Newsletter | October 2013

Vincent Wildlife News

When we first started compiling these e-newsletters, it was our intention to put them out every six months. Quite honestly we have been so busy since last November that a spring update wasn't possible and before we knew it 12 months had flown past!

This year has been a whirlwind of new projects, new leaflets, new staff and new volunteers. The ability of staff to keep up with the ball juggling, along with the long hours of intensive summer fieldwork, never fails to impress me. I managed to sample just five days of said fieldwork this year – four days in the sunny Scottish borders and just one day in a wet Welsh woodland – and came back from both exhausted!

This year we have been improving our communication materials helped by our in-house designer, Helen Kidwell who, working with Hilary Macmillan has done a marvellous job in creating a fresh look to all our publicity materials. I hope you like them, including our new annual review which summarises our work in 2012 and which we intend to produce every year to complement the fuller statutory accounts.

Our conservation strategy document is also finalised and available on-line. This has really focused our thinking as to where best to put our time and resources. For example, we have recently sold the woodland that we owned in Devon. After several years of data collection this woodland was deemed less important to greater horseshoe bats than we originally thought.

Some of the proceeds from this sale will fund much needed work for a new feasibility study into the release of pine martens in England and Wales. I had pleasure in launching this study recently which is a very exciting phase for The Vincent Wildlife Trust. It means that we may one day be able to enjoy pine martens in areas of the country where they have become locally extinct or scarce, and I for one will be out there looking for them!

Natalie Buttriss, Chief Executive Officer

Mustelids

Bats

Other

Recovery of the pine marten in Scotland - good news from a recent survey

By Lizzie Croose, Projects Support Officer

In the last newsletter, we reported on a recent survey we had embarked on to record range expansion and recovery of the pine marten population in Scotland.

The pine marten population in Scotland has been recovering since the mid-20th century following a severe historical decline. This recovery and change in distribution patterns was evidenced in wide-scale surveys in 1980-1982 and 1994, both of which documented the marten's initial range expansion from the Highlands.

In 2012, the VWT, in partnership with Scottish Natural Heritage (SNH), carried out a pine marten 'Expansion Zone Survey', that aimed to provide reliable information on current patterns of pine marten distribution by surveying the area beyond the pine marten's previously recorded post-decline range.

The survey methodology involved surveying for pine marten scats in 1km transects in woodland. Scats were then DNA tested by Waterford Institute of Technology to confirm the species (marten scats are commonly confused with fox scats when identified based on morphology). Records were also gathered from Biological Records Centres, researchers and naturalists.

*A full report of the survey can be downloaded from the **Resources** page of our website.*

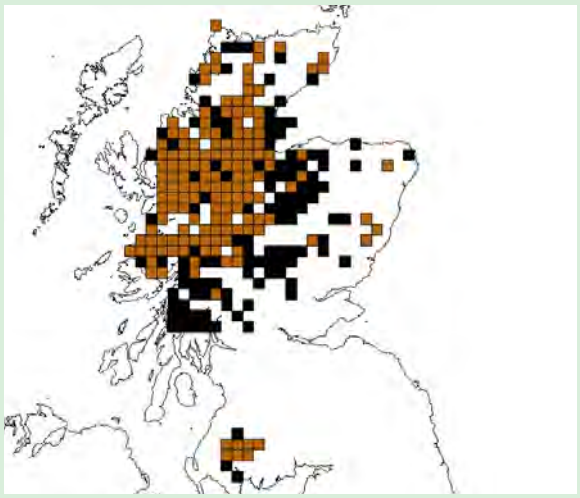
Photo: *Pine marten © Colin Smith*

The results show that the pine marten has continued its range expansion beyond the previous core Highland stronghold and now occupies many lowland areas from which it was extirpated over 150 years ago (see maps on next page). This recovery has undoubtedly been aided by the legal protection afforded the species under the Wildlife and Countryside Act (1981) and the increase in forestry cover in Scotland during the last century (from 5% in 1900 to 17% in 2010).

