40 YEARS | Vincent Wildlife
A Milestone in Mammal Conservation

The Vincent Wildlife Trust Newsletter November 2015 - Issue 8

The VWT celebrates 40 years of wildlife conservation

Forty years ago this month, the late Honourable Vincent Weir founded The Vincent Wildlife Trust. Vincent went on to become one of Britain's most remarkable nature conservationists – without fuss or fanfare he established some of our most successful national wildlife charities, privately funded several major conservation projects across Britain and Ireland, and supported a generation of young scientists in their academic studies.

From its inception in 1975, the VWT has gone from strength to strength. Today, it is one of Britain's leading mammal charities and a pioneer in the field of conservation-led research. The Trust's national otter and water vole surveys in the 1980s and 1990s highlighted the enormity of two wildlife disasters; in the case of the water vole it was just in time. Its expertise in bat roost management and roost design techniques has played a major role in safeguarding colonies of horseshoe bats in particular, and the Trust's more recent project to help the pine marten to once again flourish in the forests of southern Britain is an important step towards restoring a healthy woodland ecosystem.

Today, the VWT has a much wider conservation programme than in past decades. The Trust is still specialist and focused in its approach, but now actively takes advantage of opportunities to work on a variety of mammal species, with new funders such as the Heritage Lottery Fund, European Inter-regional Funding and charitable trusts.

Even in Britain there are still large information gaps and conflicts to resolve for many mammals, and as our landscape and climate continues to change so new challenges are becoming apparent.

Whatever direction is taken in the years to come, the Trust's long-held reputation for integrity, independence and innovation will shape the VWT's future, and the Trust will continue to deliver the conservation of British mammals for as long as it is needed.

Natalie Buttriss
Chief Executive, The Vincent Wildlife Trust

In this issue

Photograph: Otter © Frank Greenaway

Major financial boost for pine marten project

NATALIE BUTTRISS, CHIEF EXECUTIVE

We were delighted to announce earlier in the summer that the Trust's Pine Marten Recovery Project has secured £200k of vital financial support, helping to ensure the long-term funding of this six-year project aimed at restoring the pine marten to England and Wales.

Four partners have between them pledged £200k with £100,000 coming from Chester Zoo. The other three contributors are Woodland Trust, People's Trust for Endangered Species (PTES), and a private company called POLECAT, a corporate supporter of the Trust.

The securing of these partners early into the project is a major boost and a significant proportion of the £800,000 match funding needed to finance this £1.2M project. The funding partners will bring a wealth of expertise to the project including animal welfare and behaviour research from Chester Zoo, and woodland management and landscape knowledge from the Woodland Trust.

Initially this much-needed funding will be used towards community engagement, the transporting and releasing of the animals in Wales and on-going research to monitor the animals' movements and behaviours.

The Trust will be fundraising for the remaining £600k needed for the project over the coming years.

Photographs (top): VWT's Hilary Macmillan and Natalie Buttriss with staff from Chester Zoo, © Chester Zoo. (bottom) Pine marten © Terry Whittaker.

Here at the VWT, staff and trustees are committed to making the Pine Marten Recovery Project a success, ensuring that as a result of our efforts the pine marten population makes a recovery in England and Wales. If you share this vision and want to help with a significant donation, we would love to work with you.

Please contact: **nataliebuttriss@vwt.org.uk** or **tel. 01531 636441.**

Pine Marten Recovery Project

DR JENNY MACPHERSON, PINE MARTEN PROJECT MANAGER

After nearly two years of careful planning and preparation, the Pine Marten Recovery Project is coming to fruition and the first 14 animals have been moved from Scotland to their new home in Wales.

This is the culmination of an enormous amount of work by the team which has included field surveys to ensure that there is enough food and habitat to support a healthy population of pine martens; as well as fieldwork earlier in the year in Scotland to identify likely source populations.

There have also been meetings and other events in the release areas to hear what people think and ensure that the project works with the environment and has the support of the people who live there.

Pre-baiting began at the first trap sites in Scotland in mid-August and it didn't take long before the resident martens were taking advantage of the free food on offer. Trail cameras were set up at all the trap sites as part of the PhD research being carried out by David Bavin. This meant we could see for certain that it was martens taking the bait, although we also got some nice footage of red squirrels, mice and roe deer passing by.

Some of the camera footage shows two martens visiting the bait sites together. This is likely to be siblings born earlier this year, who have not yet dispersed to set up independent territories of their own. We have also seen some nice examples of scent marking behaviour on and around the trap sites. The martens seem to want to stake their claim to areas that are regularly replenished with peanuts and honey.

Photographs (top to bottom): Pine marten © Anne-Marie Kalus. Conducting surveys at potential release sites © Terry Whittaker. Marking a wood mouse during a pine marten prey survey © Terry Whittaker. Pine marten caught on trail camera © VWT.

Vincent Wildlife
Pine Marten Recovery Project

We are removing a small number of pine martens from each of several sites owned by Forestry Commission Scotland in the Highlands. This is to minimise any impact on the source populations: although pine martens are increasing in Scotland, this is still a species that is recovering from a severe decline and would be vulnerable to "over-harvesting". The animals for translocation are checked over by a wildlife vet and then transported to Wales the same day. Once they arrive in Wales, the martens spend a few days at the release sites in large pre-release pens that have been built by Chester Zoo, one of the project partners.

Whilst the animals are in the pens, they have the opportunity to feed up and get used to their new surroundings before being released. They are then being radio-tracked by the team in Wales.

We were fortunate to have Dr Johnny Birks and Dr Peter Turner with us at the start of trapping. Johnny and Pete both have a lot of experience of working with pine martens and their help and advice was invaluable. We also have a core of dedicated volunteers who have given up their time to work on the project both in Scotland and Wales, and we would like to thank all of them.

Photographs (top to bottom): Staff from VWT, Chester Zoo and Natural Resources Wales © Henry Schofield. Johnny Birks and Pete Turner setting one of the pine marten traps © Henry Schofield.

