Finding Rare Species in the Malverns

FINDING RARE SPECIES IN THE MALVERNS
WBRC

HERITAGE FUND

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Worcestershire Biological Records Centre

Worcestershire Biological Records Centre

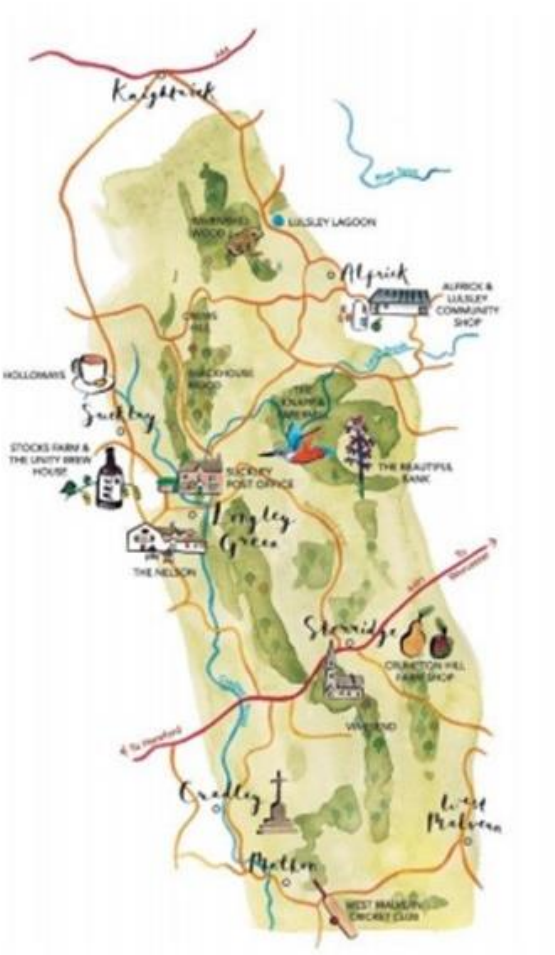
malvernhills
Area of Outstanding Natural Beauty

Herefordshire Biological Records Centre

Finding Rare Species in the Malverns

What did we want to happen?

We wanted to increase the number of skilled volunteers recording wildlife in a very specific area of the Malvern Hills Area of Outstanding Natural Beauty (AONB). This stunning landscape was significantly lacking in records and the AONB team felt that they were lacking up to date information about certain species that were indicative of the health of the wider environment.



Illustrations: Rosie Dexter

Worcestershire Biological Records Centre (WBRC) and the Malvern Hills AONB team identified a suite of species that could act as bell weathers for the health of the range of habitats found around the Suckley Hills. We set out to determine whether or not they were still present in meaningful numbers and whether there were any obvious issues that could be impacting on their ability to thrive. Analysing this data would give us the best possible chance to suggest areas where habitat management adjustments could be made for the benefit of so much of our stressed and displaced wildlife.

WBRC employed a part time project officer to co-ordinate and deliver the activity plan and be the face of the project in this close-knit community.

By working with local volunteers, local landowners and local community groups, we wanted to have the best possible chance to record these rare species as well as more common species and embed a culture of wildlife recording within the project area that would lead to an ongoing positive relationship with people living in the area, WBRC and the Malvern Hills AONB team.

What actually happened?

219 training or event places were filled during the life of the project, with 95 individual direct project participants.

26 additional volunteers from other groups took part in project activities.

8 expert volunteers gave their time to help directly with project delivery.

In total 3444 species records were submitted to WBRC during the life of the project. Of our rare species we received the following records;

- **23 Lesser Horseshoe bat**
- **14 Barbastelle**
- **4 Noble Chafer**
- **10 Redstarts**
- **3 Pied Flycatcher**
- **9 Spotted Flycatchers**
- **8 Lesser-spotted Woodpeckers**
- **6 Red-belted Clearwing**
- **4 Silver-washed Fritillaries**
- **2 White Admirals**
- **2 Purple Hairstreaks**
- **1 White-letter Hairstreak**
- **16 Dormice**

As a result of the project, the following activities have continued;

- **4** volunteers have taken on new butterfly transects
- **3** volunteers are regularly surveying for moths
- **12** volunteers are participating in dormouse monitoring
- **3** volunteers are actively surveying for bats with the project bat detectors
- **6** members of Cradley & Storridge Parish Council trained in Noble Chafer and Dormouse survey techniques have been actively surveying their parish

The details…

After being awarded the grant in February 2017 and following a competitive application process, Lucy Grove was appointed as the FRSM project officer in September 2017. Lucy had experience in dormouse monitoring and was a licenced dormouse surveyor and trainer, with experience in biological recording and community engagement projects.