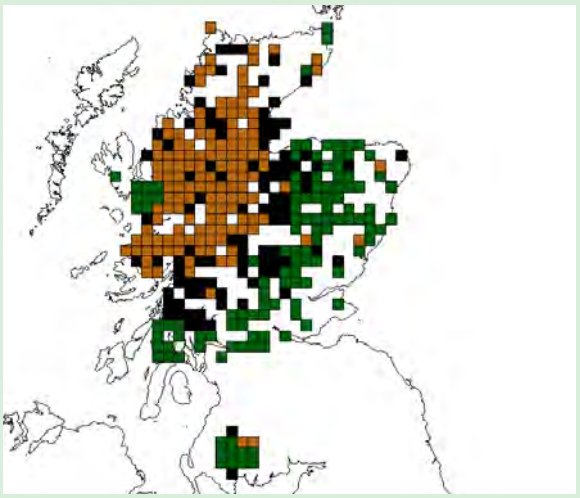
Martens are now present in parts of Sutherland and Caithness, throughout Moray, Deeside and the Cairngorms, southern Argyll, the Trossachs, Stirlingshire and limited parts of Angus and Fife. Pine martens have begun to colonise Skye, since the bridge from the mainland was built in 1995, and are now present on the Isle of Mull through inadvertent translocation.

The most unexpected result was that pine martens now occur in parts of the Scottish Central Belt, on the fringes of the Glasgow conurbation; a welcome surprise to local conservationists and foresters in the area.

Distribution Maps



Pine marten distribution as indicated by the 1980-1982 survey (brown grid squares) and the 1994 survey (black grid squares).



Pine marten distribution as indicated by the 2012 survey (green grid squares).

Following on from the 2012 survey, this year we embarked on a second phase survey that focused on determining the distribution of pine martens in southern Scotland, looking at the area that hadn't been covered during the previous survey.

This research has confirmed the presence of pine martens at several sites in the Scottish borders in which martens had not previously been recorded (not shown on the distribution maps here). Some of these records are within close vicinity of the English border and the population here may provide an important mechanism for the re-colonisation of the species in the north of England, where martens are very scarce. There is also some evidence that the core marten population is spreading south through the Central Belt.

The pine marten is the first of Britain's native carnivores to make a substantial recovery in Scotland after suffering complete or near-complete anthropogenic extinctions.

The recovery is cause for celebration and it is heartening that this species, although still absent from most of England and Wales, is now a real wildlife success story in Scotland.

The report of the Phase 2 survey, including an updated pine marten distribution map, is due to be published in early 2014 and will be available to download from the SNH and VWT websites.

Photo: *Pine marten © Vernon Mackie*

People & Pine Martens in Wales

By David Bavin, Project Officer

Our ‘People & Pine Martens in Wales’ project has almost reached its halfway point, and is moving ahead at full steam!

The project has a number of aims, some geared towards the practical side of monitoring/detecting pine martens and working on habitat improvement, whilst other targets are focussed more towards advocacy, education and raising awareness, all of which are important. The ultimate goal, lest we lose sight of it, is to restore pine martens throughout their former range in Wales.

The main objective of the habitat improvement work involves installing den boxes, which compensate for the lack of appropriate tree cavities that martens require for safe resting sites and breeding. We have so far installed 59 boxes! The idea is to create a ‘stepping stone’ network between the two hotspot sites of Brechfa and Maentwrog, which have been identified from sightings over the years as the most likely areas of persistence.

Photo: *Erecting pine marten den boxes*

Photo: *Our project officer, David Bavin, collecting a possible pine marten scat*

Sighting reports are our intelligence; they are critical for targeting the monitoring and detection work, and we have produced both posters and leaflets to spread the word. We have also achieved some quality media coverage: we had a feature article in BBC Wildlife magazine and a half hour piece on BBC Radio Wales’s Country Focus programme with Rachel Garside. Welsh presenter Iolo Williams has also been interested in the work and has urged the public to report sightings through his latest documentary. This is what we need: more eyes open, but more importantly, more people who recognise the plight of pine martens in Wales and understand what we are trying to achieve and why.

Trying to find pine martens is very tricky indeed, and we have thrown all we have at it: hair tubes, camera traps, snow tracking, volunteer scat surveys, detection dogs. It is just a matter of working through the areas from which they have been reported over the years. And if we don’t find any, it won’t be a disaster. It will just prove how in need of intervention the Welsh population is, if it is to avoid complete extinction. We will continue to work tirelessly over the next year to push the pine marten up the agenda, and pave the way for its recovery in Wales.

Irish mustelids making the news

By Kate McAney, Mammal Development Manager (Ireland)

Two new publications on Irish mammals were circulated this year, one at the beginning of the summer on the Irish stoat in Galway and one this autumn on how to exclude pine martens from game and poultry pens.