Catherine McNicol - new PhD student

I am delighted to be welcomed into the VWT collective, and what better way than to be involved in the Pine Marten Recovery Project. I have just started a PhD investigating the impacts of pine marten on grey squirrels in Wales. This three-year PhD is a collaborative project involving the Environmental and Sustainability Institute at the University of Exeter, Forestry Commission and of course the VWT.

It has been suggested that pine martens may negatively impact grey squirrel populations, thus benefiting red squirrel recolonisation. This project aims to understand if there really is a relationship between grey squirrels and pine martens. Grey squirrel response to marten introduction will be monitored through methods of behavioural and spatial ecology including GPS collaring squirrels during and after the release period. I will also be performing pine marten dietary analyses to understand if grey squirrels play a role in marten diet. I hope to continue working closely with the VWT pine marten team over the coming years.

Radio-tracking pine martens in Wales

JOSIE BRIDGES, PINE MARTEN RESEARCH ASSISTANT
& DAVID BAVIN, PINE MARTEN PROJECT OFFICER

Patience and persistence are words that have become synonymous with pine marten in my opinion over the last two months. Add in exhilaration and frustration in equal measure and you could pretty much be reading the minds of the radio tracking team since that cold and damp morning when the first two Scottish pine martens were finally welcomed on to Welsh soil! To me (Josie), as a new recruit, it has all seemed to have happened amazingly quickly, but in reality years of planning by some very hard-working people have been behind all of this, and I have just arrived for what I consider the most enjoyable bit.

All of our animals are fitted with a collar before they are released and this collar produces a radio signal that we can pick up with our antenna and receivers. Each animal is on a different frequency so we can tell immediately which marten has produced the much anticipated 'bleep' that registers. We then take two GPS locations with compass bearings that triangulate exactly where the animal is at that moment in time. Simple in theory but these unpredictable little mustelids seem to have mastered the talent of picking territories that cause the signal to bounce between valleys or be blocked by craggy outcrops.

Since pine martens are considered nocturnal animals, to follow their movements we spend much of our time working at night. However, we have found it useful to start in the afternoon whilst there is still some daylight, as not only does this make it easier to move around the often challenging Welsh terrain, it means the animals are more likely to still be asleep. This ensures the animals are not moving around and so a more accurate triangulation can be calculated.

Photographs (top to bottom): Pine marten © Iain Leach. Pine marten in tree © Iain Leach. Radio-tracking for pine martens © Josie Bridges. Pine marten © Terry Whittaker.

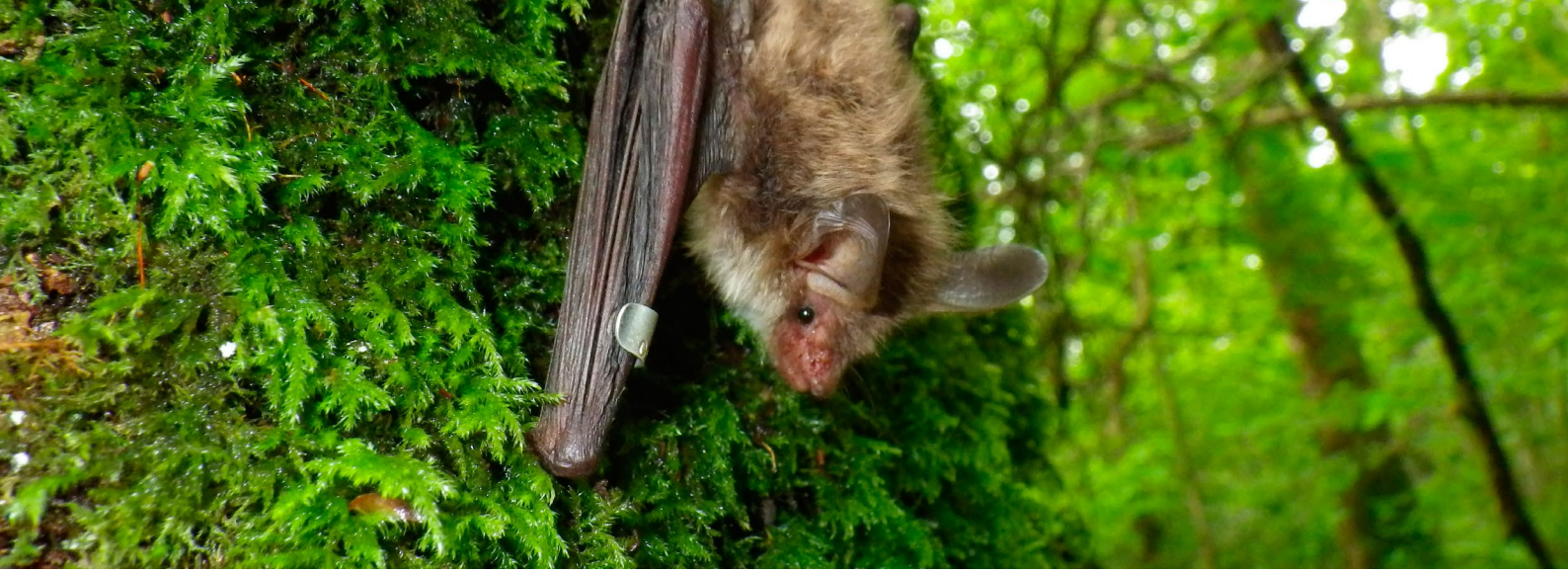
The time not taken up with tracking has been devoted to moving the soft release pens to new locations with the help of Chester Zoo who designed and built the pens for us. Fortunately the pens flat-pack nicely on to the back of a truck, so it is a case of dismantling, moving, reassembling and then 'furnishing' the pens with logs, trees, moss and other marten-friendly home comforts. There is also a den box that has been positioned in the vicinity of the pen, with the hope that, once released, the martens will make their home there. One of the most enjoyable parts of working as part of the Welsh contingent is that every day we feed whichever animals are in the release pens that week and watch the footage of the marten's behaviour the night before. It is a great way to show the animal's personality as each individual has its own habits and own preferences for what food it eats first, although the honey we hide in logs has been met with universal approval.

