



THE WOOLHOPE DOME RADIO TRACKING PROJECT

EXECUTIVE SUMMARY

In August 2015, the Herefordshire Mammal Group (HMG) was awarded £5,000 by the Woolhope Dome Environmental Trust (WDET) for carrying out research into where bats are roosting, particularly natural sites, in the Woolhope Dome. Radio-tracking is necessary to find and protect natural roost sites, not only to identify new populations but to understand roost characteristics in order to reproduce these features when designing and siting bat boxes.

The radio-tracking project ran from 11th until 19th August 2016 and started at the Pentaloe Brook which runs along the north-west corner of Haugh Wood. It continued with a bat box check on 12th August 2016 at Lea and Paget's Wood, where HMG has a long term bat box monitoring scheme, to find our second target species a brown long-eared bat. A second trapping session was scheduled at Devereux Park, a privately managed woodland, on 13th August 2016 to find other suitable bat species to tag for radio-tracking.

At Haugh Wood on the 11th August at 0.40 hrs, a non-breeding female Daubenton's Bat was caught in a mist net and fitted with an 8-day radio-tag. The following day she was found approximately 6.5km away roosting under ivy on the main trunk of a mature Douglas Fir tree in Upper Bolstone Wood. She was followed that same evening from Upper Bolstone Wood, where she headed towards the River Wye and eventually ended back at the Pentaloe Brook just before midnight. After this, she was never found again.

On 12th August, a maternity colony of 31 Natterer's bats was encountered in a bat box in Lea and Paget's Wood. This colony has been encountered twice in the last two years, normally just once in September. It was never known where this colony came from so to encounter them in August during this week was a bonus, as there was an opportunity to learn more about this group of bats. We fitted a radio-tag a post-lactating female and subsequently ringed her in the hope we will find her next year in a bat box. The radio-tagged Natterer's bat never returned to a bat box during the week, but she was tracked to an old Perry pear tree at Alfords Mill most days and on one occasion she was located in an oak tree stem, 5-7 metres high at Sutton Hill Wood, a small non-intervention wood south of Lea and Paget's Wood. During the week she foraged north of Siege Wood and around Alfords Mill and remained very local to the area.

Also on the 12th August, a post-lactating female from a known maternity colony of brown long-eared bats (BLEs) frequently found in bat boxes at Lea and Paget's wood was fitted with a radio-tag. On the first night our brown long-eared was tracked from Lea and Paget's Wood and found foraging towards the east of the wood. She was tracked back to two new roost sites, a tree roost in Buckenhill Wood and a dwelling house just east of the Lea and Paget's Wood. Unfortunately, the radio-tag was groomed off after two days and it remained in the car port of the dwelling house the remainder of the week.

Prior to this event, there were no records of Bechstein's bats in the Woolhope Dome, so catching one at Devereux Park on the 13th August was extremely exciting. A post-lactating female was ringed and fitted with a radio-tag and then tracked over the week to 3 different natural roost sites within the same woodland (Hyde Common), a predominantly ash woodland. She was followed on two occasions and found foraging 2/3km from Hyde Common. Hyde Common is mature woodland and has many trees with roost features, particularly woodpecker holes, so there appears to be plenty of roosting opportunities for this very significant colony of rare bats. It was assumed that due to our female's parasite loading she came from a large roost and on the penultimate night this was confirmed with a count of between 65 and 70 bats emerging from a tree roost. This number is likely to include juveniles but because

Bechstein's bats generally have not been successful in breeding over the last two years, it is assumed that there is probably around 50 breeding females in this colony.

Table 1: Summary of bats caught during the HMG's Bat Track weekend

Species	Where tagged?	When tagged	Tag Number	Roost Sites Found	Foraging Areas	Days tag remained active
Daubenton's bat	Haugh Wood	11Aug16	G858.173.2080	1	1	24 hours
Brown long-eared	Lea and Paget's	12Aug16	G859.173.2857	2	1	2 days
Natterer's Bat	Lea and Paget's	12Aug16	G856.173.1986	2	1	7 days
Bechstein's bat	Devereux Park	13Aug16	G857.173.2196	3	1	7 days

HMG is eager to collect as many records as possible in the Woolhope Dome, as well as in the whole county so two Anabat Expresses were purchased as part of the grant which were intended for the Bats and Roadside Mammal Driven Transects. A total of 4 transects took place on the Woolhope Dome, one in 2015 and three in 2016. However, a further 15 driven transects were carried out in other parts of the county to build up the records database. Anabat files are still to be analysed and a series of workshops will be taking place this winter.