The stoat leaflet provides information on how to recognise this fast moving mustelid, its history on the island of Ireland and summarises the data collected on the occurrence of the species in County Galway during 2010. The publication of this leaflet was supported by Galway County Council.

*Our new publications are available to download for free from the **Resources** page of our VWT in Ireland website.*

Photo: *Cover of our new stoat leaflet*

Since October 1st, the Irish stoat is the focus of a four year PhD research project by Laura O'Flynn at National University Ireland Galway under the supervision of Dr Colin Lawton. This is the first long-term study of this species here since the 1980s and the VWT is delighted to be involved with this. Laura's research aims to provide crucial population dynamics for the species in Ireland, as well as information on habitat requirements and differences between the Irish stoat and reported demographics of stoats living in other geographic locations. She will be testing various monitoring techniques, including non-invasive methods, and will be appealing to the general public for help. We will pass on any requests from Laura on our Irish website, so keep an eye on that.

Our second Irish publication provides practical measures that game and poultry keepers can take to protect their fowl from pine marten predation. The title of the new booklet is '*How to exclude pine martens from game and poultry pens*' and it was launched at the National Ploughing Championship in County Laois on Wednesday September 25th by the Minister for Arts, Heritage and the Gaeltacht, Mr Jimmy Deenihan, T.D.

Although still a rare mammal, the pine marten is spreading into new areas of the country as it recovers from its major population decline of the last century, but this is bringing it into conflict with some poultry farmers and game bird keepers. This issue was conveyed to both the National Parks and Wildlife Service and the VWT at their stands at the 2012 ploughing championships. Fortunately the VWT had addressed this issue in Scotland in the 1990s by publishing a pamphlet by Elizabeth Balharry that gave practical advice to game keepers. Balharry's pamphlet formed the basis for the new Irish leaflet, which was financed by Notice Nature (www.noticenature.ie).

Photo: *Cover of our new leaflet 'How to exclude pine martens from game and poultry pens'*

Since the launch hundreds of copies of the leaflet have been distributed to regional game councils in the west and midlands, with members of local gun clubs showing a genuine interest in implementing the measures described to keep martens out of pens.

Photo: *Dr Ferdia Marnell (NPWS), Minister Deenihan and Kate McAney (VWT) promoting the leaflet*

Last autumn, we reported on the release of two rehabilitated pine martens in Letterkeen wood in North Mayo. Work is now underway by Dr Derek McLoughlin to prepare a report on the findings of the short radio-tracking study undertaken on the two animals, so hopefully we will be able to provide that report in a subsequent newsletter.

Since August, we have been collecting hair samples from the same woodland as part of a study by Dr Catherine O'Reilly, based at Waterford Institute of Technology.

Catherine's laboratory has been conducting research on the pine marten for several years, but had little information about the genetic makeup of pine martens west of the River Shannon. We linked up with Catherine this autumn to provide her with hair samples from five woodlands where martens were known to occur. In each woodland four or five hair tubes were attached to trees and baited with chicken wings (supplied by a local butcher who was very amused by the order!). The tubes have two sticky patches at the base that collect a small amount of hair from the marten as it wrestles to retrieve the meat. I check these tubes each week and carefully remove any hair samples (and any fresh scats I spot).

Photo: *A hair tube used to collect hair samples from pine martens*

All sample material is frozen until posted off to the lab (friends staying with me are gently directed away from the top shelf of my freezer). The tubes are then re-baited and new patches fitted. In Waterford the samples will be genotyped and compared with already existing samples from the rest of the country.

Thankfully, good hair samples have already been obtained from Letterkeen and, as hairs were collected from the two animals released last year, it might just be possible that we will pick up evidence that PM1 and/or PM2 are still alive and well. Doesn't everyone like a happy ending?

Bats in Belgium

By Colin Morris, Nature Reserves Manager

Earlier this year, I was invited on a three-day visit to Belgium to help further improve my bat identification skills (I thought I was pretty good until I worked with the Belgians), particularly the difference between Brandt's (*Myotis brandtii*) and whiskered bats (*Myotis mystacinus*), which from the outside are pretty much identical. It was also an opportunity to enhance my mist-net skills and work with species that are not recorded in the UK.