There have most definitely been some challenging and tiring times so we have learnt to embrace the little victories. One highlight was finding the first suspected scat from one of our recently released martens. Stereotypically for pine martens, it was in the middle of the path and passed the 'sniff' test, so we await the results from the lab with anticipation. Another exciting moment was catching a glimpse of PM02, a.k.a Penny, crossing the road in front of our car one evening, and most recently finding our missing PM01 after a long search. Huwdini really did live up to his name!

Photographs (top to bottom): Example of furnishing a pine marten release pen © Josie Bridges. Installing a pine marten den box © Josie Bridges. 'Sniff' testing a scat © Josie Bridges.

Read more about the Pine Marten Recovery Project at: http://www.pine-marten-recovery-project.org.uk/

You can donate to the Pine Marten Recovery Project on the **project website** or via **Facebook**. Donations of any amount are hugely appreciated and will be used towards the recovery of the pine marten in England and Wales.



T7324: The report of my death has been greatly exaggerated...

COLIN MORRIS, NATURE RESERVES MANAGER

Back in the December 2014 newsletter, in my article about our Bechstein's bat ringing work at Bracketts Coppice, I mentioned that the Bechstein's bat with the ring number T7324 had most likely gone to the 'great tree-roost in the sky'. Imagine my delight when in July 2015 she was back in one of the bat boxes. Not having seen her for over 14 months is a great mystery and throws up several possibilities as to what might have happened. Bechstein's bats bred early in 2014, so did she give birth and move back into the trees before I could recapture her or did she breed in the trees? Another scenario might be that she moved to another woodland altogether.

In the first 14 years she had given birth to a single baby on ten occasions, the first when she was two years old. Only in 2004 and 2006 did she not have a baby.

This year (2015), she didn't have a baby and her breeding success rate suggests that she may have given birth 'somewhere else' in 2014. Also, because no 'un-ringed' bats have turned up, it also suggests if she did give birth it was a male offspring. The reasoning behind this is that once weaned males leave the woodland and are never seen again (or very rarely). Of course this is only speculation and the missing 14 months will remain a complete mystery. Two other old ladies continue to return to the boxes to breed: bats T7326 and T7358 have had nine babies each and have been recaptured on 39 and 40 occasions respectively.

Photographs (top to bottom): Ringed Bechstein's bat © Sarah Guest. Studying the condition of a Bechstein's wing © Steve Rowe. Bat boxes at Bracketts Coppice © Frank Greenaway.

Kestrels *(Falco tinnunculus)*

During 2015, on the rock-face above one of the reserves in Devon, a pair of kestrels successfully raised three chicks. In July, I watched as all three chicks took their first flights; the take-off and flights were pretty uneventful, but on 'crash-landing' into some ivy, one of the fledglings took a small tumble down the cliff before managing to hold onto some rocks.

Devon Greater Horseshoe Bat Project

COLIN MORRIS, NATURE RESERVES MANAGER

The VWT is assisting the Devon Wildlife Trust (DWT) in promoting the greater horseshoe bat through the DWT's 'Devon Greater Horseshoe Bat Project'. With 14 nursery sites, Devon is the major stronghold of the species in Britain. A Heritage Lottery Fund grant was awarded for the development stage and a second funding bid has just been successful, ensuring the project's long-term future.

This DWT project includes:

…Working with landowners: securing a future for greater horseshoe bats in Devon relies on those who own and manage the habitats where these bats live. The project will offer support to land managers - from helping to ensure roosts are looked after, to helping farmers manage parasitic worms; from recreating flower-rich grasslands and hedges to financial support for long-term management.

…Bringing bats to people: how much do you know about greater horseshoe bats? The people of Devon have helped this fantastic species to thrive there for centuries, whether they knew it or not. The project will help Devon's communities to learn about their night time neighbour, and offer opportunities to celebrate and support the bats: from classroom activities to sowing a wildflower meadow; surveying to building a roost.

…Improving our knowledge: we know a lot about this enigmatic mammal, but there is so much still to learn. Citizen science surveys will give local communities and individuals the opportunity to play a leading role in increasing understanding of how the greater horseshoe bat uses the landscape around its roosts. The project will also commission work on habitat analysis, to understand more clearly what features the bats are using and then use this information to guide the project's work with landowners.

Photographs (top to bottom): Greater horseshoe bat © Frank Greenaway. Colin Morris fitting the live 'bat-cam' at VWT's Rock Farm Roost © Devon Wildlife Trust. A snapshot from the live 'bat-cam' © Devon Wildlife Trust.

There is a great website to visit and bats can be seen via a live 'bat-cam' located at the VWT's Rock farm bat roost. Visit **http://devonbatproject.org/** and click on the 'live bat-roost' triangle.

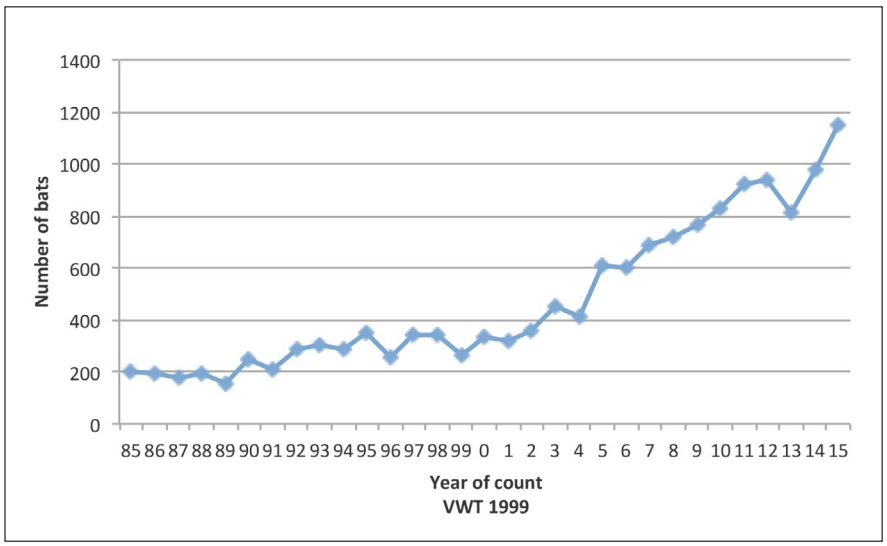
One thousand bats - and counting!