It is intended in future years to extend this project into the other areas of Herefordshire including south-east Herefordshire and Berrington Hall, near Leominster where Bechstein's bats have been caught during trapping sessions. It is also intended to carry out further tracking studies in the Woolhope Dome.

BACKGROUND

It is not really understood how bats move around their range and how far bats will relocate to alternative roosting sites, especially if woodlands are both small in size and are isolated. The routes used for commuting to and from foraging areas are also poorly known, especially in Herefordshire. Herefordshire can boast low human population but there is a lot of pressure on the land for intensified farming methods ie poly tunnels, arable and pasture farming systems. Observations from county bat records, retained by the Herefordshire Biological Records Centre (HBRC), suggests very little information is known about what bat species are using Herefordshire woodlands.

However, since 2013, HMG has undergone major change and it is currently undertaking a number of different research projects in and around the county to determine which bat species are actually present and how many are benefiting and thriving in our woodlands, especially woodlands which are managed for timber and conservation. This current research includes monitoring existing bat box schemes and also carrying out both bat detector and trapping events in Forestry Commission (FC), Wildlife Trust and privately owned woodlands. Overall this research has contributed to bat conservation at a local level by means of making change to Forestry Commission policy and their woodland management plans.

One of the areas targeted for research is the Woolhope Dome which has a complex of woodlands and is enriched by two main rivers. It also has a network of brooks and streams with very little human presence.

The intention of the project is primarily to determine the movement of known colonies of brown long-eared bats, Natterer's, Daubenton's, and any species caught that are deemed worthy of radio tracking in the Woolhope Dome. Ringing bats aid the determination (by capture-mark-recapture) of the home ranges of individuals and how they are using the local landscape and nearby woodlands in the immediate areas. In the Woolhope Dome one known maternity colony of brown long-eareds, resident in Lea and Paget's is part of a ringing project. The ringing study provides a detailed history of individuals; their health, age, breeding condition, their social networking structure and juveniles dispersal but will not help in knowing alternative roosting sites. Radio-tagging and radio-tracking bats will determine how bats are using trees in woodland, particularly bats encountered in bat box schemes. Ultimately any tree roosts that are discovered from radio-tracking studies will be marked so they will not be targeted for future felling.

There are currently 3 bat box schemes in two areas of the Woolhope Dome (Buckenhill Wood, Lea and Paget's and Nupend Nature Reserve).

Project Objectives:

- To increase the general knowledge of species present and their distribution in and around Lea and Paget's Wood, Nupend and Buckenhill Woods
- To increase the understanding of bat behaviour and their ecology in Woolhope Dome.
- To increase the understanding of roosting preferences and patterns, particularly in relation to artificial roost sites and tree roosts.
- To attach rings to bats that are radio-tagged for identifying, should the target bat species be encountered in the future.
- To attach radio-tags for certain species of bats to determine tree roosts.
- To understand better the interactions between bat populations resident in the individual woodlands in the Woolhope Dome.
- To involve HMG members and other bat workers in the project to share good practise.
- To provide a range of training opportunities to HMG members and other bat workers.
- To generate comprehensive bat records for the Woolhope Dome and Herefordshire
- To map and mark tree roosts that support bats, in particular maternity roosts
- To work with conservation partners and landowners for the benefit of bat conservation.
- To develop a practical, repeatable population monitoring methodology for woodland bats that can be used by other bat groups.

Ultimately, this project will continue year on year as a long-term ringing and radio-tracking study to monitor population size, population dynamics, social networks, and linkages between alternative roosting sites subject to funding for radio-tags.

Bat species targeted for Radio-Tagging

Bat species recorded within Woolhope Dome that were considered for radio-tagging are Myotis bats, brown long-eared bat, Nyctalus species, greater horseshoe and Serotine.

Methods

The following methods were employed:

To mark and recapture (ringing) and to attach radio-tags to bats captured in nets, harp traps and bat boxes to enable tracking them to natural roost sites.

To catch and/or take bats from mist nets, harp traps, static hand nets or bat boxes, and then ring with London Zoo bat rings and attach up to 5 radio-tags to bats within the Woolhope Dome. Bats at advanced stages of pregnancy will not be tagged; this will be calculated using physical condition assessment namely breeding condition and weight. Bats will not be disturbed whilst suckling dependant young and only bats assessed to be in a healthy condition will be tagged. Therefore, bats will only be tagged in the spring and late summer – outside the maternity period.