Lucy began the project with a series of public engagement events, targeting local landowners, community groups and attending local fairs and shows to promote the project. She developed a programme of training and events that started almost immediately with dormouse and small mammal tracking events for the public. She engaged early with members of the local Mammal Groups and Bat groups and got them interested in taking part in the project.

Liz Etheridge joined the Finding Rare Species Team in September 2018, Liz undertook much of the outdoor element of the project and supported survey work. Volunteer training sessions were shared between her and Lucy.

Additional support was provided to the project officers by Andy Young, a very dedicated volunteer. His assistance greatly helped with the delivery of events and the training programme for the project.

Key areas of recording were worked up in conjunction with our professional bat ecologist, who contributed greatly to the project. Also, the mammal group took on Lucy's concept of the dormouse trail cameras and arranging contact with landowners and organising volunteers to check and move the cameras. This great voluntary effort meant that two major elements of data gathering were taken care of.

Subsequently Liz and volunteer Andy, were able to focus on developing a system to handle the admin and delivery of events planned for the duration of the project. The events worked well and the feedback was excellent. The level of work planning and organising them was something that far exceeded expectations but Liz and Andy maintained the programme well.

As the project developed, the training activities focused on bringing in more expert trainers to deliver activities, targeting the species and habitats which had been missed in year one and on volunteer training and support.

Andy did superb work in contacting landowners and gaining permissions for survey as well as responding to many of the emails for booking onto courses and surveys. Liz delivered the volunteer training events, with support from experts and liaison with Malvern Hills AONB.

Focussing on data recording and volunteer training worked really well. It was a clear ask of people, the species were well targeted to attract a mix of both local residents and experts and to give people a range of levels with which they could either begin or refresh their biological recording skills.

Over the two years, the project has made an enormous difference to the amount and level of data we have about this previously under-recorded area. It has also spurred people on to start recording wildlife, get involved in surveying for wildlife and increased their skills.

Lessons Learned

We have learned that two years is not enough to see the benefits of this kind of biological recording project.

We have learned that the approach is sound, especially in a tight-knit community with small-scale landowners.

A focused but flexible boundary meant that we were not tempted to stretch our project and spread ourselves too thin.

We have learned that this is a replicable approach and are exploring other places within the Malvern Hills AONB and across the county of Worcestershire where this would be feasible.

What could we have done better?

With more time, both in terms of the project officers being able to dedicate much more towards building contacts within the area, and in terms of length of the project, we could have built an extensive biological recording base in the area. This sort of project only really seems to develop in the second year, building momentum, just before it comes to an end, so being able to invest the time of a skilled person in a targeted area for more than two years would have really made an appreciable difference.

Activities

219 training or event places were filled during the life of the project, with 95 individual direct project participants.

In addition to this, we received support from

- **12** volunteers from Worcestershire Mammal Group
- **5** volunteers from Worcestershire Bat Group
- **3** members of West Midlands Butterfly Conservation
- **6** members of Worcestershire Recorders

In total 26 additional volunteers from other groups took part in FRSM activities.

We benefitted from the expertise of volunteers from the Worcestershire Recorders, Worcestershire Mammal Group, Worcestershire Wildlife Trust and Worcestershire Moth Group to deliver training, events and supported surveys.

- **2** volunteers from the Mammal Group lead training and events
- **2** members of Wildlife Trust staff gave their time to deliver training and survey events
- **2** members of Worcestershire Recorders delivered training
- **2** members of Worcestershire Moth Group delivered training, and **1** delivered regular supported surveys

That's 8 expert volunteers giving their time to help directly with project delivery.

LANDOWNERS

Having dedicated project staff and volunteers has meant we have been able to make contact and build relationships with some of the larger landowners in the project area. The Madresfield Estate own and manage a significant number of woodlands around the Alfrick and Suckley area and securing access into these relatively un-surveyed areas has been a real bonus for us and for the landowners.

On top of that, we have been able to work with many smaller landowners, undertaking habitat and species surveys and providing feedback to them about what we have found. This led to a number of new discoveries, notably pockets of species-rich grassland that were previously unrecorded and traditional orchards that had been missed in previous projects.

Through this very local and personal contact, we have been able to put smaller landowners in touch with members of the AONB team and also Worcestershire Wildlife Trust, for ongoing support and potential funding to enhance management of these rare and fragmented habitats.