DAVID JERMYN, RESERVES OFFICER FOR WALES AND THE MARCHES

One of Vincent Weir's great passions was safeguarding the future of greater and lesser horseshoe bat colonies and their roosts by setting up bat reserves for each of the two species in Britain and Ireland.

With this in mind, Vincent would have been thrilled to hear that the Trust's premier lesser horseshoe bat reserve has for the first time broken, and in fact smashed, the 1000 animal barrier. We had hoped to sneak over the 1000 mark in 2015 as we came so close in 2014 with 980 animals, so celebrations were called for after the second emergence count on 16th June when Jon, my helper of many years, and I experienced an eye-watering count. We were amazed to see the final figures on our talley counters: 485 and 667 respectively, adding up to a tremendous total of 1152!

Cheers Jon, thanks for all your help over the past decade. Here's to the next milestone at this internationally important reserve – 1500 bats - a figure that may arrive sooner rather than later!



Graph: The peak summer emergence counts at the Trust's premier lesser horseshoe bat reserve.

Photographs (top to bottom): Lesser horseshoe bat in flight © Frank Greenaway. Lesser horseshoe bat roosting © Frank Greenaway. A Snapshot from the bat webcam installed in the roost.

Today, the roost is one of the largest lesser horseshoe bat colonies in western Europe. The counts clearly show how positively the lesser horseshoe bats have responded to the Trust's enhancement of the coach house in which they roost.

You can see the bats on the batcam installed in this roost at **http://www.vwt.org.uk/our-work/bat-reserves/**

Spotlight on Rose Cottage

DAVID JERMYN, RESERVES OFFICER

In the old county of Glamorgan in south Wales, the Trust manages two important horseshoe bat roosts. One of these is Rose Cottage on the Gower Peninsula which is home to a rare colony of lesser horseshoe bats (*Rhinolophus hipposideros*). This bat roost is located within a small block of broadleaved woodland, adjacent to a large expanse of forestry.

The cottage was damaged by fire in the late 1970s and the burnt out shell was then used for storage and to house a pig. It is thought that it was around this time that the bats moved in to their new home; probably a displacement from another nearby roost which had been destroyed or developed.

The roost was discovered by the Glamorgan Bat Group in 1997 and at the time was home to around 120 bats. In 1998, a report by the then Countryside Council for Wales (CCW) showed that the site was the largest lesser horseshoe colony on Gower and in Glamorgan and the tenth largest in Wales. In early 2002, CCW (now part of Natural Resources Wales) notified the reserve as a Site of Special Scientific Interest as an important breeding roost of the lesser horseshoe bat. In the autumn of 2002, the Trust purchased the freehold of the site.

Phase one of the refurbishment took place in early 2003, with the following repair and enhancement works being undertaken: stone gable wall rebuilt, front porch added, the exterior rendered, rainwater goods fitted, three grilled bat exits installed, remaining windows blocked up, roof repairs, first floor ceilings and floors reinstated, site cleared of rubbish, boundary fences erected and vehicular access created.

Photographs (top to bottom): Lesser horseshoe bat © Frank Greenaway. Rose Cottage in 2002 prior to major repair work © John Messenger. The gable wall of the cottage was found to be structurally unsound as a result of the earlier fire © John Messenger. South -west elevation – front with bat exit points via porch and first floor window, top right, spring 2003 © John Messenger.

Photographs (right): North-east elevation – rear, showing bat / human access point © David Jermyn. Following phase two enhancement works © David Jermyn.

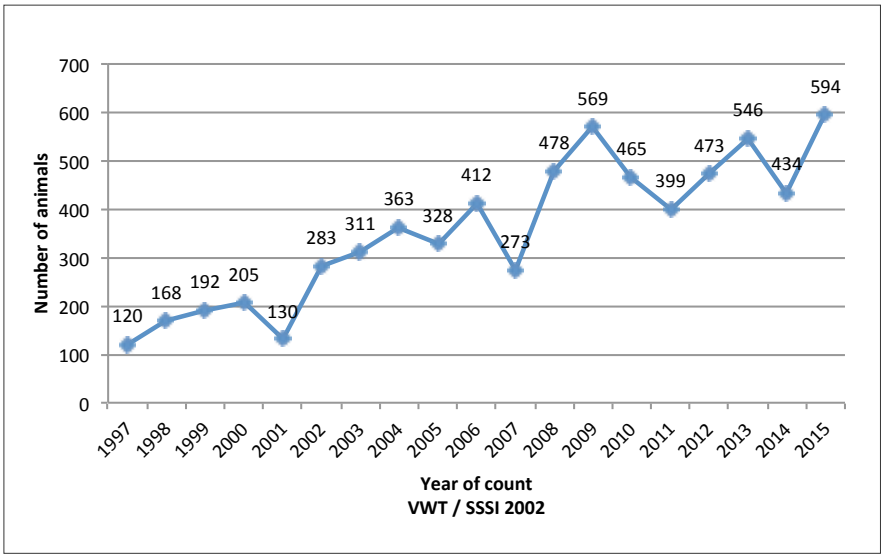
As the original roof void in the cottage was small in volume, it was decided that the area of the roof should be greatly increased by adding a double pitched roof to the adjoining lean-to. This additional enhancement of the roost would hopefully benefit the bat colony in the long-term. This has turned out to be the case - see graph below. So in June 2003, a planning application was submitted and was thankfully successful. This meant that phase two of the enhancement works took place in early 2005, with the first floor timber extension being added to the ground floor lean-to.