Justification for Radio Tagging

The most effective way to locate natural tree roosts within woodland is by catching and radio-tracking bats back to their roost sites. This will allow for more efficient use of time and resources and allow a significant increase in monitoring capacity for the group. As well as the scientific benefits, locating roost sites will enable landowners to avoid activities which would negatively impact upon them.

Whilst the primary purpose of the project is to locate roosts, radio tracking can also be used to determine movement patterns of target species during their hours of activity. This requires much more input in terms of time commitment from volunteers but if resources are available, this opportunity will be enthusiastically embraced.

Radio-tagging timetable

Funding has been obtained to radio-tag 5 bats during 2016. It was the intention to radio-track at least one bat in 2015 but due to delays in obtaining the licence from Natural England, arrival of tracking equipment and radio-tags this was postponed until 2016.

Results

Daubenton’s Bat (the first tagged bat from Haugh Wood)

On the 11th August 2016, a total five harp traps and at least five mist nets were installed along the Pentaloe Brook in Haugh Wood with a Daubenton’s bat being the target species for the night. The weather conditions at Haugh Wood were favourable for catching bats with warm evening temperatures and 100% cloud.

Table 2: Weather conditions for trapping on 11th August 2016 at Haugh Wood.

Date	Sunset (hrs)	Start Temp	End Temp	Cloud	Wind	Dry/Rain	Moon rise/set (hrs)	Moon Phase
11 th August 2016	20.41	17.5°C	15.0°C	100%	Calm	Dry	MR 14.56 MS 00:30 (12 th)	57 % but not visible

A total of 10 bats were caught during the trapping session, one Brandt’s bat, five soprano pipistrelles, two common pipistrelles, a whiskered bat and at 0.40 hrs a non-breeding, female Daubenton’s bat was caught in one of the mist nets over the brook. The non-breeding female weighed 9.7g, so well above the weight required for the heavier 8-day radio-tag (G858 173.2080), which was subsequently fitted. After fitting the radio-tag, our Daubenton’s was released; she flew south along the Pentaloe Brook and then disappeared.



Photo 1: Female Daubenton’s fitted with a radio tag ready for release.

On the morning of 12th August, after an initial training session by Adrian Bayley on radio-tracking, two teams set off to find the female Daubenton's. It took both teams all day to find her which they did at 17.30 hrs in Upper Bolstone Wood. She was roosting on the south-east side of the wood, at SO5434 3299, under ivy on a Douglas Fir tree, just a few metres off the public footpath. Upper Bolstone Wood is approximately 6.5km from the Pentaloe Brook (as the crow flies) where she was originally caught. The trunk of the tree was covered in ivy and it was assumed the bat was roosting under the ivy leaves about 3 metres high up on the main trunk. Upper Bolstone Wood is privately owned and it does not appear to be under any direct management. There were a number of pheasant feeding stations present, as observed from the public footpath, suggesting this woodland is used as part of an organised shoot. Access has not yet been granted to inspect the tree in greater detail.



Photos 2 and 3: Douglas Fir where the Daubenton's bat was roosting on 12th August, 3 metres high under the ivy.

In the evening of 12th August, one team was located at the roost site to determine time of emergence and what direction she would take after she left the wood. Our Daubenton's bat emerged alone from the Douglas Fir tree at 21.15 hrs, 35 minutes after sunset (20.39 hrs). She stayed in the immediately area for approximately 30 minutes and then flew east towards the River Wye. At 21.45 hrs a weak signal was heard from Holme Lacy Bridge towards the south so it is likely she headed straight for the River Wye after leaving Upper Bolstone Wood. Unfortunately, she was not heard again until 11.45 hrs where two surveyors (Kate Wollen and Richard Ball) picked up a strong signal at the Pentaloe Brook in Haugh Wood, also exactly the time she was caught the previous night. Two surveyors were located at Pentaloe Brook at 23.30 hrs, just 15 minutes beforehand, but no signal was heard, so she arrived there between 23.30 hrs and 23.45 hrs. She foraged along the brook for about 15-20 minutes and then disappeared. Unfortunately, after that she was never heard or found again despite considerable effort to try to find her from 13th to 18th August 2016.