We surveyed 13 new landowner holdings

- Baston Hall
- The Halvins
- Whitman's Hill Coppice
- Whitman's Hill Quarry
- Flaxlands Farm
- Alfrey Land
- High Wood
- Cother Wood
- Rough Hill Wood
- Bearswood Common
- Crew's Hill Court Meadows
- Mr Challis's Orchard
- Old Storridge Common
- Ravenshill Woodland Nature Reserve
- Woodruff Bank

Land resurveyed

- The Knapp and Papermill Nature Reserve
- Blackhouse Woods (dormice)
- Crews Hill Wood (all species and habitat)
- Old Country Farm, Mathon (orchard, Noble chafer, moths and bats)

New landowners in particular were supported with feedback from surveys, links to additional information and put in touch with the Malvern Hills AONB unit to pursue recommendations for management alterations in the future.

Trevor Smart, Owner of Ravenshill Woodland Nature Reserve:

"I was contacted by Lucy early on in the Finding Rare species project and was keen to get involved because I could see what a useful project it would be for the area.

As the project developed I soon realised that it was becoming very useful for Ravenshill Woodland Reserve. This was due to the fact that not only did the project help develop my own knowledge, but it also provided me with records and contacts.

The really useful thing has been the groups that have shown interest in continuing the recording of their specialist species going forward. e.g. moths, bats and bird ringing.

This I am sure will lead to other contacts being made and therefore producing records for the reserve that I could not have produced myself.

The one project I will be trying to develop myself is Dormouse monitoring, using camera bait stations. I think overall that the finding rare species project has been a success in many ways and I would be more than happy to use the reserve to help with any future projects."

VOLUNTEERS

We held **29** training and outreach events with **94** unique individuals attending. The number of people that have attended more than one of these events has been staggering and far beyond our expectations at the start of the project.

We also delivered **6** supported surveys with **22** individual volunteers attending these extended skills building sessions.

In addition to this, we enabled a further **29** volunteers to participate in new or existing survey programmes, **4** volunteers taking on new butterfly transects, **3** volunteers taking part in regular moth surveying, **12** volunteers participating in dormouse monitoring, **3** volunteers actively surveying for bats using the project bat detectors and **6** members of Cradley and Storridge Parish Council.

This has built a local network of skilled wildlife recorders, who for the most part actually live in the area and are actively recording.

It has also restored contacts between local naturalists and the biological recording community that had perhaps weakened over the previous few years, particularly with this area of the AONB straddling two counties.

We have developed a detailed survey resource pack for volunteers, highlighting locations, how to record target species and other wildlife, personal safety guidance and information for key contacts at WBRC.

There has been lots of behind the scenes volunteering taking place, particularly around organising events and activities, promotion, organisation of specialist surveying by groups and of course, entering and analysing the data that has come in to WBRC from the project area.

Andy Young has been a long-standing volunteer with WBRC, originally supporting the project with data quality analysis and records input. As the project developed, Andy stepped up and put his considerable negotiating experience to use in securing access to new land for volunteers to survey.

Andy also provided extensive administration support for the project, working closely with Liz to ensure that project participants were contacted in a timely manner and that records were updated and amended as needed. Andy also helped out with the delivery of events, supporting Liz on the ground in the project area and they became an excellent team, playing to each other's strengths.

Jean Young was also a stalwart support to the project but in a different way. Jean accompanied Liz on many site surveys, her skills in invertebrate identification have added a significant number of new records and her support enabled Liz to focus on ensuring the courses ran smoothly and that participants were safe and learning what they expected, while Jean made extensive records of the wildlife seen, something that Liz said she would have struggled to do on top of the training facilitation.

To say thank you to all our volunteers, landowners and stakeholders, we held a celebration event at the Hopshed Brewery in Suckley, the same place that we launched the project. Over 40 people came and we were able to share some of the wonderful things we had found, thank them for their enthusiasm and provide a vital networking opportunity for landowners, species specialists, local volunteers and members of the Malvern Hills AONB team.

It was a wonderful way to wrap up the practical part of the project, with the AONB team giving a very practical demonstration of exactly how the data that had been collected as part of the project would directly help them to target advice and support to landowners to benefit this incredibly beautiful part of the world.

DATA

Over the project duration we had **102** individual records of our rare indicator species compared to **104** records over the preceding 2 years. We expect that more records will come in, as some recorders only submit an annual return and others need time to conclusively identify the species seen.

From the map it is easy to see that records in the two years before the project were coming from a few key areas – Worcestershire Wildlife Trust nature reserves at The Knapp and Papermill, Crews Hill Wood and Blackhouse Wood. Two butterfly transects across these nature reserves contributed significantly to the numbers, especially for the Silver-washed Fritillary.

At the end of 2017, one of the butterfly transect volunteers moved out of the area and no one was able to take it on, so this may be one reason why we see such a significant drop in the number of butterfly over the project lifetime.

