorded in spring and 5 in autumn. There were two additional records of nest, not in the NDMP boxes. A wild dormouse nest was found in bramble alongside Causeway Lane, behind pile of tyres, with remains of a dormouse inside which was too decayed for post-mortem. Another wild nest was found in the bramble scrubby edge of the wood.

In May 2019, a female dormouse was recorded in the private woodland to the west of Gamston Wood. This is a relatively new planting, about 25 years old. It was considered likley that she was pregnant and is confirmation that the dormice have started to move into the wider landscape.



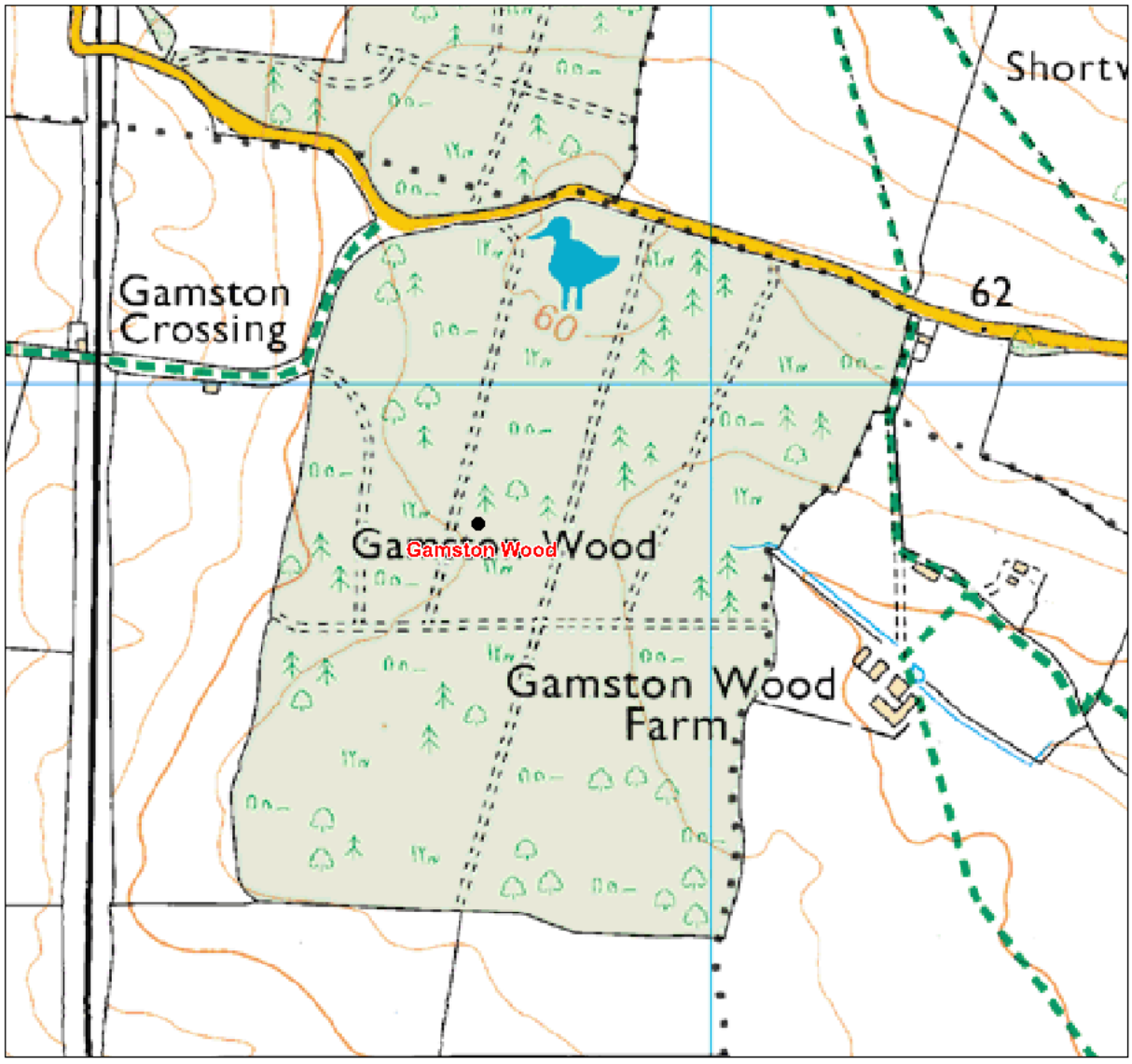
Woodland management

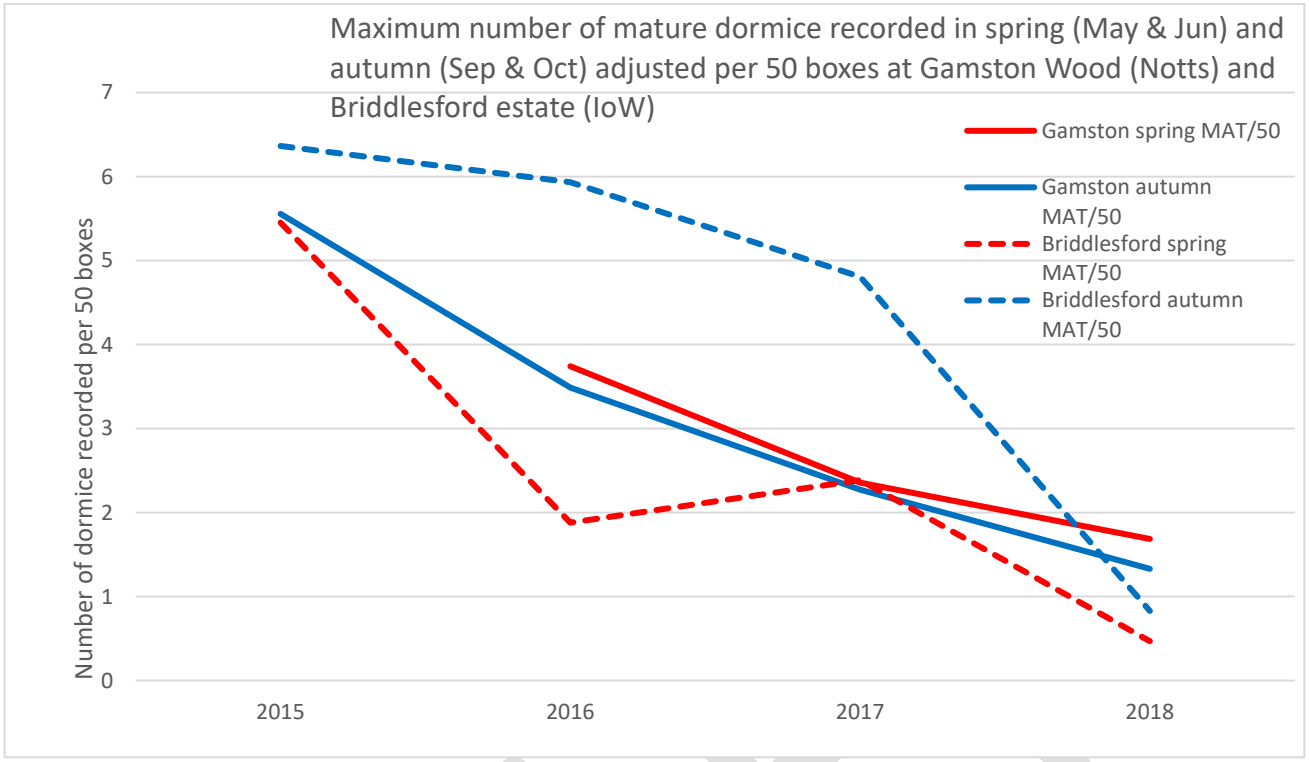
The woodland management is ongoing but details are unknown