The peak summer emergence counts show how positively the lesser horseshoe bats have responded to the VWT's acquisition and enhancement of the old cottage. 17 years on from that initial CCW report, the colony remains the largest on Gower. As of 2014, the colony was the 5th largest in Wales out of 180 roosts counted and the 7th largest in the UK out of 305 roosts counted (Bat Conservation Trust, 2015).

As well as the lesser horseshoe bats, the other bat species recorded on the site include small numbers of brown long-eared bat, Daubenton's bat, greater horseshoe bat and pipistrelle bat sp.

Although the reserve is small in area a number of other fauna species have been recorded, namely otter, dormouse, grass snake, slow worm plus numerous bird and insect species.

In memory of Mike Evans - Reserve Warden 2004 - 2011. Thanks also to Pam Evans who worked with her husband Mike and who continues to help with the summer monitoring at Rose Cottage. This is much appreciated.



Graph: The peak summer emergence counts for the lesser horseshoe bat at Rose Cottage reserve.

Deptford Pink *(Dianthus armeria)*

In addition to colonies of bats, the Trust also has a number of other rare species residing on some of its reserves. The Deptford Pink, *Dianthus armeria*, is one such species and is included on Schedule 8 of the Wildlife and Countryside Act and Section 41 of the NERC Act. The Deptford Pink underwent a rapid decline during the 20th century and is one of Britain's rarest plant species. Although a very small, easily overlooked plant, its bright 'Barbie-pink' petals are quite exotic. The flowers close at night, so seeing them in anything but bright sunshine is very difficult. South Devon remains one of the principal areas for this species, and the area around Buckfastleigh includes nine discrete localities where it has been recorded since 1990. This includes one of the VWT's reserves. Alongside an ecologist from The Dartmoor National Park Authority, the Trust is managing parts of the reserve for this very special plant.

Study Tour of Bechstein's bat in Luxembourg and Germany

DR HENRY SCHOFIELD, CONSERVATION PROGRAMME MANAGER

Studying the behaviour and ecology of Bechstein's bat, *Myotis bechsteinii*, has been a focus of the Trust's work since the 1990s. Following our ground-breaking radio-tracking study into its habitat use, which laid the foundations for our current understanding of Bechstein's bat ecology, we are conducting an on-going long-term ringing study of the species. Earlier this year we started a joint PhD project with the University of Exeter, with the aim of developing techniques to determine ways of monitoring population change in Bechstein's bat, something that has yet to be achieved for a tree-dwelling bat species.

In recent years, the European hub for the ecological research on Bechstein's bat has been in Luxembourg and western Germany. We were fortunate to be invited to the continent in June this year to meet up with Jacques Pir and Markus Dietz, two of the key bat researchers working on this species. We were interested to find out more about their survey techniques, the results of their extensive radio-telemetry studies and their current conservation initiatives. Patrick Wright (PhD student) and myself were joined by Chris Damant of Bernwood Environmental Conservation Services for the tour.

We met up with Jacques at his home in Luxembourg City and spent an evening visiting the only greater horseshoe bat colony in the country. This may seem strange for a tour that was focused on Bechstein's bat, but Jacques is an old friend of the Trust and we had worked together on horseshoe bats in the early 1990s. It was interesting to revisit the site after more than 20 years and see how he had modified the roost and some of the landscape scale conservation initiatives that had been undertaken to protect the colony.

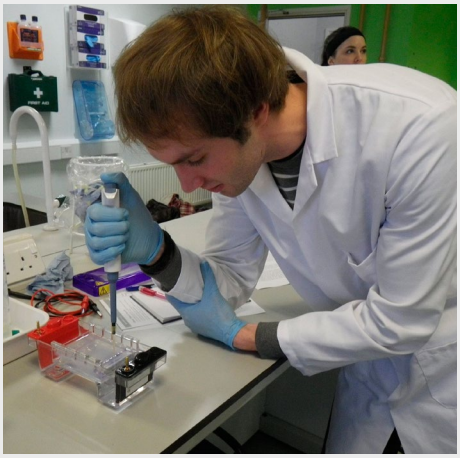
Photographs (top to bottom): Bechstein's bat © Frank Greenaway. Patrick, Jacques and Chris © Henry Schofield. Patrick and Jacques counting the greater horseshoe bat colony in Luxembourg, Greater horseshoe bat © Frank Greenaway.

The following days were spent visiting the site of Jacques and Markus's Bechstein's bats study sites in the east of Luxembourg and along the Rheine Valley near Wiesbaden. It was a great opportunity to compare the types of woodlands used by this species on the continent with those in Britain, take part in some of Markus's team's survey work and to discuss the species at length.

From a British perspective, we think of classic Bechstein's bat habitat to be old growth oak woodlands with a well-developed understorey. On the continent they were using old growth beech woodland, although the bats were still mainly roosting in oak trees scattered amongst the beech. This is a problem for our continental colleagues, as the oaks are of more commercial value than the beech and there is pressure to selectively fell them. To overcome this problem in Germany, they have a local off-setting scheme where communities agree not to harvest the oak trees and are financially compensated for their loss. The other feature of the continental Bechstein's bat woodlands, to our eyes, was the lack of a well-developed understorey. This gave us great pause for thought; maybe the beech woodlands of the Chilterns could be harbouring colonies of Bechstein's bats? Something that Chris will be following up with surveys in 2016.

Many thanks to Jacques and to Markus, his family and staff, for their hospitality and company during our visit. It was a fascinating study tour.