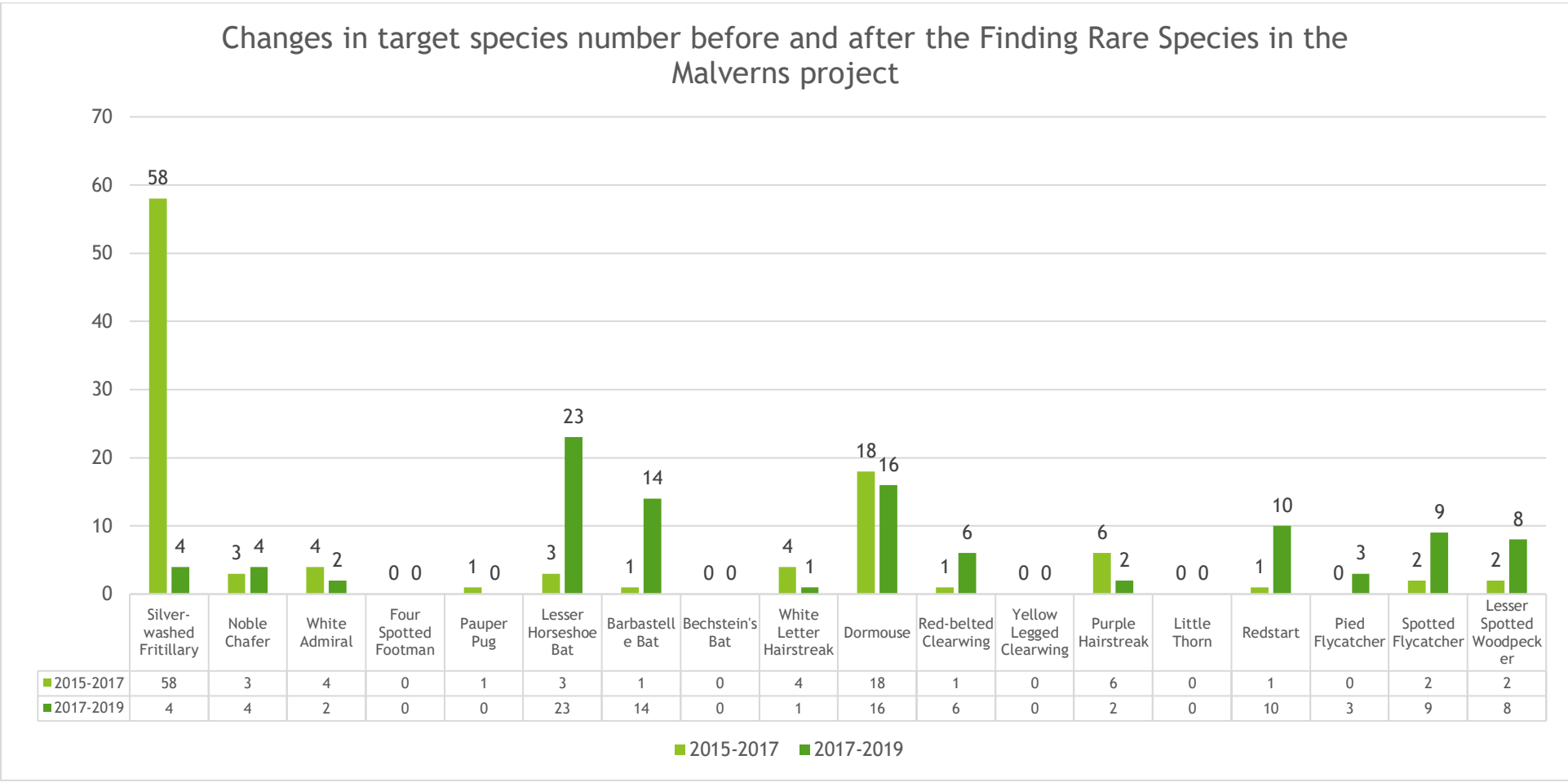
By the end of the project, the distribution of records across the area was much improved, with less of a focus around the nature reserves and more widespread across the whole landscape.

Ultimately, the question we wanted to answer was, are the rare species still present in the project area?