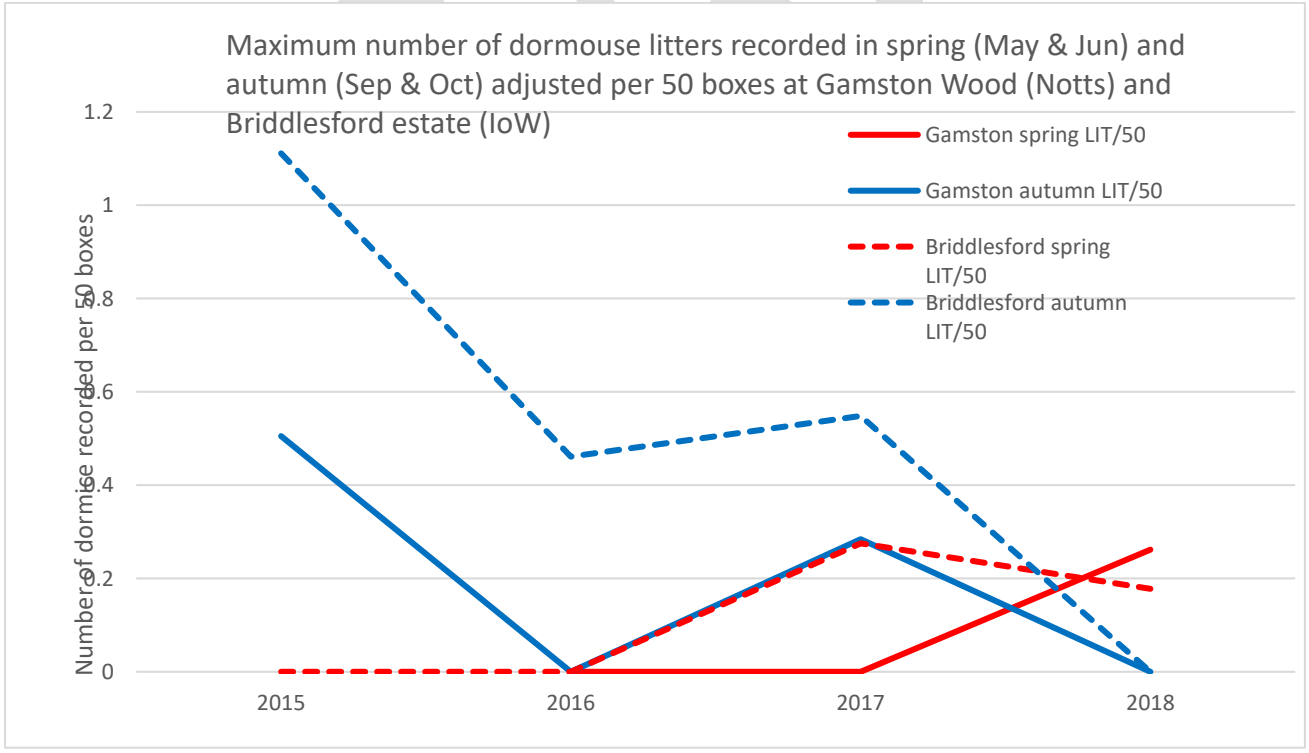
Future development

There have been three dormouse reintroduction in this region of Nottinghamshire and a landscape project has been developed to improve the linear features between the woodlands. Further details on this project is given in 'The Nottinghamshire Dormouse Project'

Ian White
Apr. 2019




Maximum number of mature dormice recorded in spring (May & Jun) and autumn (Sep & Oct) adjusted per 50 boxes at Gamston Wood (Notts) and Briddlesford estate (IoW)
Number of dormice recorded per 50 boxes
0
1
2
3
4
5
6
7
2015
2016
2017
2018
Gamston spring MAT/50
Gamston autumn MAT/50
Briddlesford spring MAT/50
Briddlesford autumn MAT/50


Maximum number of dormouse litters recorded in spring (May & Jun) and autumn (Sep & Oct) adjusted per 50 boxes at Gamston Wood (Notts) and Briddlesford estate (IoW)
Number of dormice recorded per 50 boxes
0
0.2
0.4
0.6
0.8
1
1.2
2015
2016
2017
2018
Gamston spring LIT/50
Gamston autumn LIT/50
Briddlesford spring LIT/50
Briddlesford autumn LIT/50

Site 21. Gamston wood 2015		
Term	**Definition**	Comment 2019
Management	*Woodland management*	
Short term	*Dormice survive the first two winters*	**YES** the dormouse population survived the first two winters
Medium term	*The dormouse population remains stable over 5-10 years*	**N/A**
Long term	*The dormouse population increases in size and expands its range*	**N/A**
Long term Success	*The dormouse population has a reduced risk of extinction*	**N/A**

22. Haw Bank, North Yorkshire

Woodland Owner:	Castle Bolton Estate	
Grid reference:	SD986899	NDMP Site No. 781
Woodland size:	10 ha	
Release date and number of animals: 38 dormice in June 2016		

Introduction

Haw Bank is one of two reintroduction sites in close proximity in North Yorkshire and is a keystone site for the Wensleydale dormouse project

Dormouse population

The dormouse reintroduction took place at Haw Bank on in North Yorkshire on 23rd June2016 when 38 dormice were placed in soft release cages. These were opened on the 3rd July and the first NDMP check took place in Sept when 32 dormice were recorded.