Photographs (top to bottom): Markus and the group during the visit to a Bechstein's bat study site © Chris Damant. Bechstein's bat woodland © Henry Schofield



Patrick Wright - PhD student

Patrick Wright is now 10 months into his PhD. His project uses a combination of molecular and ecological approaches that will be used to implement optimal conservation strategies for the Bechstein's bat in Britain. After a busy summer collecting DNA samples with the help of dedicated bat groups and ecologists, he is now analysing a Bechstein's bat genome that was sequenced for this project in order to develop a wide array of molecular markers. He will then analyse the numerous samples collected in the labs of Exeter University before it is time to collect more samples in the spring.

VWT's Bat Box Project in Ireland

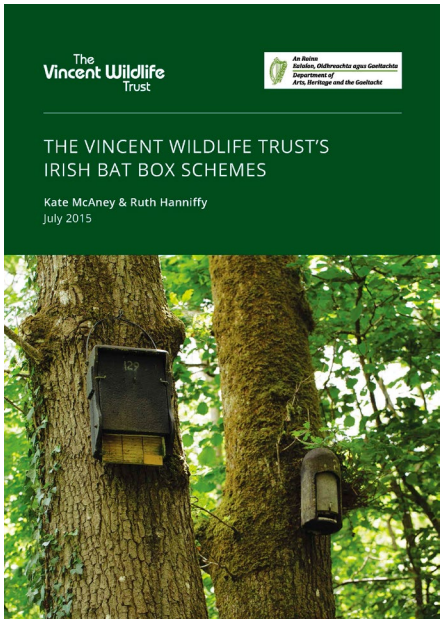
DR KATE MCANEY, MAMMAL DEVELOPMENT MANAGER (IRELAND)

'Do you ever find different species using the same bat box?' asked the conservation ranger one day as I climbed up the ladder to open a Schwegler 1FF box. I replied that I hadn't in the past, thought it unlikely but said anything is possible when it comes to wildlife. I was glad I had added that last comment as the box at the top of the ladder had a Leisler's bat tucked in at the top left hand side and a brown long-eared bat in the opposing corner. I thought they looked as surprised as me at being found sharing accommodation.

This is just one of the many observations we made during 7,370 box inspections at a number of schemes we have had in place in Ireland since 1999. Thanks to a grant from the Department of Arts, Heritage and the Gaeltacht this spring, we were able to conduct analysis of the data collected over the years and the results are presented in a report that is available to download from our website.

Regular readers of our newsletter will know that when it comes to bat boxes and the VWT, the expert is our colleague Colin Morris. For many years Colin has presided over all the VWT bat box studies, which has involved 68,715 inspections of 3,024 boxes on 1,410 trees in 52 woodlands in England, Wales and Ireland. Although information from the Irish boxes was included in a detailed study undertaken of all the VWT bat boxes in 2006, we thought it was time to look at the Irish dataset again. We set out to achieve the following six aims: create an Irish dataset from the main VWT dataset; evaluate this for evidence of factors influencing occupancy of the boxes; undertake statistical analysis of these factors to assess their significance; conduct a review of other Irish bat box studies; survey ecological consultants for their input on the use of bat boxes as mitigation measures; and make recommendations for future schemes.

Anyone familiar with data collection and storage will know that there is often a lot of 'cleaning up' to be done before tests can be run and our experience certainly bore out this fact. But this task, often extremely frustrating, was worth the effort. As is often the case when reviewing a piece of work, it can quickly become evident that had things been done slightly differently at the outset, more could have been learned and this was the case here. But, as the reason for our erecting bat boxes in the first place was to determine the presence of the barbastelle bat in Ireland, rather than to compare and contrast box types or habitats, we succeeded in learning quite a lot, though we didn't find a barbastelle. Due to the difficulty in accurately separating soprano and common pipistrelles, because we only rarely removed bats from the boxes, we grouped these two species as *Pipistrellus* spp. The other species we recorded in addition to the already mentioned Leisler's and long-eared were Natterer's, Daubenton's and whiskered.



Download **'The Vincent Wildlife Trust's Irish Bat Box Schemes'** report.

Photographs (top to bottom): 1FF bat box in Portumna Forest Park © Ruth Hanniffy. Long-eared bats © Kate McAney. Leisler's bat © Kate McAney.

We were able to test if the different species were selecting a particular model of bat box in one wood where we had equal numbers of 1FF and 2FN boxes. We discovered that *Pipistrellus* spp. preferred 1FF boxes that offered crevice-like roosting conditions and they showed a season preference with more bats present later in the season and, although the number of bats recorded in the boxes gradually increased with time, the numbers using the boxes stabilised in the latter years. Pipistrelles also preferred boxes located close to water.

Brown long-eared bats preferred 2FN boxes that mimic holes in trees, their natural roosting sites, but they showed no seasonal pattern to their use of the boxes. Leisler's bat didn't exhibit any preference for box model but did show a clear seasonal pattern, with more bats present in the autumn. Visual observations of Leisler's and pipistrelle bats in autumn confirmed that these species were using the boxes as mating sites, as sexually active males were observed, either alone or roosting with individual or small groups of females.

In common with other bat box studies, we observed that many of the 2FN boxes were used as bird nesting sites in spring and thus inaccessible to bats, and we would concur with other researchers that modifications are needed to this model and also to the 1FW model to exclude birds.

We were interested to find out how successful bat boxes are as mitigation measures as we were aware that many had been erected in association with road schemes in recent years. So, we carried out a short online survey of consultants asking questions about the type of box used, location and post development monitoring. We received responses from eight sources, seven of which had recommended the erection of boxes as alternative roosts for loss of existing ones during development works. Schwegler boxes were the most common type of box used and, where species identification was possible, were used by common and Nathusius' pipistrelles, brown long-eared and Daubenton's bats. But, the most common remark received was the lack of post-erection monitoring.

We hope our coverage of previous studies and a discussion of guidelines for future schemes in Chapter 4 will be useful for anyone planning to erect bat boxes in the future.

