



## Welcome to the Pine Marten Recovery Project Newsletter

Since we announced our intention to translocate pine martens to reinforce our native marten populations, interest from the outside world has been enormously encouraging.

### Ecosystem regeneration – with added benefits

As a conservation organisation, our key objective is to see sustainable pine marten populations in England and Wales. However, we do also believe that bringing pine martens back will have many other benefits beyond the species survival. In particular, there has been huge interest from foresters in the potential role that pine martens might play in suppressing grey squirrel populations. Early evidence on this from Ireland is fascinating but we remain cautious because there are inevitably different dynamics at play - for example the density of pine martens may be a key factor that may not be replicable in the UK. The squirrel issue is an intriguing one, with potentially huge implications both economically and environmentally. As a result, the monitoring of squirrel populations will be a key part of our field programme, so that we can be as clear as possible about the effects of pine marten population establishment on squirrels.

### The importance of communication

We very much welcome the external interest, and our core pine marten team of four has been pleased to meet and have conversations with interested parties on both a proactive and reactive front. We believe this aspect of the project to be equally as important as the science required and we are working hard to make sure that everyone is kept informed of the project's progress. We are grateful to all our external advisors and strategy stakeholders who have offered advice and support to date.



### The funding challenge

Until recently our main priority was securing general support for the project and collaborative working with others. Our attention has now started to turn to the match funding that we need to make this project continue effectively in the long-term. We have estimated that the next six years will cost £1.2 million. We have funded entirely the development and feasibility phase of the project to date, and are now committing an additional £400k over the project period plus a large proportion of staff time. This leaves some £800k to raise. I am delighted to announce that we have already received some grants and donations, most notably nearly £30k from the People's Trust for Endangered Species and a private donation of £10k. We have also had pledges that we are pursuing, and we are working in the longer term to secure some large multi-year commitments. In addition, public donations can be made via our website and Facebook page please share this with your contacts where you can. I am very much looking forward to seeing the pine marten make a comeback in both Wales and England. I hope you are too.

Natalie Buttriss, CEO  
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## Support us...



You can now donate to the Pine Marten Recovery Project via our website or our Facebook page.

Donations of any amount are hugely appreciated and will be used towards the recovery of the pine marten in England and Wales.

[Donate via our Website](#)

 [Donate on Facebook](#)



## Where are we now?

BY JENNY MACPHERSON, PINE MARTEN PROJECT MANAGER

The initial feasibility study that we began work on at the beginning of 2014 has now been completed. Habitat modelling, GIS analyses and our database of reported pine marten sightings and other evidence have identified a number of potential reinforcement regions. These are areas of high predicted habitat suitability in regions where reports of recent sightings and other evidence suggest pine martens are still present albeit in extremely low numbers.

### The best location

The results of these analyses suggest that central Wales is the most biologically suitable area for the first reinforcement. This region has a large amount of well-connected woodland habitat and therefore a high potential carrying capacity for pine marten. Additionally, the extent of suitable habitat provides scope to avoid some areas if any specific issues should arise, whilst still maintaining the integrity of the translocation programme.

Of all the potential reinforcement regions considered, those in central Wales have the lowest risk to pine martens of road mortality, which is likely to be a significant factor during the initial phase of translocations. We have also gathered our most recent genetically verified evidence of marten presence from this region, and credible sightings are still reported. This is important as, in the first instance, we are aiming to aid the recovery of a functionally extinct, but still present population of arguably non-breeding animals, rather than translocating animals to areas where they have been absent for a prolonged period of time.

We have concluded that a reintroduction is appropriate in the near future for areas of southern England, but our initial phase of work will concentrate on throwing a lifeline to the Welsh population, and preventing local extinction in the short-term. What will happen to the population in the long-term will be the subject of extensive monitoring and research.