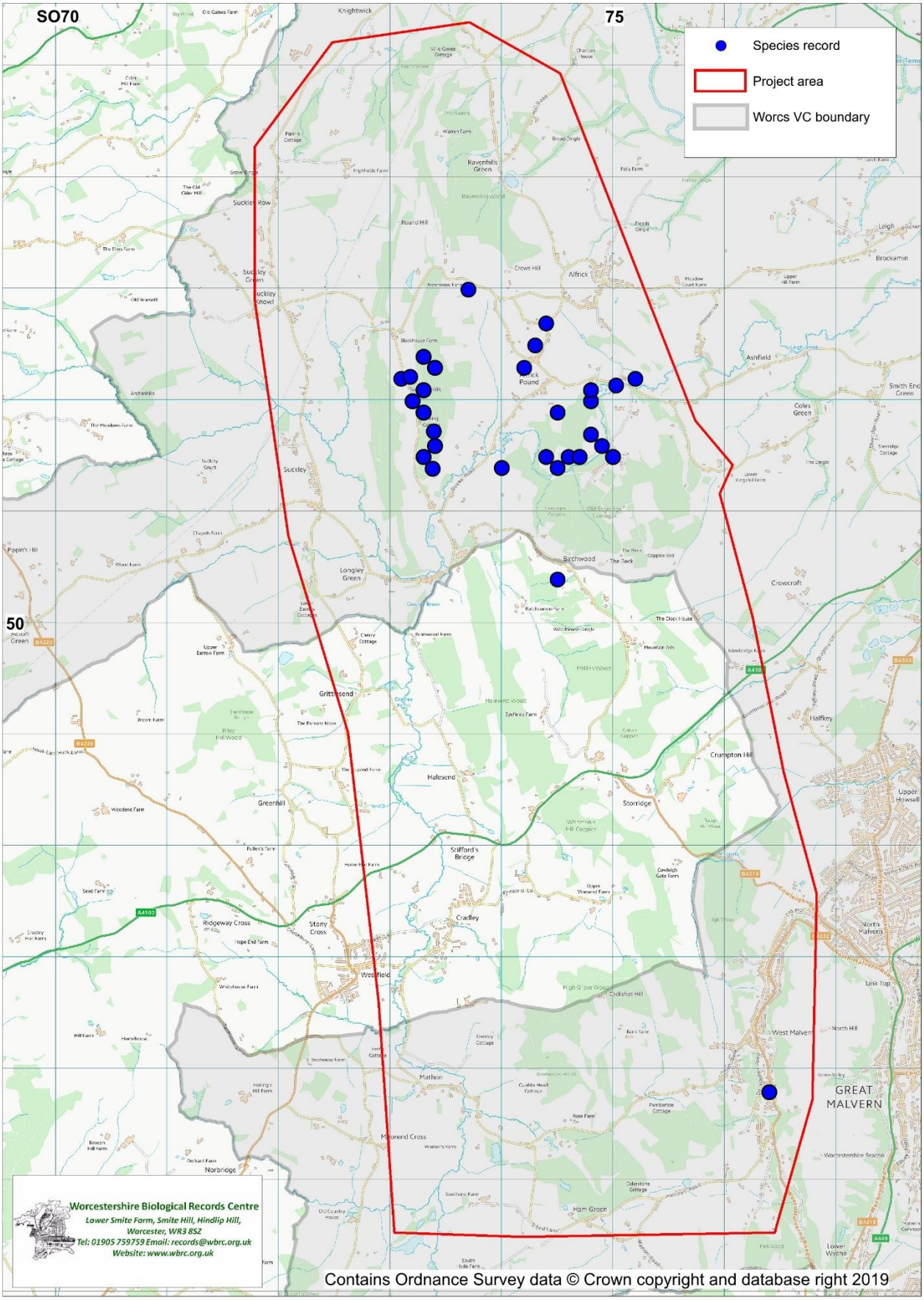
For most of them, the answer is yes. For our moth species, that answer is a less clear-cut maybe, but the data points towards their loss in this area.

One thing that has been confirmed is that ***these species are still rare***, we are not recording hundreds of them across the area, just a few each year. The numbers may be small, but they are significant.