So, what can we say about the initial aim of the study, which was to find a barbastelle bat? We suggest a reading of the scientific paper published by Buckley *et al* in 2011 who conducted a systematic detector study for this species, which led to the authors concluding that while it is impossible to prove its absence, there is currently insufficient evidence to state that it occurs in Ireland. We are very grateful to the staff of the National Parks and Wildlife Service, ecological consultants and members of bat groups for providing us with data and to Dr Colin Lawton (National University of Ireland Galway) for providing reference material on a number of the woods.

Photographs (top to bottom): Soprano pipistrelle © Kate McAney. Grounded bat box with bird's nest inside © Kate McAney. Checking a 1FF box with a torch © Kate McAney.

References

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Poland – the return journey

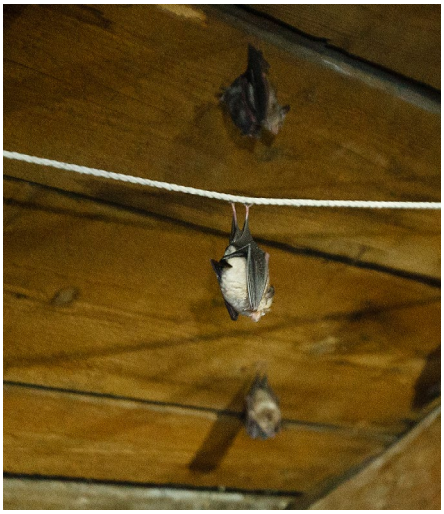
RUTH HANNIFFY, IRELAND PROJECTS SUPPORT OFFICER

In February, the team behind the Polish EU Life project Podkowiec+ visited the Brecon Beacons, to see the modifications to our lesser horseshoe bat (*Rhinolophus hipposideros*) reserves. In July, Henry, Colin and I embarked on the return visit! Armed with limited Polish and our złotys, we met Roman, Renata and Raphał in Krakow. Our visit took us to some of the most beautiful landscapes in south eastern Poland, where we marvelled at both the scenery, and the scale of the achievements of the eleven-strong team.

Since 2013, Podkowiec+ has catalogued all the traditional wooden churches – the preferred maternity roost of the lesser horseshoe bat - in five administrative regions. After determining which churches provided horseshoe roosts, they began repair work where it was necessary - in some cases the entire copper roof needed replacing! Alterations included installing hot boxes within the roof space to provide temperature variation, using baffles to keep out light and providing suitable emergence points. Motion sensor cameras are deployed in many roosts and the team have installed infrared emergence counting mechanisms in the bell tower in Leluchów – you didn't need infrared to see how impressed we were by those!

Raphał and the team undertake regular emergence counts at each roost. It is crucial to develop a harmonious relationship between the daily routine of the church, and the presence of the colony. There have been challenges, such as inspecting a known roost to see new flood lights, discovering netting over windows that act as emergence points, or finding that the tall trees proving a dark, protective commuting route to the surrounding countryside have been cut down. Each church and its land are designated as a Special Area of Conservation, but building and maintaining a connection with the priest and congregation are essential. One key aim of the project is "changing the public image of bats, convincing the local communities that bats are a valuable natural resource and deserve protection".

Photographs (top to bottom): Colony of greater mouse-eared bats © Ruth Hanniffy. VWT staff and Podkowiec+ project team © Ruth Hanniffy. Church at Leluchów © Ruth Hanniffy. Traditional church in Sądecki Ethnographic Park © Ruth Hanniffy.



Photographs (top to bottom): Lesser horseshoe bats at Ojców National Park headquarters © Ruth Hanniffy. Cave at Ojców National Park © Ruth Hanniffy. Henry Schofield being interviewed at Wierchomli Wielkiej © Ruth Hanniffy.

Travelling north of Krakow, we reached Ojców National Park. This is a strictly protected land of forests, castles, limestone canyons, cliffs, river valleys and artefacts dating back to the Stone Age. It has a highly diverse flora and fauna, and its 630 caves provide hibernacula for 19 species of bats. Here a colony of lesser horseshoe bats roost in the attic of the park's headquarters. The team needed to count the colony, and showed us how they modified the entrances to block out light, and we visited the different areas used by the bats all with different thermal conditions. Temperature was not a problem in Poland in July, however, as while it was hot outside, the attic spaces were akin to a dusty sauna (though I couldn't complain about the heat having come from the typical West of Ireland summer)! Safeguarding the caves used by the horseshoes in winter is an important part of the project. This is accomplished using heavyweight cement filled metal grilles – quite a task to transport, install and monitor deep within a cave on a steep wooded hillside.

Reluctantly, leaving the park we journeyed to Nowy Sącz, situated south east of Krakow. Over the coming days Raphał, Renata and the team inspected many churches in the surrounding countryside, counting lesser horseshoe bats, as well as – excitingly for us – greater mouse-eared (*Myotis myotis*) and Geoffroy's bat (*Myotis emarginatus*).

We marvelled at the beautiful architecture of the churches, from Catholic to Orthodox. At each one we kitted up - boots, head torches and cameras, and quietly climbed up steep ladders and along cavernous roof spaces and domed ceilings high above the pews below. Climbing higher into one the bell towers gave us a 'bat's eye view' of the surrounding landscape.

Podkowiec+ project offices are in Wrocław, three hours north west of Krakow and four hours from Novy Sącz. Picturesque Leluchów on the Slovakian border is five hours from HQ. Safeguarding the churches and undertaking colony counts is logistically very demanding for the team, and put the sheer scale of the operation into context for us.

Undoubtedly the hosts with the most, Renata, Rafał and Roman took us south along the Slovakian border close to the Tatra Mountains. There amidst the mountains and steep forests of the wild Pieniński National Park, we rafted along the beautiful Dunajec River to the resort town of Szczawnica - a tradition that dates back to mid 19th century. Our accommodation was at the Sądecki Ethnographic Park, where original buildings have been rebuilt into a Galician town from the 19th century.