In the evening of the 17th August, all the team decided to give one last attempt to track down the Daubenton's so some team members waited at Pentaloe Brook from 20.30 hrs to 01.00 hrs to see whether she would return to this foraging area. A few harp traps and mist nets were set up during the evening and 6 bats were caught, whiskered, common pipistrelle, two soprano pipistrelles, a brown long-eared bat and a juvenile female Daubenton's; this female was caught at 23.45 hrs but there was no trace of our tagged female.



Map 1: Movement of the tagged Daubenton's bat from radio tagging her at 0.40 hrs on the 12Aug16 to a roost site in Upper Bolstone Wood and then following her back to the Pentaloe Brook. This was the last time we picked her up that week.

Natterer's and Brown long-eared bat (Lea and Paget's Wood)

Bat Box Check – 12th August 2016

Two groups of bats were found during the monthly bat box check at Lea and Paget's wood, a maternity colony of Natterer's bats, normally encountered in bat box checks during late summer September (2014 and 2015) and a resident maternity colony of brown long-eared bats encountered regularly at monthly box checks.

A group of 31 Natterer's bats were processed from box number 10N during the morning and one post-lactating female weighing 8.4g was targeted for radio-tagging. The female was subsequently ringed with ring number H9432 and fitted with a 5-day radio-tag (G856.173.1986). After fitting the radio-tag, she weighed 8.6g so the tag and the glue weighed just 0.2g.

A group of 20 brown long-eared bats were processed from box number 15SE during the morning and a post-lactating female weighing 7.6g was targeted for radio-tagging. The female had been ringed in September 2014 and from 2014 to 2016 had successfully bred each year. The ringed female (Ring number H6822) was fitted with an 8-day radio-tag (G859.173.2857). After fitting the radio-tag, she weighed 7.9g so the tag and glue weighed just 0.3g.

Natterer's bat and brown long-eared tracking 12th August (Evening)

One radio-tracking team (Keith, Giles and Trina) met at Lea and Paget's Wood and decided to track both the tagged Natterer's bat and the brown long eared bat. They started at 21.45 hrs but had missed emergence (sunset 20.39 hrs) as the tagged female Natterer's had already left the bat box and was heading towards Buckenhill Woods.

Both the brown long-eared and the Natterer's bat were very quickly picked up from a field just east of the wood, the brown long-eared was foraging in the dip running east by a public footpath, and then she came back into the wood. The signal for the Natterer's bat was very faint and intermittent from the same field, so she was probably foraging north-east of Fishpool Hill Farm (barking dogs). The Natterer's bat finally settled and was foraging around the top of Siege Wood. When surveyors positioned themselves at the top of Siege Wood they heard the distant signal of the brown long-eared towards the south, so it was assumed the brown long-eared was foraging on the north slopes of the ridge above Lower Buckenhill. The surveyors finished radio-tracking at 23.30 hrs.

Natterer's Bat

On the morning of the **13th August**, the tagged female Natterer's bat was found in an old Perry pear tree, at Alford's Mill (see Photos 4 and 5). The roost was inside a rot hole at eye level approximately 1.5 metres from ground level. The roost was located in the same area where our tagged bat was foraging the previous evening.

During the same evening, two surveyors were positioned at the pear tree to count the bats emerging. The first bat emerged at 21.20 hrs and a total of 21 bats emerged over 15 minutes. The tagged female was the 5th bat to emerge at approximately 21.25 hrs. Our tagged Natterer's bat flew south-west towards Siege wood. The signal continued in the Siege Wood area for approximately 30 minutes. She was picked up foraging north of Siege wood at 22.20 pm.

On the morning of **14th August** our female Natterer's Bat was back in the Perry pear tree at Alford's Mill. There was no count in the evening as all surveyors chose to count out the Bechstein's bats from a tree roost found during that same day at Hyde Common. Later that evening the female Natterer's bat was found to be foraging north of Siege Wood.

On the morning of **15th August** the Natterer's Bat was back in the Perry pear tree at Alford's Mill. In the evening 17 bats emerged including our tagged bat. However, when she left the roost, no bat seen, so it is possible she could have emerged at a second access point. She was consistent in her movements and foraged around Siege Wood, but disappeared at midnight.