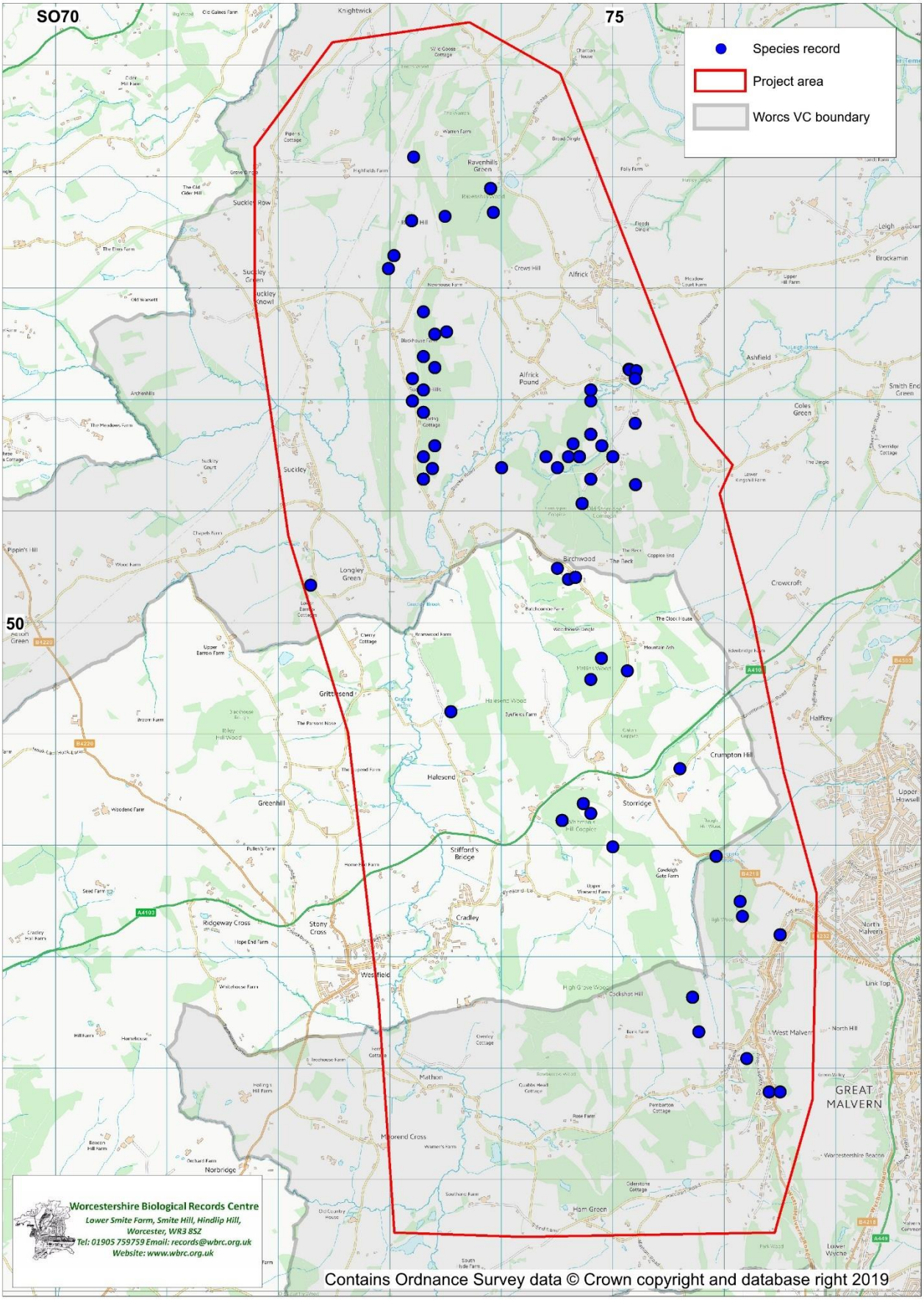
Our project has demonstrated that targeted biological recording effort is essential to give us the best possible picture of current wildlife health if we are to make informed land management decisions that ultimately will influence the survival of these iconic species.


Changes in target species number before and after the Finding Rare Species in the Malverns project
70
60
50
40
30
20
10
0
58
4
3
4
4
2
0
0
1
0
3
23
1
14
0
0
4
1
18
16
1
6
0
0
6
2
0
0
1
10
0
3
2
9
2
8
Silver-washed Fritillary
Noble Chafer
White Admiral
Four Spotted Footman
Pauper Pug
Lesser Horseshoe Bat
Barbastelle Bat
Bechstein's Bat
White Letter Hairstreak
Dormouse
Red-belted Clearwing
Yellow Legged Clearwing
Purple Hairstreak
Little Thorn
Redstart
Pied Flycatcher
Spotted Flycatcher
Lesser Spotted Woodpecker
2015-2017 58 3 4 0 1 3 1 0 4 18 1 0 6 0 1 0 2 2
2017-2019 4 4 2 0 0 23 14 0 1 16 6 0 2 0 10 3 9 8
2015-2017
2017-2019

All rare species records held by WBRC within the FRSM project area (2015 - 2017)



All rare species records held by WBRC within the FRSM project area (2017 - 2019)



The Species

The Bats

Lesser Horseshoe, Bechstein's and Barbastelle Bats

Bat records have increased dramatically since the project began. The purchase of an EchoTouch Pro bat detector and iPad has meant that volunteers have been able to survey and record bats, following training from our bat ecologist. The calls recorded were then verified by Jane Sedgeley-Strachan, our bat ecologist, before adding them to our records.

Our three core species were poorly recorded up until 2017, many records coming from licence applications for works to buildings where bat roosts were present.

Worcestershire Bat Group and Herefordshire Bat Group have both been very active, but as our project area straddles the two counties, it has been a bit of a "no-man's land" when it comes to bat records

Also, one of the key concerns about bats is the impact that their presence might have on proposed developments or works to habitats, as they are a European Protected Species and covered by strong legislation.