We did need to earn our pierogi however, so we joined the entire project team for an emergence count at the church in Wierchomli Wielkiej. In addition to counting and filming at the various exits, people would be stationed with bat detectors along the commuting routes leading away from the church up into the surrounding hillside. We were a lesser horseshoe bat SWAT team with a job to do! Maps were unrolled and studied, equipment was set up, bat detectors were distributed and we were each allocated a job and a position. Local media turned up, and, as the evening drew in, Henry Schofield was interviewed about the project and The Vincent Wildlife Trust for the local television station. To add to the atmosphere, a youth mass was taking place inside the church - the airs of 'Gabriel's Oboe' drifting into the evening air only adding to the magic. We took our positions. Then darkness fell and after a group photograph on the church steps this inspiring team dispersed back to Wrocław, their enthusiasm and dedication infectious! Is it too soon to visit again?

You can read more about Podkowiec+ at: http://podkowiecplus.pl/index.php/en/about-the-project

Update on the VWT National Polecat Survey

LIZZIE CROOSE, MUSTELID CONSERVATION OFFICER

The Trust's third national polecat survey has now been running for over 18 months and is nearing completion. The main aim of the survey is to gather up-to-date information on the current distribution of the polecat as the population continues to recover from a severe historical decline.

The pattern of records received so far this year matches that of last year and is related to the polecat's annual activity patterns. During December, January and February, months when polecats (as well as people recording them!) are least active, we received the fewest records. Then in March, the number of records received trebled, with most of these comprising road casualties: this time of year is the polecat's mating season and male polecats are moving around more in search of females, which sadly results in many being killed on the roads. Following this, the number of road casualties declined and the number of live sightings increased, as the breeding season began. I found my first lactating female of the year on 12th May (sadly a road casualty) and polecat kits were reported outside of the den from the middle of May; a sure sign that the breeding season was underway. Over the summer we have been really lucky to receive some wonderful photos and videos of polecats, including several of polecat families, as the kits accompany their mother on hunting trips.

To date, we've received over 1,400 records and 230 carcasses for further research (see more details below). Encouragingly, we've had records of polecats in several 'new' counties, where polecats became extinct over 100 years ago and are now returning. It seems that the recovery of the polecat continues to be a conservation success story. Our survey continues up until the end of this year, after which we will collate the results and publish them in a report. This will include an up-to-date distribution map for the polecat. The report will be freely available on our website.

Photographs (top to bottom): Polecat kit © Nikki Charlton. Polecat with a piece of bread © Chris Beirne. Polecat kits © Charlie Maddox. Polecat caught in live cage trap and released © Lynne Lomax.

We are delighted to have established a PhD research project, in collaboration with Exeter University and the Centre for Ecology and Hydrology (who are kindly administering the polecat carcass postage scheme and storing the carcasses for us). This project will investigate potential threats to and issues arising from the recovery of the polecat. Of particular interest is the question of how secondary rodenticide poisoning (which occurs when polecats eat poisoned prey such as rats) and hybridisation with feral and domestic ferrets affects polecats, and what effect it may have on the future recovery of the population. We have appointed a PhD student, Katie Sainsbury, to carry out this research, and she started her research in September.

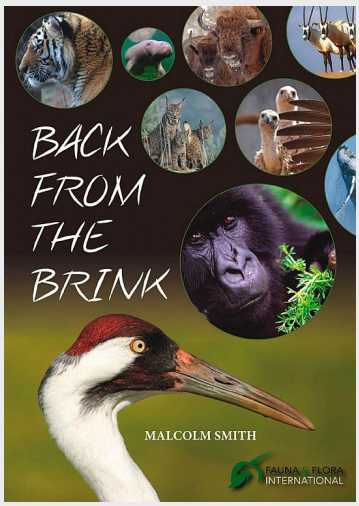
If you see a polecat or find a dead polecat, please remember to report it to us by emailing **enquiries@vwt.org.uk** or phoning **01531 636441**.

Photographs (top to bottom): Polecat in garden © Clare Griffiths. Family of polecats in a field © Clive Sawyer.

Katie Sainsbury - new PhD student

Hello everyone, I'm Katie and I've just started a PhD on Polecat Recovery in Great Britain. This project is a three-year collaboration between the VWT, Centre for Ecology & Hydrology and University of Exeter and I'm proud to be the first recipient of the Vincent Weir Bursary for PhD studies, which was established in honour of the VWT's founder.

My project will use a mixture of natural and social sciences to quantify some of the key threats to polecats as their population continues to recover in Britain. Examples of threats might include: secondary poisoning effects from consuming prey poisoned by rodenticides, polecat-feral ferret hybridisation and potential for human-wildlife conflict as polecats expand their range into new areas. I will be using the carcasses collected from the VWT's 2014-15 National Polecat Survey to analyse the level of exposure to second generation anti-coagulant rodenticides on polecats across their range - thank you to everyone who has provided one!



A GOOD READ:

Back from the Brink, by Malcolm Smith

with Foreword by Mark Rose, CEO, Fauna & Flora International

Back from the Brink is an antidote to a world that seems full of stories of wildlife doom and gloom. This book is full of positive stories of animals once threatened with extinction having their fortunes reversed: the humpback whale, once in seemingly terminal decline because of commercial whaling, now recovering naturally; the reinstating of damaged or destroyed habitats helping predators such as the enchanting Iberian Lynx; and the gorgeous large blue butterfly extinct in England by the 1970s now thriving thanks to the incredible investigation that unravelled its complex living requirements, a lesson in detection that would have challenged Scotland Yard's finest. This book will be of immense appeal to everyone with an interest in nature, wildlife and conservation and who enjoys a good read!

Dr Malcolm Smith is a biologist and former Chief Scientist at the Countryside Council for Wales and an avid follower of the VWT's Pine Marten Recovery Project. He is a prolific writer on wildlife, environment and travel.

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