Tuesday 20th August, flight to Brussels. 0900hrs I'm immediately thrown into work: finding the roosts sites of three Geoffroy's bats (*Myotis emerginatus*). A few days earlier my Belgian colleagues had mist-netted and tagged three bats, and we were on a mission to find out where they were roosting. The first of our bats was found in a newly built house, under a large open porch in the village of Veerle. The tagged bat was one of several bats roosting in the porch, all in very exposed and light places.

We then drove several kilometres to a Farm Museum in the town of Bokrijk. The museum had many old farm buildings that had been relocated and rebuilt from other areas of Belgium. It didn't take long to find the building where our second bat was roosting: a long, low building with a traditional roof covered in thatch.

Bat number three was found by one of the Belgian bat workers who had hired a small plane: although expensive at 100 Euros an hour, it can be a very cost-effective way of finding a bat species that can fly many km per night. The bat was discovered in less than an hour, over 20km from where it was originally

Photo: *The largest colony of Geoffroy's bats ever discovered in Flanders*

tagged. On the ground this same bat worker has fitted a bespoke 'tracking system' to his ageing VW Estate car. A tall 5-element Yagi aerial slots into two planks bolted together across the opened sun-roof. This allows him to drive and swing the aerial around at the same time! It is helped by the fact that the car is automatic!

The owner of the site where bat number three had been found took us to a barn. We climbed a ladder and there was a gasp with excitement; above us could be seen a big cluster of Geoffroy's bats and a significant pile of droppings. In Belgium they use photographs to count Geoffroy's bats as they hang free from roof timbers, rather like our horseshoe bats. Later, they count the total number of animals from the photo. I later found out why everyone was so excited: with 422 animals, it was the largest Geoffroy's bat roost ever discovered in Flanders. All this and it still wasn't time for lunch. This was the start of a fascinating three days. Watch out for the next instalment.

Lights, Camera, Action!

By David Jermyn, Reserves Officer (Wales)

Managing the Trust's premier lesser horseshoe bat roost in the Usk Valley comes with many a challenge.

One dilemma is keeping the site private while on the other hand wanting to show off its inhabitants to the outside world, but without causing disturbance to the resident bat colony. One idea generated at an early Our Beacons For Bats project meeting, which would keep the parties on all sides happy, was to install an infra-red camera system that would upload live pictures to our website.

Initially numerous site meetings were had with the relevant utility providers and the owner to determine whether the proposed project was a goer. Once the green light was given by the owner and various utilities, the necessary permissions were obtained and the services (power and broadband) were installed over the winter of 2011-12 followed by the camera system.

We had a hit and miss first season with the camera, what with the bats turning out to be camera shy (they do say not to work with animals) and the camera then deciding to give up the ghost. It was certainly challenging but unperturbed a decision was made to give it another go.

Over the winter of 2012-13, a new camera was installed in another part of the roof void. With the volume of the roost over 1000 cubic metres, the bats have plenty of different places to roost. This made the decision to relocate the camera that little more testing in view of our experiences during the first season.

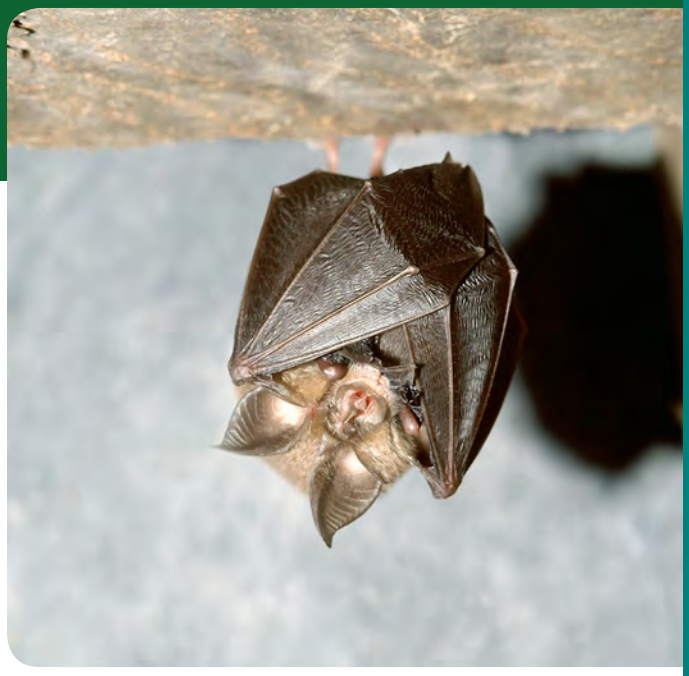


Photo: *Lesser horseshoe bat © Frank Greenaway*

The head scratching as to where to relocate the camera paid off; as soon as the bats came out of hibernation and returned to the roost we had some activity on the camera, albeit small numbers at the beginning. As the season progressed the numbers of bats appearing on the camera steadily grew and by mid-summer on some days around 100 lesser horseshoe bats (about 10% of the colony) could be seen.