This can make some landowners and homeowners reluctant to allow speculative bat surveys to take place on their holdings, but generally we have found that within the project area, people have been keen to know what bats they have and how they can support the populations, rather than view them as problem.

Having a fully licenced bat ecologist and the support of the Worcestershire Bat Group meant we were able to collect high quality data and also provide our project participants with close-up experiences with bats that would not otherwise have been possible.

The Butterflies

White Admiral, White-letter Hairstreak, Purple Hairstreak and Silver-washed Fritillary

Butterfly recording in the project area had previously been focused on the Worcestershire Wildlife Trust Nature Reserves at the Knapp and Papermill and Blackhouse Woods.

Records were down over the previous two years, possibly due to a local butterfly recorder moving out of the area and the transect not being surveyed during 2018 and 2019. Summer 2019 wasn't the best for butterfly recording. Heavy downpours limited both the opportunities for surveying and the ability of the butterflies to fly, so whether this will be repeated nationally will come to light as more records are analysed.

Following butterfly identification training we have been able to connect four volunteers with Butterfly Conservation's local group in order to restart the transect at Blackhouse Woods.

They are also exploring possible other transect locations in the project area, highlighted by our landowner surveys. This includes woodlands owned and managed by the Madresfield Estate, Whitman's Hill Quarry and Coppice with the support of Herefordshire and Worcestershire Earth Heritage Trust. Another old transect route may potentially be restarted in Cother and High Wood in the south of the project area.

The Moths

Four-spotted Footman, Little Thorn, Pauper Pug, Yellow-legged Clearwing and Red-belted Clearwing.

Our moths have proved to be one of the trickier species groups to record. They were poorly recorded in the first place and we knew that they would be challenging. Lucy engaged with local moth recorders early in the project and ran a Morning of Moths event to show people what was involved in identifying both night and day-flying moths.

This led to the creation of a new moth monitoring group, taking place at Trevor Smart's nature reserve, Ravenshill, led by Oliver Wadsworth, a local expert and active supporter of the project.

To try and find some of the day-flying moths, we returned to the wonderful Old Country Farm, near Mathon, in the south of the project area. This patchwork of species-rich flower meadows and traditional cider orchards was ideal for many of the target species we were hoping to find.

Oliver Wadsworth was joined by another local moth expert, Tony Simpson, and together they employed pheromone lures across the orchards to attract different species of clearwing moth as well as using the more traditional survey methods of sweep netting and beating trays.

We were treated to an amazing display of Red-belted Clearwing moths being attracted to the lures almost instantly, but our other species continued to evade us.

This has led to a renewed effort amongst the moth recording experts to try and identify whether they are still present in the project area.

During one of our moth trapping events, one of our volunteers trapped a micro moth which was identified by expert Oliver Wadsworth as the scarce *Dichomeris alacella*. Previously the county had only a handful of records for this species, in low numbers. However, across the night many individuals were recorded and it became apparent that there was a thriving colony in the area.

The Noble Chafer

Surveying for Noble Chafer beetles is usually undertaken in winter, by searching for the frass, or poo of the larva, in the cavities of old fruit trees. This is a safe and non-invasive way of determining the presence of Noble Chafer in an orchard as the adult beetles are notoriously difficult to see during their flight time of high summer.

We delivered two frass identification sessions for volunteers, delivered by local experts Harry Green and Becky Lashley. The ambition was to train up local volunteers to be able to identify potential Noble Chafer orchards and be able to survey them for frass.

As the project developed, a new technique for surveying Noble Chafers became available to us through Harry Green's contact with the People's Trust for Endangered Species and their work on Noble Chafers. This involved using a pheromone lure to attract male beetles and was a relatively new way of surveying for their presence, so we had no real idea how effective it would be.

The pheromone was deployed in several Worcestershire orchards, with two in our project area being used to test out its success. While we didn't have any luck with our pheromone traps9, other surveyors did, which gives us hope that is will be an effective survey tool for the future.

However, we managed to attract a Noble Chafer without the aid of artificial scent! We were lucky enough to see this magnificent beetle up close in a wonderful orchard that had gone wild, thanks to the landowner who allowed us access to survey.

Through our work focusing on Noble Chafers we have managed to find a new Noble Chafer site and put the orchard owner in contact with both the AONB team, Worcestershire Wildlife Trust and Harry Green to ensure that he receives the help and support to continue looking after his orchard going forward.

Dormice

With Lucy's expertise in dormouse monitoring and surveying, this was an early success for the Finding Rare Species project. Lucy quickly organised nibbled nut hunts, showing local people how to identify a hazel nut that had been eaten by a dormouse, as opposed to a squirrel or wood mouse.

This proved to be a success as searching for hazel nuts is non-intrusive and does not require a license, whereas other forms of dormouse survey do require a specialist license from Natural England, which Lucy has.