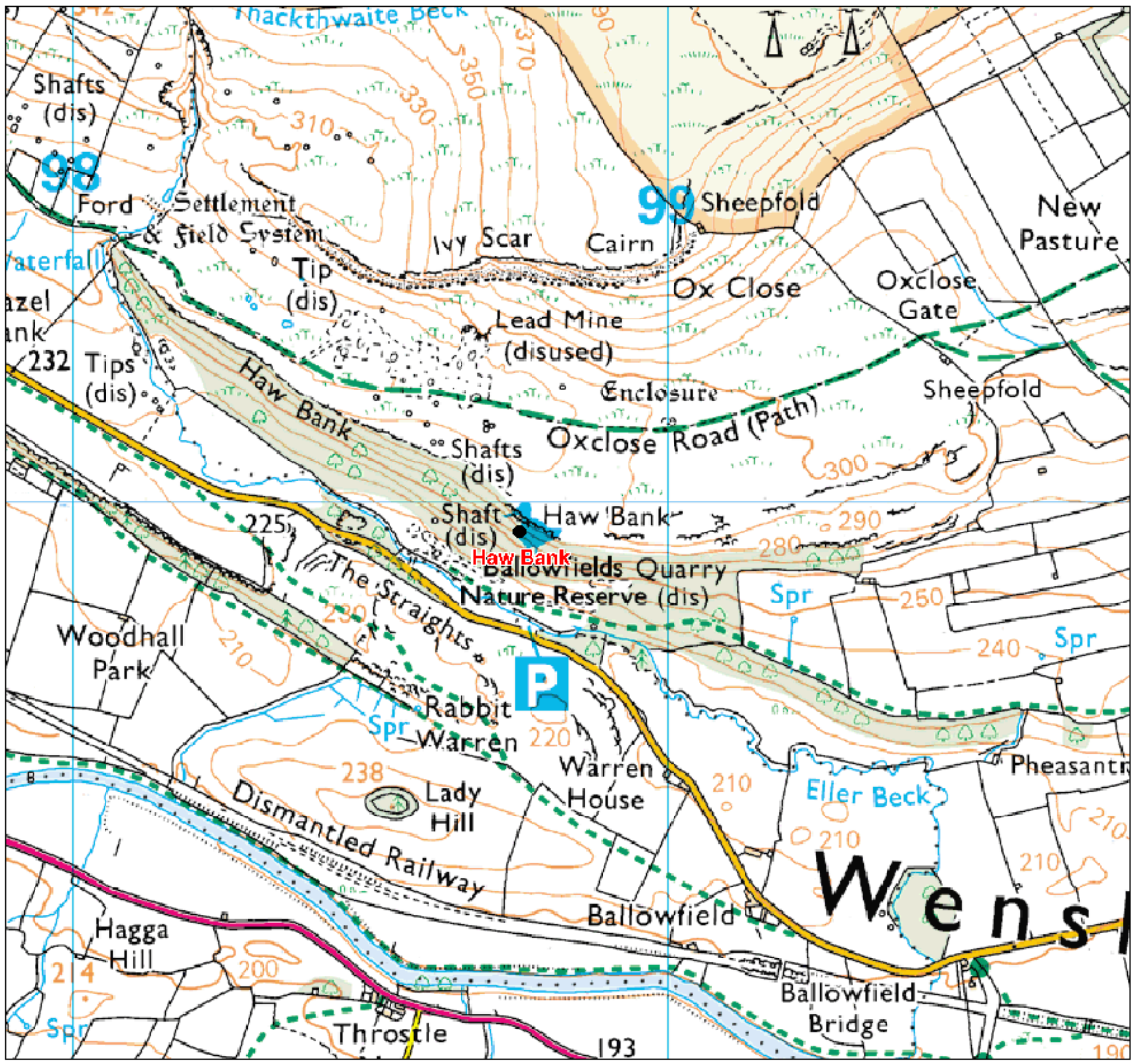
oodland management

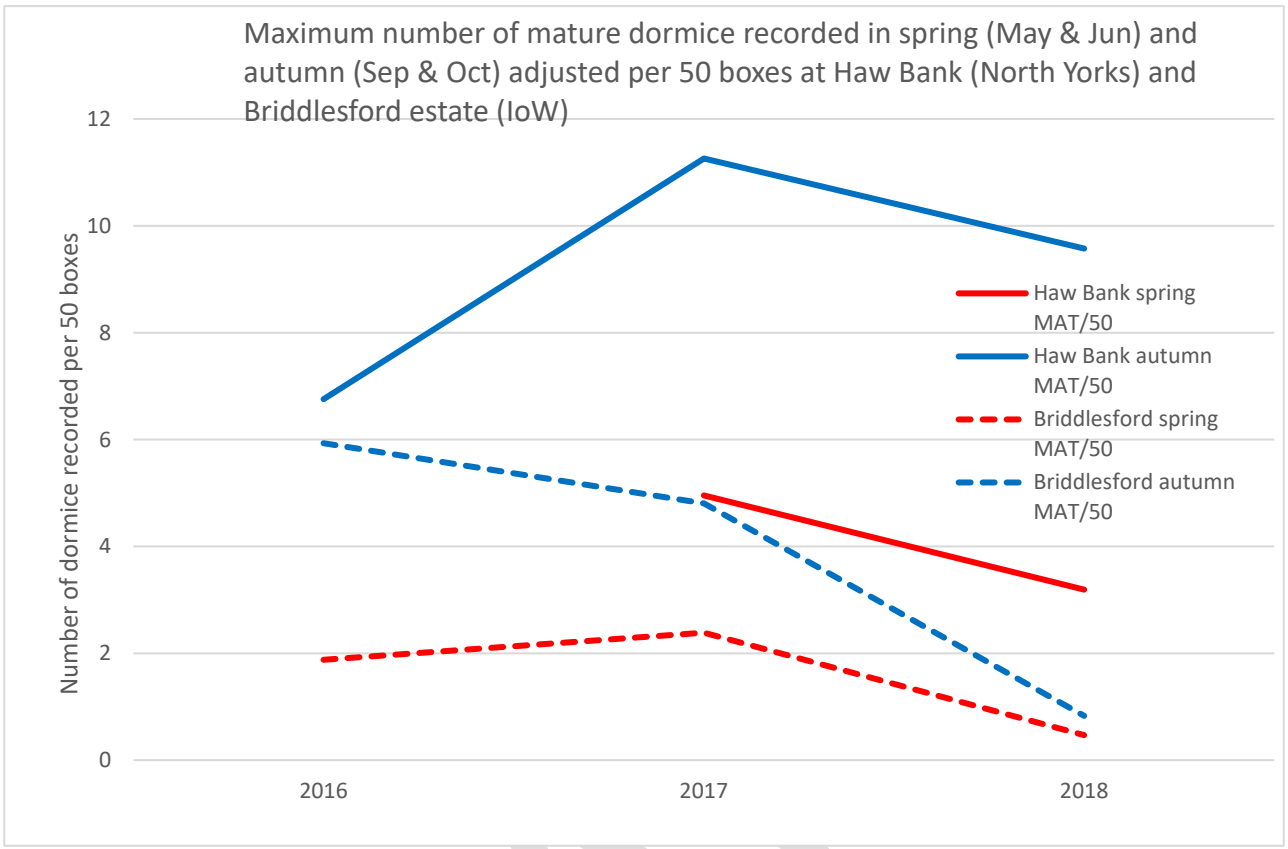
Haw wood is in the SSSI of Ox Close and was designated as 'the broad-leaved woodland on Haw Bank contains hazel coppice *Corylus avellana,* and specimens of small-leaved lime *Tilia cordata* and large-leaved lime *T. platyphyllos* all of which are rare in the Dales. Although 'good coppice regeneration' was identified, NE is keen to work with the estate to promote ongoing coppice management.