On the morning of the **16th August**, she was tracked to Sutton Hill Wood in old oak coppice, south of Siege Wood. Sutton Hill Wood is a small, dry, broadleaved woodland and has very little understorey. It is however a non-intervention woodland and has plenty of potential roost features which included the oak coppice where our tagged Natterer's bat was roosting.

The oak coppice was approximately 20 metres high and was situated 25 metres from the woodland edge. There were 4 stems; 2 alive and 2 dead. The live stem, where our bat was located, had a tear-out and woodpecker holes (Photo's 6 and 7). There were two entrances, one by the tear-out and the other by a woodpecker hole – both roost features appeared to be linked as reported by our tree climber. Even though our tagged bat was in this woodland it was reported that a small group Natterer's bats were resident in the Perry pear tree at Alford's Mill, so the roost had separated.

In the evening two teams counted out the Natterer's from both identified roost sites. At 21.05 hrs, the first Natterer's bat emerged from the Alford's Mill Perry Pear tree and a total of 20 bats were counted out. The last bat emerged at 21.25 hrs. At Sutton Hill Wood approximately 10 bats emerged from the oak coppice including the tagged female and she headed straight back towards Siege Wood at 21.40 hrs.

At 21.40 hrs she was picked up at Alford Mill and was heard foraging north of the Perry pear tree. She also foraged around the tall hedgerows both north and north-west of Alford's Mill Farm House until 22.15 hrs and then headed back towards Siege Wood.



Photo 2 & 3: The remains of an old orchard including the Perry pear tree where the Natterer's bat was located on 13Aug16



Photos 4 & 5: Natterer's foraging area around Siege Wood

In the morning of the **18th August**, the Natterer's bat was still inside the Perry pear tree and a total of 13 bats were counted out during the evening so the rest of the colony were roosting elsewhere, but not in Sutton Hill Wood as this was covered by a team of surveyors. On the morning of the **19th August**, a group of Natterer's bats were still resident inside the Perry pear tree but the radio-tag has fallen off the bat as it was found on the floor just below the roost entrance.



Photo 6 & 7: The second natural roost site, an old oak coppice at Sutton Hill Wood where 10 Natterer's bats including our tagged bat emerged.



Map 2: Purple flags show the 3 roost sites located, bat box 10N, the Perry pear tree where the tagged Natterer's bat was roosting most of the week and in an oak coppice stem on one occasion. The red circle is where our tagged female was foraging most of the week.

Brown long-eared bat

On the morning of the **13th August**, our tagged female was found in a woodpecker hole, 6 metres high in a large mature oak just north of the public footpath about 50 metres east of the lime kilns in Buckenhill Wood. The tree roost was situated on the boundary between Buckenhill and Lea and Paget's Wood.

In the evening of **13th August**, one surveyor was positioned at the tree roost site to count bats emerging. The first bat emerged very early at sunset at 20.40 hrs and 16 bats were seen to emerge. However, a few may have been missed as the colony started to emerge earlier than expected. The tagged female BLE stayed in the wood for 20 minutes and then flew south. She was not followed that evening.