We trained people in how to identify nibbled hazel nuts, but also were able to show people actual dormice, something many people will never be able to experience. Lucy worked with a number of different groups, including Worcestershire Mammal Group, University of Worcester students, Cradley and Storridge Parish Council and members of Worcestershire Wildlife Trust staff training towards their dormouse license.

Following some new research into the use of trail cameras to observe dormice, Lucy decided to deploy this technique across the project area in woodlands that were previously un-surveyed for dormice.

We purchased two trail cameras and bait stations which research had shown were attractive to dormice,

including honeysuckle essence, strawberry jam, peanut butter and of course, hazel nuts.

With the help of the Worcestershire Mammal Group, University of Worcester students and FRSM volunteers, the trail cameras were deployed across 10 woodlands over 5 months in an attempt to capture footage of dormice.

Unfortunately we didn't manage to capture any dormice on camera, but we did see deer, wood mice, blue tits and great tits. All we can assume is that our dormice are camera shy as subsequent nest box checks showed good numbers close to the trail camera locations.

The Mammal Group are keen to continue the trail camera approach for a range of other mammal surveys, so although we didn't succeed in filming dormice we have succeeded in securing mammal monitoring beyond the life of the project.

The Birds

Lesser Spotted Woodpecker, Redstart, Pied Flycatcher and Spotted Flycatcher

Birds are generally well recorded in the area, which is why we chose to focus on some of the more elusive species that we know are suffering from significant national declines.

We ran 4 workshops and 3 supported surveys, in addition to the British Trust for Ornithology surveys that were already taking place. Thanks to local BTO members, we were also able to run a bird-ringing event, showing local people how birds are carefully caught, measured and ringed and the importance of this in data collection.

Lesser Spotted Woodpeckers seem to be holding ground in the project area, unsurprisingly, the Worcestershire Wildlife Trust Nature Reserves in the north of the project area are supporting a small population.

Pied and Spotted flycatchers were doing well, anecdotal records of them nesting and breeding in people's gardens were pleasing - in fact we had planned to hold an event at a regular nesting site in the garden of one of our volunteers.

However, in 2019, the Spotted Flycatchers didn't arrive and this worrying trend seemed to be replicated across other nesting sites. Only time will tell if this is a longer term, systemic decline, or a one off response to poor weather or migration problems.

The Habitats

Traditional Orchards, Species-rich Grassland, Woodland and Ancient trees

We delivered a range of habitat survey and monitoring sessions, including woodland flora identification, grassland survey, orchard health assessments and veteran tree surveys across the project area.

From this, we discovered some wonderful new areas of habitat ripe for further survey and have been able to advise land owners about how best to manage these areas as well as sign posting the team at Malvern Hills AONB to target advice and support to these land holdings.

One particular land owner had been planning to “improve” one of his small fields, by adding fertiliser and reseeding it. As we were surveying this meadow it became obvious that this was a very special, flower-rich haven and that the proposals would dramatically change its character.

We were able to show the land owner there and then what species were present and also how special this meadow was and give him advice on how to manage and maintain what had previously been an unproductive corner of his land.

Local contacts also put us in touch with a previously unknown traditional orchard, where we successfully surveyed for Noble Chafer beetle. Again, we were able to put the landowner in touch with experts to enable him to get the advice he was looking for on what could be done to keep the orchard healthy for the future.

We were also able to survey Whitman's Hill Quarry, a totally different kind of habitat, ideal for restoration to species-rich grassland and a haven for butterflies, particularly those that like to bask on open ground. Butterfly Conservation have taken a keen interest in the site and are looking to work with the managers to bring it into appropriate management.

Acknowledgments

We would like to thank Worcestershire Wildlife Trust for their generous support in the use of the Knapp and Papermill Classroom and the support of their reserves staff in the delivery of many of our training courses.

Malvern Hills AONB team, especially Paul Esrich, the Partnership Manager, for championing the project and keeping our profile raised within the wider partnership and for all his advice regarding land owner contacts.

Worcestershire Recorders for their help and support in delivering training for our volunteers and their active surveying of new sites across the project area.

Worcestershire Mammal Group have gone above and beyond, taking on the dormouse monitoring with enthusiasm. We know they will carry on the legacy of the project and try and capture a dormouse on camera!

Worcestershire Bat Group have spent many late nights that ran into early mornings setting up and taking down bat monitoring equipment and have helped us record so many more bats across the area.

Our most grateful thanks go to the National Lottery Heritage Fund for funding this project and enabling it to reach out into such a special and fragile part of the Malvern Hills Area of Outstanding Natural Beauty. Your support has meant that we definitely know our rare species are still rare, but holding on, and now we understand where to target our actions to help them best.