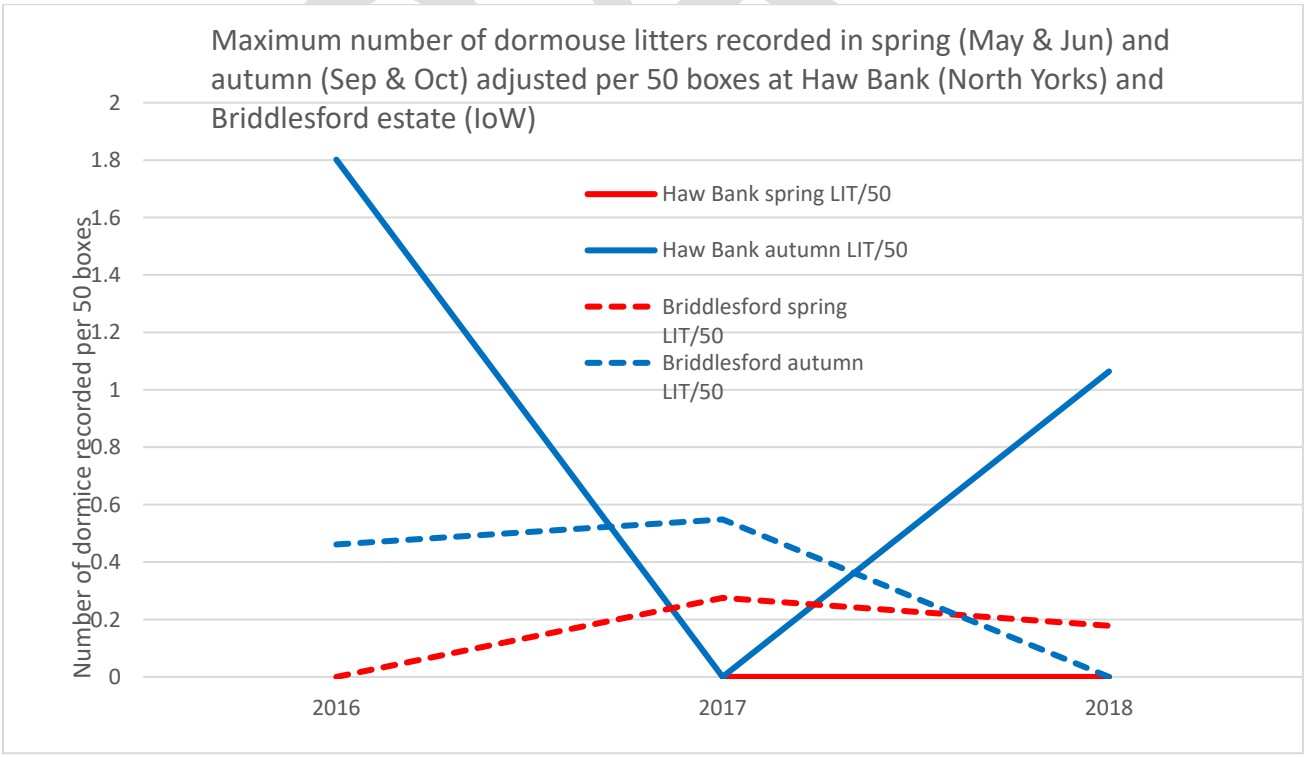
Future development

There have been two dormouse reintroduction in this region of North Yorkshire and a landscape project has been developed to improve the linear features between the woodlands. Further details on this project is given in 'The Wensleydale Dormouse Project'

Ian White
Jun. 2019




Maximum number of mature dormice recorded in spring (May & Jun) and autumn (Sep & Oct) adjusted per 50 boxes at Haw Bank (North Yorks) and Briddlesford estate (IoW)
Number of dormice recorded per 50 boxes
12
10
8
6
4
2
0
2016
2017
2018
Haw Bank spring MAT/50
Haw Bank autumn MAT/50
Briddlesford spring MAT/50
Briddlesford autumn MAT/50


Maximum number of dormouse litters recorded in spring (May & Jun) and autumn (Sep & Oct) adjusted per 50 boxes at Haw Bank (North Yorks) and Briddlesford estate (IoW)
Number of dormice recorded per 50 boxes
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
2016
2017
2018
Haw Bank spring LIT/50
Haw Bank autumn LIT/50
Briddlesford spring LIT/50
Briddlesford autumn LIT/50

Site 22. Haw Bank 2016		
Term	**Definition**	Comment 2019
Management	*Woodland management*	Ongoing woodland management
Short term	*Dormice survive the first two winters*	**YES** the dormouse population survived the first two winters
Medium term	*The dormouse population remains stable over 5-10 years*	**N/A**
Long term	*The dormouse population increases in size and expands its range*	**N/A**
Long term Success	*The dormouse population has a reduced risk of extinction*	**N/A**

23. Wappenbury wood, Warwickshire

Woodland Owner:	Warwickshire Wildlife Trust	
Grid reference:	SP376710	NDMP Site No. 199
Woodland size:	75 ha	
Release date and number of animals: 40 dormice in June 2017		

Introduction

Warwickshire Wildlife Trust undertook a project in 2013, funded by PTES, to look for dormice in some of their woodlands and to map local hedgerows. This project then gave rise to a Heritage Lottery Funding bid to restore the woodlands and local landscape and to reintroduce dormice into two of their woodlands

Wappenbury Wood is one of two reintroduction sites in close proximity in Warwickshire and is a keystone site for the Dunsmore project (See Dunsmore Living Landscape for more information).

Dormouse population

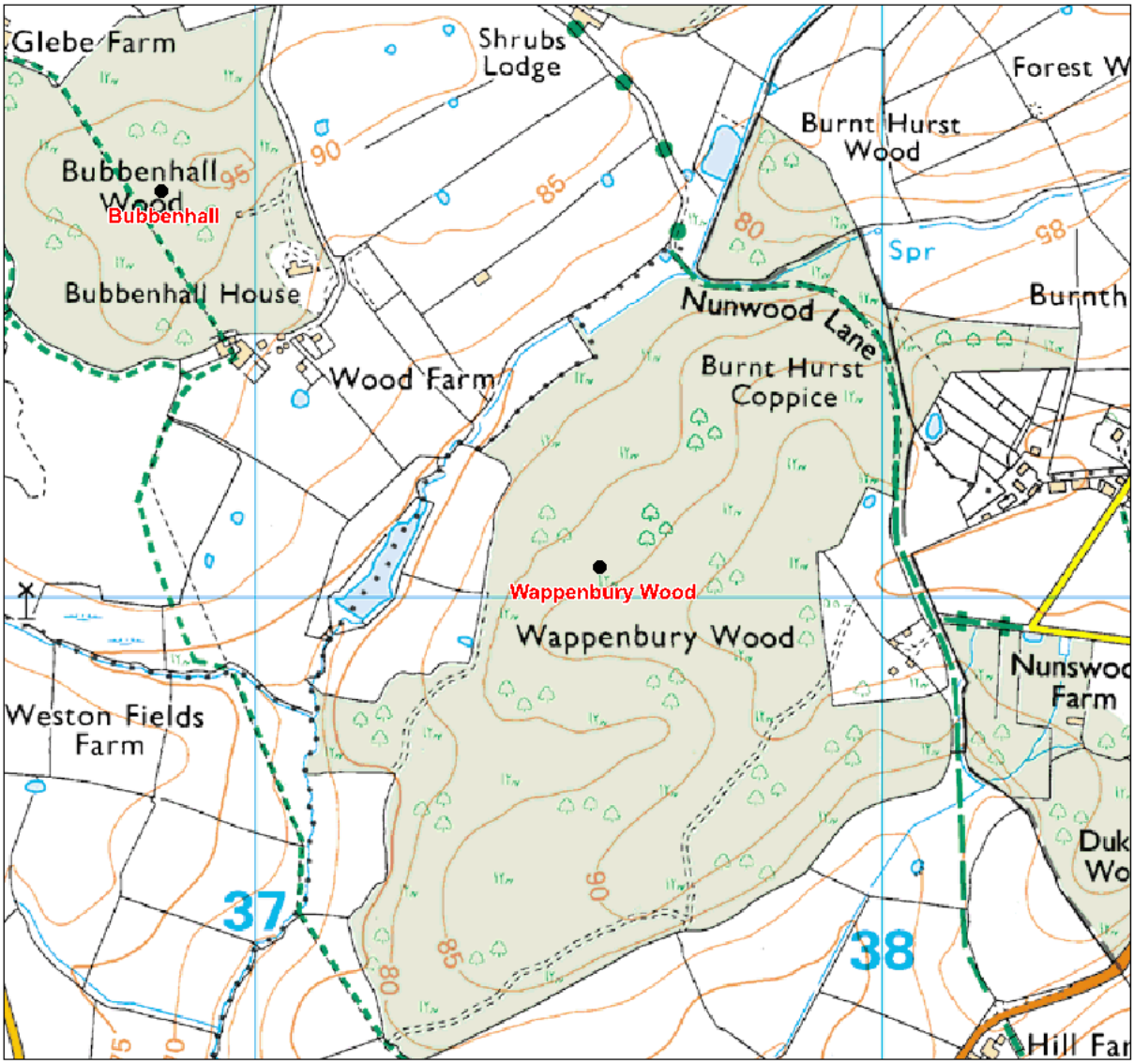
The dormouse reintroduction took place at Wappenbury wood in Warwickshire on 20 June 2017 when 40 dormice were placed in soft release cages. These were opened on 1 July and the first NDMP check took place on 6 September when 40 dormice (10 mature dormice and 5 litters) were recorded.