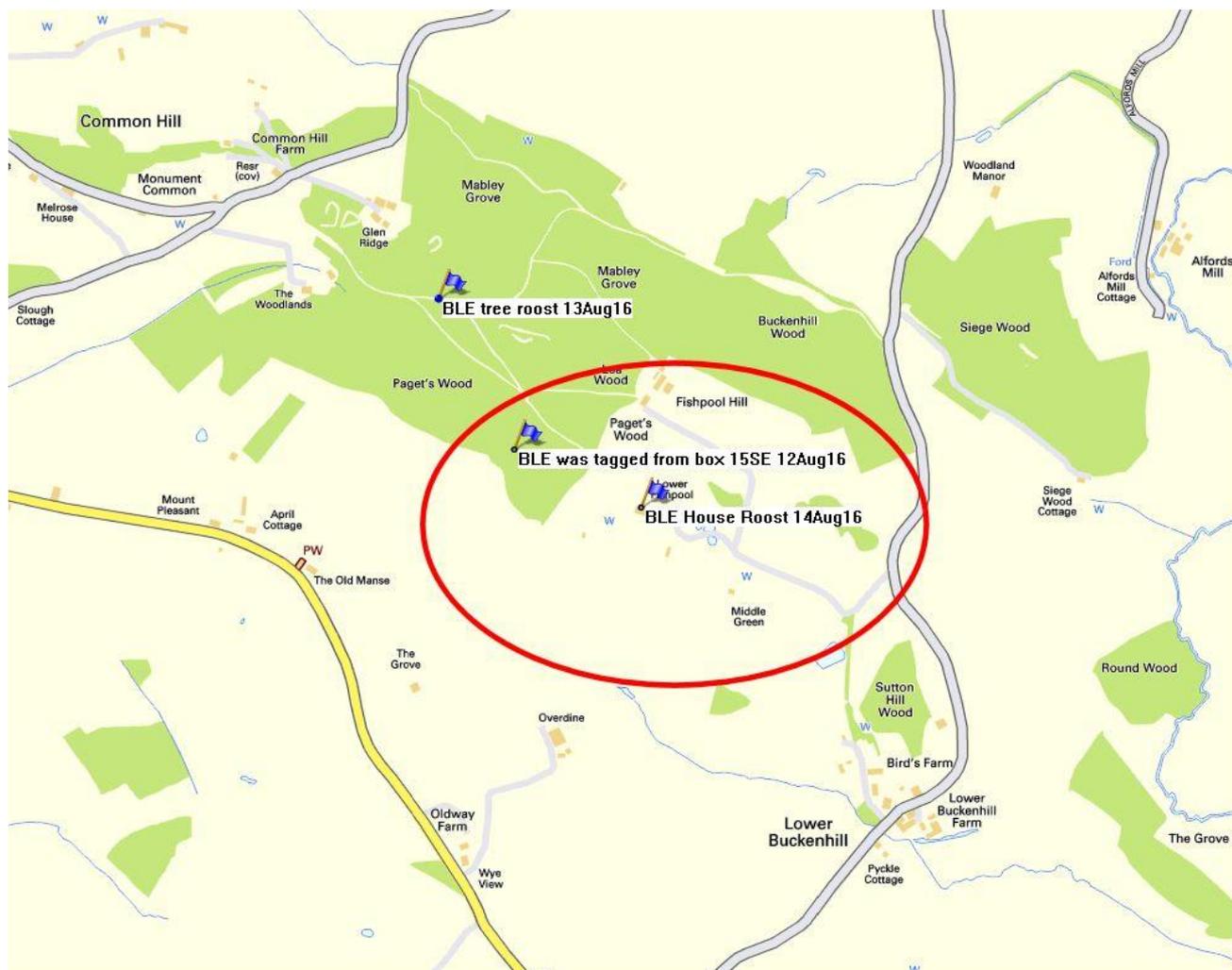
On the morning of the **14th August**, she was tracked to a dwelling house east of Lea and Paget's Wood called Lower Fishpool House where the signal was coming from the roof of a car port (SO 60076 34028). The tag remained in the car port throughout the weeks so it was assumed the tag was groomed off very early on. We were not able to count out bats from the dwelling house due to it being private property. The owner of the house informed us that bats are regularly using the car port to roost.



Photos 8 and 9: Brown long-eared roost site in a woodpecker hole on an oak tree just north of the public footpath in Buckenhill Wood which adjoins Lea and Paget's Wood.



Photos 10 and 11: Brown long-eared foraging area east of Lea and Paget's wood during radio tracking on the 12Aug16.



Map: 3: Brown long-eared roost sites and general foraging area around Lea and Paget's Wood and towards Lower Buckenhill.

Devereux Park Trapping – 13th August 2016

A total five harp traps and five mist nets were installed around the fishing lake at Devereux Park. The species of interest was Bechstein's bat, but as there were no records of Bechstein's bats in the Woolhope Dome, this target species was considered ambitious. A total of eight bats were caught during the evening, two Daubenton's, three brown long-eared bats, one whiskered, and one post-lactating Bechstein's bat which was a great surprise! The Bechstein's bat was subsequently ringed (H6917), weighed at 8.8g and was fitted with a radio tag (G857.173.2196). She had a heavy parasite loading so it was assumed she had come from a very large roost. After releasing her, she

foraged around Devereux Park for about 1 hour. Weather conditions were not recorded during the trapping survey.

Bechstein's Bat

On the morning of the **14th August**, our tagged Bechstein's bat was tracked back to Hyde Common, a predominantly ash woodland south of Devereux Park. She was found in a mature ash tree which bordered the public foot path, which had many potential roost features.