*If you would like to view the inhabitants of our premier lesser horseshoe bat roost click **here**. Happy viewing!*

Photo: *A still shot from our camera at the bat roost*

Horseshoe bat monitoring - Summer 2013

By David Jermyn, Reserves Officer (Wales)

This year's emergence counts have produced a mixed bag of results.

Despite the cold, late spring, initial counts looked promising, with a few sites recording record counts and others the highest counts they have had in several years. However, some of our larger colonies saw bat numbers well down on last year, some by as much as a third. Was this decrease a result of the cold, late spring? At some sites other factors (hornets, interaction with greater horseshoe bats and nearby woodland operations) may have been the cause of the drop in numbers. Only ongoing monitoring and time will tell!

Brilliant bats and moths

By Jane Sedgeley,
Our Beacon for Bats Project Officer

To celebrate International bat Night on August 31st this year, the Our Beacon for Bats Project held a joint event with Cadw ably assisted by the Brecon Moth Group. Promoted by Cadw as 'Brilliant Bats', the evening more than met expectations.

Photo: *Visitors use bat detectors on a guided bat walk led by Jane Sedgeley*

Tretower Court is a beautiful late-medieval fortified residence with the remains of an earlier castle close by. Nestling in a wooded river valley with the backdrop of the Black Mountains, it is a brilliant location for bats indeed.

A talk featuring the bat residents of Tretower Court, a twilight tour around the inside of the building, an introduction to moth-trapping and a guided bat detector walk around the grounds proved to be a winning package. With no interior lighting or electricity, the Court was very atmospheric, and Hayley, one of Cadw's custodians really brought its history to life. During the tour we discovered a brown long-eared bat roost and as we left the building we were lucky to have glimpses of lesser horseshoe bats flying up and down the corridors. In the grounds outside, we encountered soprano and common pipistrelles, Natterer's bats and Daubenton's bats. Children were absolutely fascinated by the moth trapping. Thank you very much to Norm and Chris from the Moth Group and to Rob for helping with the guided walk.

The whole event was a really successful example of partnership working and illustrated how bats in historic sites can add value to the visitor experience. We all enjoyed it so much we're planning another event for next year.

**Cadw is the Welsh Government's historic environment service working for an accessible and well-protected historic environment for Wales.*

Impact of Street Lighting Project

By James Baker, Research Assistant

The Impact of Street Lighting Project (ISLP) has continued over the summer with a set of surveys around greater horseshoe bat roosts to compliment the lesser horseshoe roosts studied last summer. Again, a huge data set has been collected using full spectrum SM2 detectors and these data are currently being sorted and analysed including evaluating the new sound analysis software Kaleidoscope Pro.

Subsequent to remote detectors being deployed around roosts, Julie Day (PhD student) has conducted transects by bicycle in small towns and villages across Devon. This survey method aims to identify how the implementation of part-night lighting regimes will affect bat activity.

The project has been working in conjunction with Devon County Council to survey towns and villages before and after the new part-night lighting regime begins next year. The lighting regimes are an initiative to save energy by switching off street lights between 1:30am and sunrise in the summer and between 12:30pm and 5:30am in the winter. The bicycle surveys will be repeated next year to monitor and identify changes in bat activity when the lighting regimes begin. The council have agreed to four randomly chosen control towns continuing with the current all-night lighting during next summer to compare with the newly implemented part-night lighting.

Map: *Location of greater horseshoe bat roosts studied this summer*

As well as surveying for bat activity, insect abundance has been sampled in the same towns and villages and surveys will be repeated again next year.

Starting in late November, monitoring activity around greater horseshoe hibernation sites will begin. This will be repeated again in February/March to complement the lesser horseshoe surveys completed over the winter 2012/13. These surveys hope to record behaviour of greater horseshoe bats as they begin and end their hibernation period and to identify any avoidance of street lighting or preference to dark areas as they travel to and from the hibernation sites.