Dormice > 7g will be PIT tagged at this site until at least 2023 to investigate dormouse occupancy and dispersal at a novel site.

Woodland management

Wappenbury is a semi-natural ancient woodland that is mentioned in the Domesday Book., Medieval ridge and furrow plough markings found to the north of the woods, ancient bank boundaries, and the age-old pathway known as Nunwood Lane all provide further evidence of the woods' age. Nearly clear-felled twice in the 1940s and 1950s, the wood was left to regenerate naturally, helping to increase diversity and contributing to its current ecological excellence.

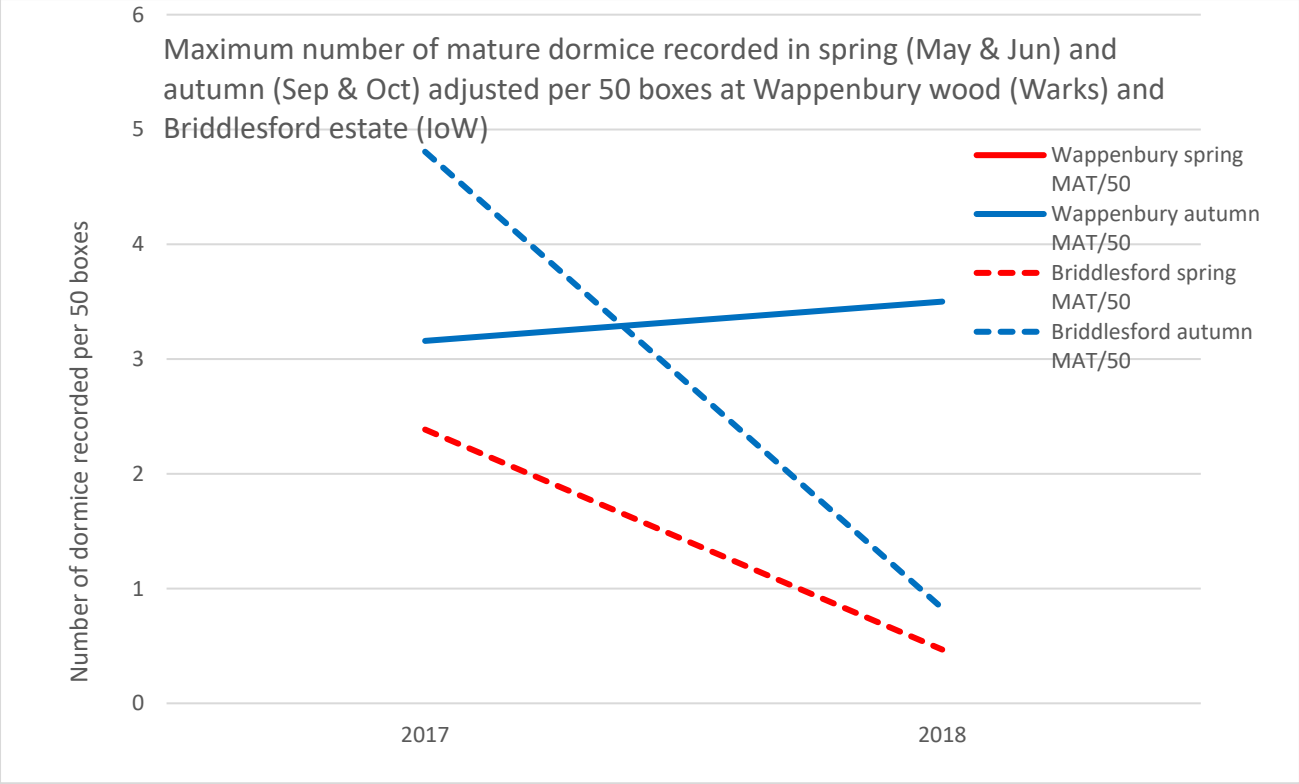
Woodland management is ongoing

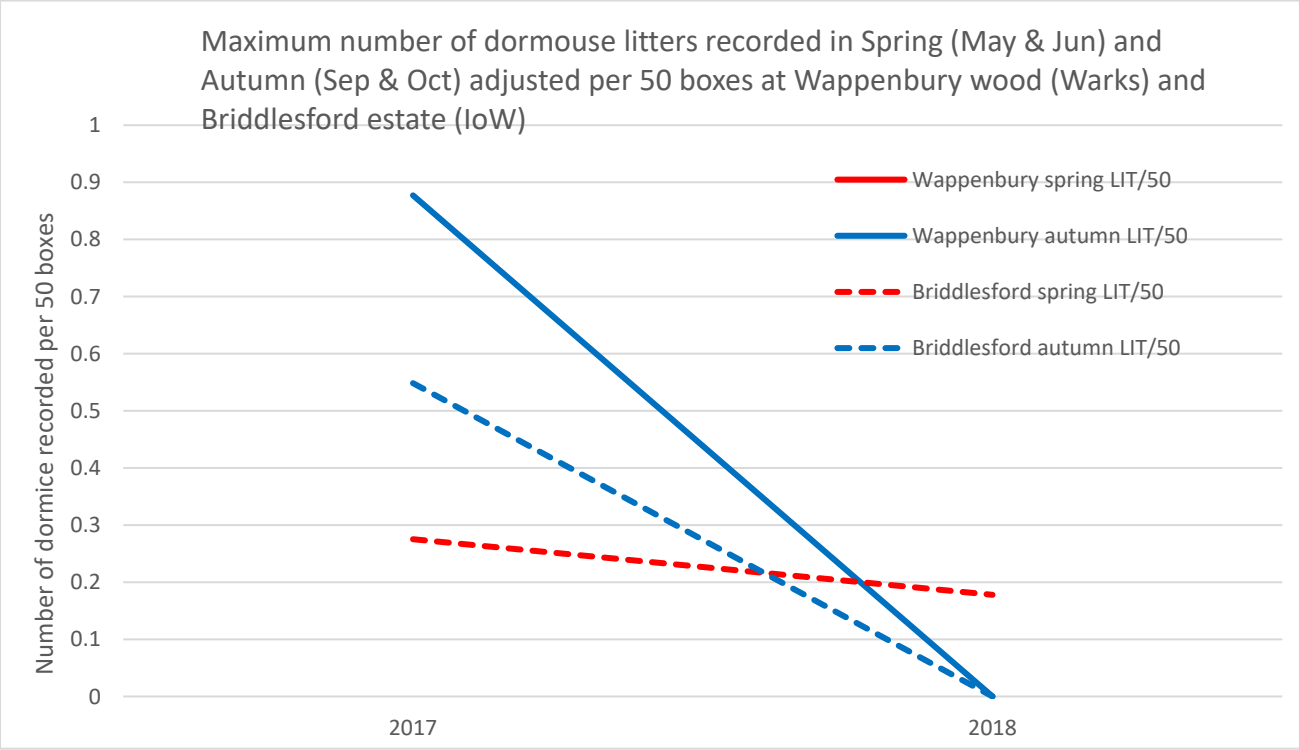


Future dDevelopment

There have been two dormouse reintroduction in this region of Warwickshire and a landscape project has been developed to improve the linear features between the woodlands. Further details on this project are given in Dunsmore Living Landscape.