In the evening all the surveyors went to Hyde Common to count out the Bechstein's bats and as this bat was considered high profile, surveyors then tracked the bat's movements after emergence. At 21.06 hrs, 30 minutes after sunset (20.35 hrs), bats started to emerge from just above the woodpecker hole from behind some green leaf cover 7-8 metres high, as shown in Photo 12. A total of 43 bats emerged from the tree roost in this non-intervention woodland.



Photo 12: A colony of Bechstein's bats were seen to emerge from the left limb of this mature ash tree in Hyde Common

Three teams then followed the tagged bat during the evening. She headed in the direction of Devereux Park, which is about 2.6km from the tree roost, and where she was caught the previous evening. During the rest of the week our tagged bat continued to forage on a similar route to and from Devereux Park.

In the morning of **15th August 2016**, a team returned to Hyde Common to check whether our tagged bat had returned to the wood and it was confirmed she was in the same tree as the day before.

In the evening, one surveyor returned to Hyde Common and counted out 59 bats from the ash tree roost. However, the tracking team were not able to locate her during the evening.

In the morning of **16th August**, the Bechstein's bat was still in Hyde Common and even though the signal was strong near to the roost, it was assumed by the surveyor that the tagged bat was still in the same tree. However, during the evening only 2 to 3 bats were seen to emerge from the ash tree. The tagged bat was heard at 20.56 hrs in Hyde Common but it was not clear where she had emerged from. Three teams followed her again and she started foraging on the south-west corner of Hyde Common for about 10 minutes and then flew north. The signal was picked up at 21.10 hrs at Busland Wood where she spent 20 minutes foraging. She then moved to the narrow strip north-east of Busland wood for 10 minutes. She spent a long time at Holling Hill (about 1 hour) where it was thought she was night roosting.

In the morning on **18th August**, our female Bechstein's was tracked back to a second tree roost about 25 metres from the first roost site. A total of 65-70 bats were counted out from a rot hole on a horizontal limb of another mature ash tree (Photo 13).

In the morning of the **19th August**, the Bechstein's moved again to another ash tree but the precise location of the roost feature could not be determined (Photo 14).



Photo 13: the limb and rot-hole where between 65 and 70 Bechstein's bats emerged. Photo 14: The third roost site in this same non-invention woodland.

Acknowledgement

We are very grateful to Woolhope Dome Environmental Trust for funding this project and we are also fortunate to have a team of dedicated members who made this project a great success. Acknowledgement and thanks go to landowners and woodland managers who supported this radio tracking project.

Team Leaders

Denise Foster (Project Leader), David Lee, Adrian Bayley, John Morgan, Keith Cohen and Danielle Linton

HMG Members

Kate Wollen, Richard Ball, Giles King Salter, Trina Barrett, Leigh Russell, Mike Bailey, Robin Hemmings and Mike Bradley

Landowners

Forestry Commission (Haugh Wood), David Mander (Devereux Park), Herefordshire Wildlife Trust (Lea and Paget's), Mark O'Brien and Liz Vice (Buckenhill and Siege), Mary Windham and David Lovelace (Hyde Common) and Kate Harris (Alfords Mill).

Bats and Roadside Driven Transects:

The Herefordshire Mammal Group wanted to increase the number of bat and other mammal records in the Woolhope Dome and purchased two Anabat Expresses and other components with the grant money to carry out driven transects. A total of 4 transects took place on the Woolhope Dome, one in 2015 and 3 in 2016. However, a further 15 driven transects were carried out in other parts of the county to build up the records database. A total of 550 miles were driven and approximately 3000 files need to be analysed.

A series of workshops to analyse the many files will be taking place this winter.

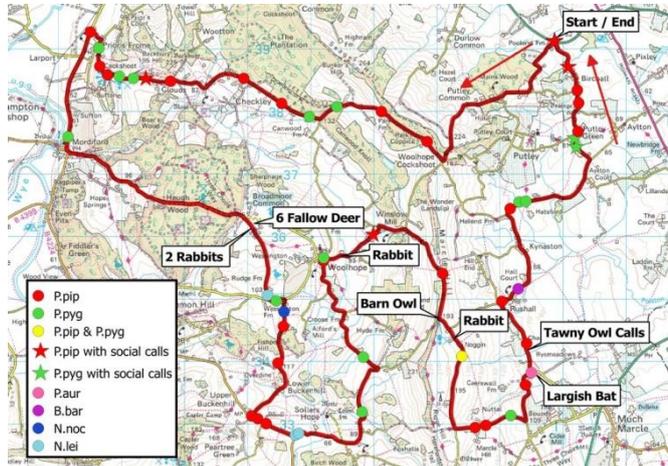


Photo 15: The Bats and Roadside Mammal Transect Kit as demonstrated. Photo 16: A driven transect which took place in 2015 on the Woolhope Dome

Review of the Project – Lesson’s Learned

The weather was perfect and the scenery in the Woolhope Dome is stunning which the overall experience extremely enjoyable for everyone concerned.