The data sets for all of these surveys have been huge and analysing the data is very time consuming, even with automated software. Advancements in the software we have been using continue, and each time there is an advancement the original data are re-processed. Eventually, the results should show us how street lighting is affecting the behaviour of horseshoe bats.

Squirrel trapping in mid-Wales

By Jenny Macpherson, MISE Project Officer

In early summer of this year, members of the VWT staff took part in an intensive trapping study of red squirrels in the upland Tywi forest of mid-Wales as part of the MISE project.

The aim was to gather information on the number and movements of red squirrels present, and to collect hair samples from each animal for DNA analysis.

In order to do this we needed to trap as large an area of the forest as possible. We also included parts of the wood which had not previously been trapped because of the assumption that red squirrels would avoid dense stands of sitka spruce.

This study entailed a lot of walking in some very steep terrain, but at least the weather was good for most of the time!

Photo: *Red squirrel © Lizzie Croose*

Over the course of a month there were six trap lines spaced throughout the wood with 50 traps in each line. Each trap line was pre-baited for a week and then set for six days, during which the traps were checked twice a day, resulting in 1800 trap nights.

Red squirrels were captured on five of the six trap lines in both spruce and pine areas, and in total we had 29 captures of 10 different individual animals. All were microchipped so they could be identified subsequently, sexed, weighed and a hair sample taken. Most animals were captured more than once and one of these, an adult male, was trapped at locations more than 4km apart.

Photo: *Jenny Macpherson checks a captured red squirrel for presence of a microchip*

Bats and martens at Nietoperek, Poland

By Henry Schofield, Conservation Programme Manager

Photo: *Scat team photograph at Nietoperek in May*

We have been continuing to work on our joint project with Waterford Institute of Technology in Ireland and Wrocław University of Life Sciences in Poland, studying the interaction between hibernating bats and the martens that are predating them in north-west Poland.

The study is focused in and around Nietoperek, the largest hibernation site for bats in northern Europe. Nietoperek consists of 32km of underground railway tunnels and the remains of Second World War fortifications on the surface. The study aims to use non-invasive genetic techniques to build up a picture of the activity of individual martens at the site: where they have their territories, which times of the year they are active in the system and what species of bats they are eating.

To do this we have been have been surveying the underground tunnels and the areas around the surface fortifications, collecting marten scats during winter, spring and late summer. Teams of staff from VWT and the partner institutes have been joined by volunteers from the UK and Ireland for the task.

It takes about two days to survey the entire system accurately, logging where each scat is found. Once the survey of the system is complete, the teams spread out above ground and repeat the procedure of searching the tracks in and around the surface bunkers for marten scats. Typically, we collect 200-300 scats during each visit and these have to be processed into sample tubes with a buffering agent to preserve the DNA for their journey back to the laboratory in Waterford.

The initial results are showing that both pine and stone martens are active in the system and contrary to our initial feelings they are active all year around, even in the summer when the bats are not in residence and there can be little food available.

Photo: *Checking for marten scats on the stairs leading up to the bunkers*

Photo: *Surveying tracks for scats*

The techniques for identifying individual animals are still being developed, but we know from the initial analysis that we are not simply dealing with one or two animals that have learned about this seasonal food resource. Data from the species, sex and haplotype indicate that there are at least eight animals in the system, but when the individuals have been identified it is likely there will be many more.

The analysis of the scats for prey remains has so far identified Daubenton's bat as the only species to be predated by the martens. Daubenton's bat is the second most commonly occurring species in the hibernation site and they often roost quite low down on the tunnel walls. In contrast, the most common bat at Nietoperek is the greater moused-eared, a species that hibernates high up on the tunnel walls.

In addition to the marten surveying, the teams are able to help with the annual bat census of the system, studies of swarming bats and to go wildlife watching in and around the area. The local beaver population is a particular favourite but we are always on the lookout for wolves that have recently spread into this area of Poland.

We also know that the martens are actively hunting the bats rather than simply scavenging dead or moribund animals on the tunnel floors. Tell-tale scratch marks and paw prints show they are climbing up the tunnel walls to reach the torpid bats, using anything that will give them purchase. This is quite remarkable as they are doing this in complete darkness many hundreds of metres from the surface and probably using their sense of smell, or maybe hearing, to detect the presence of the bats.

Photo: *Marten tracks in the mud*

Photo: *Collecting marten scats in the tunnels*

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