Ian White
Jun 2019


Maximum number of mature dormice recorded in spring (May & Jun) and autumn (Sep & Oct) adjusted per 50 boxes at Wappenbury wood (Warks) and Briddlesford estate (IoW)
Number of dormice recorded per 50 boxes
6
5
4
3
2
1
0
2017
2018
Wappenbury spring MAT/50
Wappenbury autumn MAT/50
Briddlesford spring MAT/50
Briddlesford autumn MAT/50


Maximum number of dormouse litters recorded in Spring (May & Jun) and Autumn (Sep & Oct) adjusted per 50 boxes at Wappenbury wood (Warks) and Briddlesford estate (IoW)
Number of dormice recorded per 50 boxes
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
2017
2018
Wappenbury spring LIT/50
Wappenbury autumn LIT/50
Briddlesford spring LIT/50
Briddlesford autumn LIT/50

Site 23. Wappenbury wood 2017		
Term	**Definition**	Comment 2019
Management	*Woodland management*	Ongoing woodland management
Short term	*Dormice survive the first two winters*	**YES** the dormouse population survived the first two winters
Medium term	*The dormouse population remains stable over 5-10 years*	**N/A**
Long term	*The dormouse population increases in size and expands its range*	**N/A**
Long term Success	*The dormouse population has a reduced risk of extinction*	**N/A**

24. Ryton wood Warwickshire

Woodland Owner:	Warwickshire Wildlife Trust	
Grid reference:	SP382725	NDMP Site No. 712
Woodland size:	85 ha	
Release date and number of animals: 40 dormice in June 2018		

Introduction

Ryton wood is one of two reintroduction sites in close proximity in Warwickshire and is a keystone site for the Dunsmore project (See Dunsmore Living Landscape for more information).

Dormouse population

The dormouse reintroduction took place at Ryton wood in Warwickshire 14 June 2018 when 39 dormice were placed in soft release cages. These were opened on 25 June and the first NDMP check took place on 23 September Sept when 33 dormice (14 mature dormice and 4 litters) were recorded.

Dormice > 7g will be PIT tagged at this site until at least 2023 to investigate dormouse occupancy and dispersal at a novel site.

This was the second release that has taken place in the project area and the event received a lot of attention from the media, appearing on the local news and on the last episode of the 2018 BBC Springwatch. While in the soft release cages the dormice were fed daily by the volunteers and then after the cages were opened the feed frequency was slowly reduced. By the end of August, it became apparent that most of the dormice had vacated the release cages to venture out into their new home as very little of the food that was provided had been eaten. Unfortunately some of the dormouse nest boxes at the new release site had been interfered with, a few of which contained nests. This incident was reported to the police as a wildlife crime but the case was never solved. The damage did not appear to have a negative impact on the dormice.

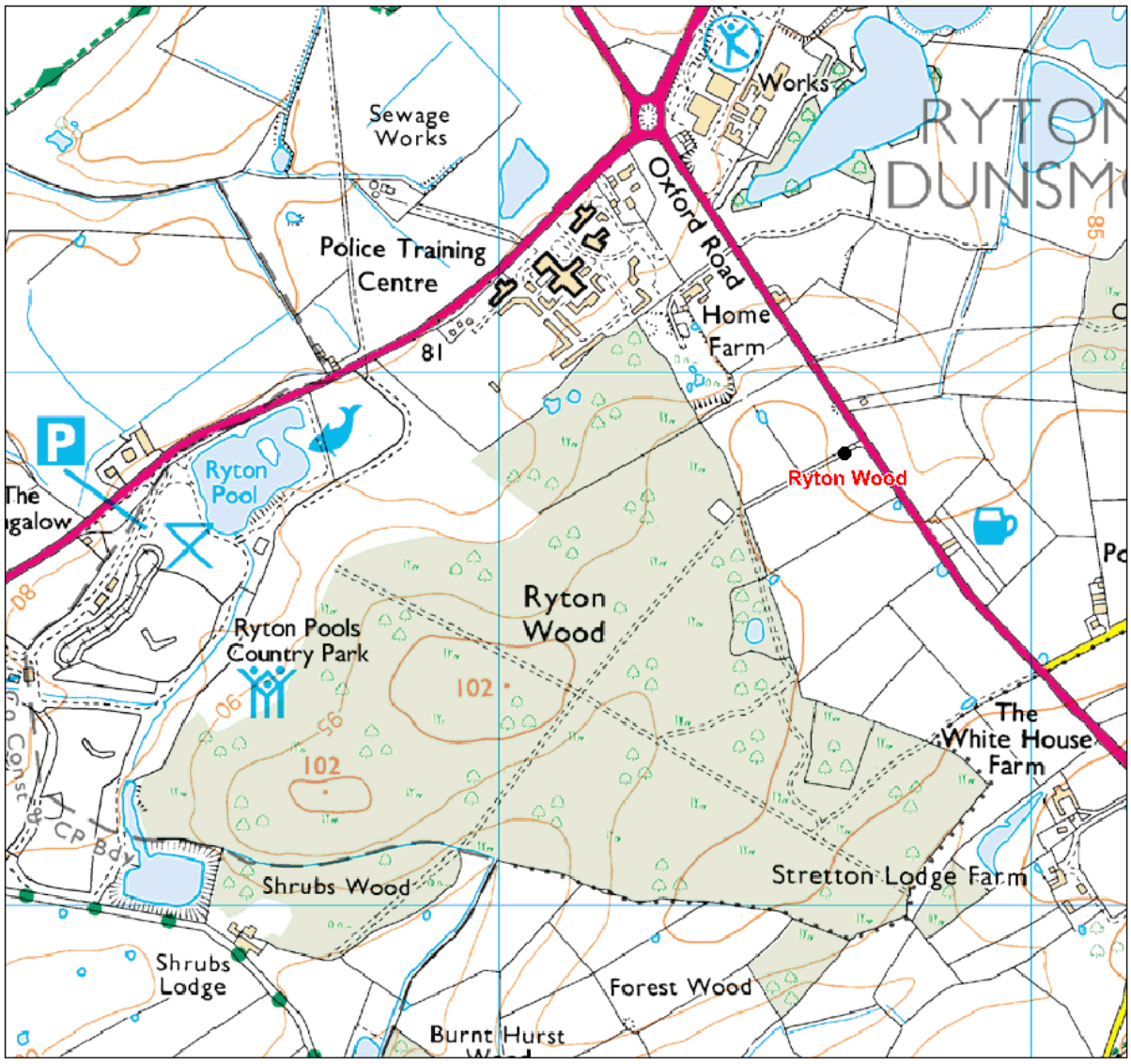
Woodland management

Ryton Wood is an oak woodland lying on the Midland clays of central Warwickshire. It is a SSSI as it is considered as a representative example of a lowland hazel, oak woodland. Most of the wood comprises even-aged oak standards over hazel coppice with silver birch and downy birch. The rich

shrub layer is dominated by hazel but there is also hawthorn, midland hawthorn, blackthorn, holly and rowan. Bluebells, bramble and honeysuckle are abundant.

Future development

There have been two dormouse reintroduction in this region of Warwickshire and a landscape project has been developed to improve the linear features between the woodlands. Further details on this project are given in Dunsmore Living Landscape.