Every night, we tracked the bats for a few hours to get an idea of foraging areas but this was not part of the original objectives. However, we managed to get some insight into the movements of the Natterer’s bat who did not go too far from her roost site, the Bechstein’s bat who ventured a little further, about 2 to 3 kms or so from her roost site and some basic information about the Daubenton’s and the brown long-eared bat. The Natterer’s and the Bechstein’s bat followed the same routes and foraged in the same area during the week. However, none of them went as far as the Daubenton’s bat (Haugh Wood to Little Dewchurch).

Communication using walkie-talkies and/or mobile phones did not work very well in the terrain so this would have to be considered next year if we continued with the project.

We had access to 3 sets of radio tracking equipment; two bought from the grant money and one was borrowed from a team member, but unbeknown to the group there was a fault with the Yagi (loose connection) on the borrowed kit, so this may have affected some of the results of the projects.

The radio-tag came off the brown long-eared very early on, which may have been due to the adhesive and the warm weather making it easier to groom off, which was frustrating! However, we caught up with H6822 at September’s box check and she was in perfect condition. As the project still has one tag left, it has been decided to radio-tag another brown long-eared in 2017.

Reason for why the Daubenton’s bat was never found is a frustration and we were all very disappointed that we failed to track her down just 24 hours after she was tagged!

Some of the written notes from surveyors, including the Project Leader were not thorough enough or decipherable so trying to write up the report at a later date has proved difficult!

Woolhope Dome Radio Tracking and Car Transect Survey Project Expenditure

DATE	Item	Supplier	Amount
Titley Scientific			
12/08/15	2 × Australis 26K Tracking Receivers	Titley Scientific	2166.00
12/08/15	2 × AY/C Folding Yagi Antennas	Titley Scientific	430.92
12/08/15	1 × AO Omni Whip Aerial	Titley Scientific	87.78
12/08/15	2 × Anabat Express Bat Detectors	Titley Scientific	1254.00
12/08/15	2 × Anabat Express Extension Cables	Titley Scientific	75.00
12/08/15	Carriage Charge	Titley Scientific	24.00
Biotrack Radio Tags			
13/05/16	2 × PicoPip Ag337 Tags (~5 day life)	Biotrack	309.60
13/05/16	3 × PicoPip Ag317 Tags (~9 day life)	Biotrack	464.40
13/05/16	Carriage Charge	Biotrack	12.00
Car Transect Survey Incidental Expenses			
06/05/2016	2 × Rotating Amber Beacons	Lawson HIS	45.47
07/03/2016	2 × Camera Suction Mounts	Alpha Accessories Ltd	9.98
09/03/2016	Window display suction fasteners	eposgear.com	6.89
10/03/2016	2 × Foldback Bulldog Clips	Coleman	1.00
18/05/2016	2 × AA Battery Chargers	Maplin	49.98
18/05/2016	2 × 9L Boxes	Homebase	11.64
19/05/2016	2 × 0.55L Boxes	Homebase	5.98
31/05/2016	2 × Car Plugs	Maplin	11.98
Radio Tracking Incidental Expenses			
4/04/2016	Curved Scissors	EBay seller	4.55
4/04/2016	Spirit Gum	TeamPixie	8.50
5/04/2016	Chalk Markers	Amazon seller	10.49
7/04/2016	Mini-Sticks (10 packs)	Wye Angling	7.50
19/04/2016	Non-Adhesive Barrier Tape	EBay seller	3.05
18/05/2016	2 × USB Memory Sticks	Amazon seller	10.82
18/05/2016	Battery Soldering Iron	Maplin	9.99
18/05/2016	Batteries	Maplin	4.99
18/05/2016	0.55L Box	Homebase	2.99
18/05/2016	Ostomy Adhesive Solution	Lloyds Pharmacy	4.20
28/07/2016	2 × Pencil Cases	Wilko	2.40
TOTAL EXPENDITURE			£5,036.10