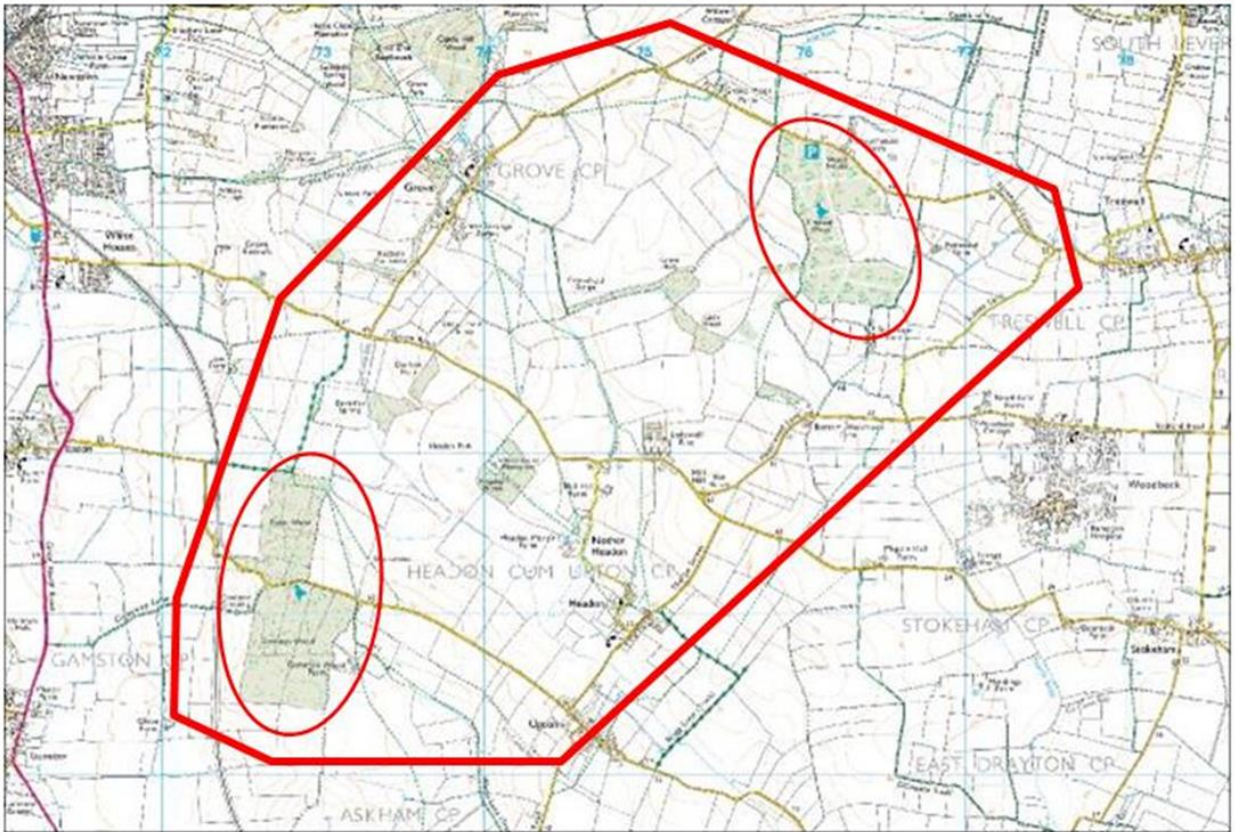


Site 24. Ryton 2018		
Term	**Definition**	Comment 2019
Management	*Woodland management*	Ongoing woodland management
Short term	*Dormice survive the first two winters*	**N/A**
Medium term	*The dormouse population remains stable over 5-10 years*	**N/A**
Long term	*The dormouse population increases in size and expands its range*	**N/A**
Long term Success	*The dormouse population has a reduced risk of extinction*	**N/A**

Nottinghamshire Dormouse Project

Partners	Notts Wildlife Trust (NWT), Notts Dormouse Group (NDG), PTES
Woodland Owners:	The Nottinghamshire Wildlife Trust
Implementation	Landowner liaison is undertaken by NWT; practical works is undertaken by HDG
Funding:	NWT fund staff, PTES may fund capital items

The first dormouse reintroduction in Nottinghamshire took place at Treswell wood in 1994/95. A report by Black (2004) suggested that this early reintroduction failed due to three reasons. Firstly, the habitat was not ideal to support dormice but as no better sites were available, the release went ahead. Secondly, some of the captive-bred dormice released in 1994 were in sub-optimal health due to obesity and mite infestation but, as there were no facilities to keep them in captivity they were released. Finally, the management requirements of Treswell Wood, particularly the imminent restoration of coppice with standards, were in conflict with the habitat requirements of dormice.



By 2013, however the habitat at Treswell wood was in an ideal condition for dormice and a further reintroduction was undertaken. Two further reintroductions at Eaton wood and Gamston wood, took place 2014 and 2015. Eaton and Gamston woods are adjacent woodlands that lie approximately 4 km to the south west of Treswell wood. All three woodlands are owned and managed by the Nottinghamshire Wildlife Trust

The three dormouse reintroductions in the County prompted the formation of the Nottinghamshire Dormouse Group, which was set up in 2014 as an Unincorporated Association with a Chair, a Secretary, a Treasurer and a constitution. The main aims of the constitution are to support the reintroduction of hazel dormouse to Nottinghamshire by monitoring the population, by creating and maintaining suitable habitats and increasing public support for the species.

Treswell Wood also plays host to the Integrated Population Monitoring Group (IPM), a voluntary led Common Bird Census (CBC) programme that has been running in the woodland since 1973. As part of the monitoring programme bird-boxes are scattered throughout the woodland, these boxes occasionally get inhabited by dormice. A strong working relationship between the Nottinghamshire Dormouse Group and the Treswell birders means that any information on squatting animals, birds in dormouse boxes and dormice in bird boxes, is quickly passed on to each party.

The aim of the three introductions in Nottinghamshire is to create a dormouse metapopulation in the region and this will require some improvement to the linear landscape features between the woodlands.

- White (2015) *The Nottinghamshire Dormouse project*

The landowners who have responsibility for the woodlands and hedgerows both between the three woods and beyond, are known to the Nottinghamshire Wildlife Trust and there is a good liaison between the landowners, the Trust and the Dormouse group. The landowners are generally supportive of the project.

In 2015, a joint project between the Notts Wildlife Trust and the Notts Dormouse Group surveyed the hedgerows between the woodlands using the standard hedge survey procedure, surveyed existing woodlands, and identified possible potential areas for new planting. The results of this survey work then gave an indication of where management work could be targeted.

Dormice have become well dispersed throughout all three woodlands as shown from monitoring work undertaken by the Notts Dormouse Group but are generally concentrated on the scrubby margins of the woods. The group have also undertaken management work within the woodland and gapped up hedgerows extending beyond the wood. Notts Dormouse Group, Notts Wildlife Trust and People's Trust for Endangered Species have all provided funds for the capital costs of the project.

The Wensleydale dormouse project

Partners	Yorkshire Dales National Park Authority (YDNPA), PTES
Woodland Owners:	YDNPA, Castle Bolton estate and local landowners
Implementation	YDNPA staff funded by PTES
Funding:	PTES, Yorkshire Dales Millennium Trust

The Wensleydale Dormouse Project is a three-year collaborative project between PTES and Yorkshire Dales National Park Authority. Funding provided by PTES enabled a project officer to be appointed two days a week for the duration of the three-year project to deliver the habitat management work. YDNPA staff have undertaken additional work to deliver the project.

The overall project aim is to create linear corridors to enable the expansion of the dormouse population between the existing reintroduction sites at Aysgarth Falls and Haw Bank, and into suitable areas of appropriate woodland habitat in the mid-Wensleydale project area. The landscape in the area comprises a mix of existing hedgerows, in better or worse condition, and non-existent hedgerow.

The initial work focused on surveying the linear boundary features to identify both a primary route to link the two reintroduction sites and to prioritise potential secondary routes. The creation of new hedgerows and management of existing hedgerows in the wider project area will be dictated by the quality of connectivity, ecological, archaeological and/or landscape constraints and also landowner involvement. These survey results would enable the project to proceed with habitat improvement in order of priority so that an appropriate variety of routes are created over time in accordance with the resources available and responsive to obstacles that might be encountered over the duration of the project.

The following provides details of the work that has been undertaken to date in delivering the four main components of the project, and summarise associated work that has been completed.

Hedgerow survey – to identify all the existing and potential routes and to identify the quality and extent of the linear hedgerow landscape features in the project area.

2017/18 10.66 km of hedgerows were surveyed in accordance with the standardised methodology as recommended by PTES and detailed by Defra (2007).

2018/19 2.12 km of hedgerows were surveyed in accordance with the standardised methodology

A total of 44.34 km of boundary features have been assessed.

Hedgerow management – to ensure that a minimum of 2.1 km of existing unmanaged or gapped hedgerow will be brought into appropriate management and/or 'gapped up'. The range and scale of management will be dependent on the results of the hedgerow survey.

2017/18 The initial priority was to undertake the surveys and assessments of the boundary features and so the focus in the first year of the project was the hedgerow surveys. The survey results were assessed and the best routes to provide the maximum connectivity between existing hedgerows and woodland were determined.

Provisional discussions were held with landowners and tenants about potential management work.

2018/19 Currently working with four different landowners/ tenants on Hedgerow Improvement Schemes, with a view to carrying out the agreed works during the planting season in the winter of 18/19.

Negotiations are at an advanced stage to bring c. 2.6 km of hedgerows into appropriate management but these are still subject to landowner agreement.

New hedgerow planting - a minimum of 1.7 km of new hedgerow will be planted subject to funding from the Yorkshire Dales Millennium Trust.

2017/18 See previous details regarding prioritisation of boundary surveys. No new planting.

2018/19 0.745 km of new hedges to be planted before December 2018. (0.27 km to be a 2 m wide, triple row hedgerow. The remaining 0.475 km to be a standard double row hedgerow).

2019/20 0.865 km of new hedgerow to be planted winter 18/19. (0.42 km to be a 2 m wide, triple row hedgerow. The remaining 0.445 km to be a standard double row hedgerow).

Total To date planting of c. 1.6 km of new hedgerows has been agreed. Opportunities for additional planting are currently being explored with landowners but will be subject to funding limitations.

Newly planted hedgerow as part of Wensleydale Dormouse project

Woodland management - to bring ten small wooded areas (c. 2.5 ha in total) into appropriate management for dormice. The range and scale of management will be dependent on the results of the hedgerow survey.

2017/18	Planted 150 trees in 0.2 ha open area to improve connectivity in Haw Bank Wood (NE funded, planted by YDNPA staff).
2018/19	Currently working with four landowners/ tenants on woodland enhancement and/or small woodland creation schemes totaling 9.73 ha

In addition, advanced discussions have taken place with the Bolton Estate about planting a further c. 5 ha of new woodland

Raising awareness – to organise and deliver four workshops/meetings for land managers and stakeholders in the project area. Report on work undertake and achieved.

2017 Workshops and talks to local landowners, local mammal group and visitor. ITV film on dormouse project broadcast on ITV Yorkshire and Tyne Tees regions

2018 Workshops and talks to YDNPA staff, CIEEM and local Mammal Group. BBC Look North filmed the Dormouse monitoring at Freeholders' Wood and details of the Wensleydale Dormouse Project

Conclusions and project summary

Significant progress that has been made towards creating a contiguous network of appropriately managed woodlands and hedgerows in the mid-Wensleydale area, to facilitate the expansion of the Dormouse population from the successful reintroduction sites at Freeholders' and Haw Bank Woods.

The on-going monitoring work undertaken by YDNPA at Freeholders' and Haw Bank Wood are showing that the dormouse populations are doing well and at the latter site at least, the population is expanding into new areas of the woodland.

Ian White & Ian Court (2018)

Dunsmore Living Landscape

Partners	Warwickshire Wildlife Trust (HDG), Warks Dormouse Group (WDG), PTES
Woodland Owners:	The Warwickshire Wildlife TRust
Implementation	Project Officers and team employed by WWT
Funding:	Heritage Lottery fund

Warwickshire Wildlife Trust undertook a project in 2013, funded by PTES, to look for dormice in some of their woodlands and to map local hedgerows. This project then gave rise to a Heritage Lottery Funding bid to restore the woodlands and local landscape and to reintroduce dormice into two of their woodlands

The Heritage Lottery Fund (HLF) awarded over £1 million to the Dunsmore Living Landscape scheme, a Warwickshire Wildlife Trust-led project which is working to restore important wildlife habitats in the areas lying between east Coventry, Rugby and north Leamington and reconnect people with these special places. This is considered a tremendous boost for wildlife and people in this special area of ancient woodlands. This grant will bring new training opportunities to local people and enable the delivery of a wide range of activities involving many people who cannot access local sites at present.

At the heart of the Dunsmore area lie 20 woodlands covering 618 hectares. They represent more than 10% of the whole of Warwickshire's ancient woodland. These woodlands are a treasure trove of biodiversity, home to many species of insect, butterfly, plants and birds. But they are often dark and neglected following cultural changes over the last century. Sensitive restoration management will ensure they continue to be ecological hotspots into the future. In addition the area contains 233 km of hedgerows, providing a vital habitat corridor through the farmed landscape. Some hedgerows are remnants of earlier woodland, whilst the majority were planted during the Enclosure Acts of the 17th and 18th centuries.

HLF funding will bring a new landscape-scale level of action for wildlife in the area and will allow us to restore 300 hectares of ancient woodland, 20km of historic hedgerows including old parish boundaries, 10 ponds and 20 hectares of flower rich grassland over the next four years. This will create habitat for iconic wildlife such as the hazel dormouse and Purple Emperor butterfly.

By working with local partners, landowners and communities, habitats will be improved, historical sites will be conserved and access, interpretation and general information about the area will be improved. Learning and training opportunities will be provided and a range of events and activities will be run, designed to reconnect people with their local living landscape, green spaces and heritage sites.

The Dunsmore Living Landscape scheme is doing a lot of landscape work to aid the dispersal of the dormice. WWT have been working with farmers in the surrounding area to restore dilapidated hedgerows to increase the number of wildlife corridors to allow dormice and other wildlife to move across the landscape. Volunteers have been laying, gapping and creating new hedgerows and when the scheme comes to a close in 2021 over 20km hedgerow will have been restored.

Ian White & Tom Watkins
Jun. (2019)

New reintroduction sites

About two or three potential dormouse reintroduction sites are visited each year and the majority are considered unsuitable simply due to the low density of scrub vegetation and its extent. The intention is to build up a list of suitable sites – or sites that could become suitable – to ensure that the programme can continue.

The 2020 reintroduction will take place in Cumbria at Gaitbarrows. Another site in the area will be selected for a reintroduction in 2021 or 2022.

A reintroduction will take place in South Wood, on the Calke Abby estate in 2021 or 2022 and a further site in the area will be selected.

Other sites under Consideration

- Camshaws plantation in Lincolnshire
- Marston Thrift in Bedfordshire
- Belhus Wood in Essex

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Appendices

For all Appendices see: Hazel Dormouse Reintroduction Sites Report 2019 (Appendices)

Appendix A: Reintroduction site summary

Appendix B: Standardised number of dormice recorded by year and by region

Appendix C: Dormouse records at Briddlesford woods, Isle of Wight

Appendix D: Dormouse data from reintroduction sites