VWT's Jenny MacPherson radio-tracking pine martens

### Field surveys

Work has started on field surveys to ground-truth the GIS analyses and to address in more detail the questions of whether sufficient prey, foraging habitats and suitable den sites are available. Pine martens traditionally use holes in old trees to den safely, rearing their kits above ground for the first weeks after birth. There is a lack of old trees within woodlands in the UK, so we have developed a secure denning box as a surrogate. All release sites will be provided with a network of these boxes for martens to use until they can locate natural den sites. Den site selection and den box use will also be one of the aspects of the martens' ecology that is closely monitored following release.



VWT's David Bavin conducting the public opinion survey

## Talking with local communities

This project will not progress far without the support and acceptance of the public. The results of our wide scale public opinion survey suggest that the majority of people are in favour of action to prevent the pine marten from becoming extinct in Wales. This is perhaps a reflection of the effort the VWT has put into raising awareness of the pine marten in recent years. More detailed consultation with communities and stakeholders is now underway in prospective release areas to gauge local levels of support for the project and identify potential conflict issues. All the information gathered during this stage will inform the final decision as to where the most optimal release sites will be.



Pine marten © James A Moore

## Autumn target

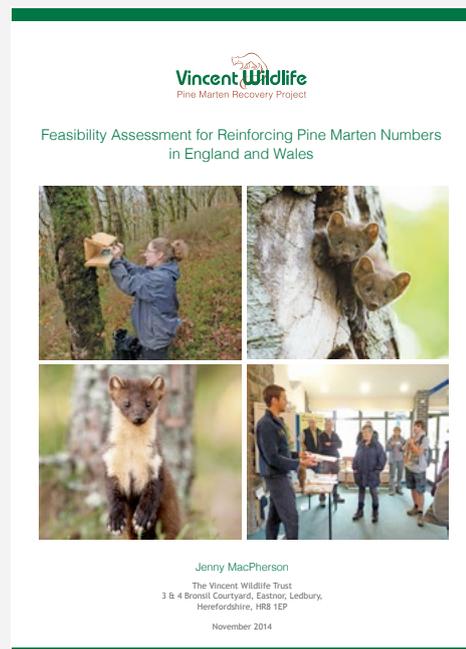
Provided that all this work confirms that the shortlisted sites are appropriate, and have the maximum support of local communities, we aim to be in a position to translocate animals this autumn. There is a lot of work still to do, but the VWT has been working towards this goal for thirty years. We are committed to taking action to enable the recovery of the pine marten in England and Wales and hope that in a few years' time, woodlands in England and Wales will once again have thriving populations of pine martens and the marten will be seen as a symbol for ecosystem regeneration and positive conservation action.

## Feasibility Study

A steady stream of research, observation, field work and expert opinion has culminated in the completion of a peer reviewed feasibility study, conducted by Jenny MacPherson and the VWT team, investigating the potential for the recovery of the pine marten population in southern Britain.

The study has laid down a solid foundation from which we have launched the recovery project. Part of the feasibility study involved modelling the location of suitable marten habitat in Britain, using data on pine marten presence from surveys in Scotland and Ireland.

[Read the PMRP Feasibility Study](#)





## Out in the Field

BY DAVID BAVIN, PINE MARTEN PROJECT OFFICER

Pine martens are carnivores, although with an omnivorous bent. Whenever we think about restoring a predator, it would be irresponsible not to consider the potential impact on other species. The greatest impacts generally come from non-native species, which are usually tough, highly competitive and adaptable, and exert heavy tolls on naïve native wildlife - such as the American mink/water vole situation. Fortunately, the pine marten has been present in Wales for at least 8,000 years, and has co-evolved with all our other woodland species - they therefore have coping strategies which absorb any losses from predation.

### Baseline data

We are aiming to collect baseline biodiversity information on some key species in order to monitor any changes. This includes species for which data already exists in the sites we have selected, in the form of bird surveys and mammal box schemes. Using existing data as a benchmark, we will be able to confidently record any changes over the years after release.

We will be conducting small mammal surveys in all our release sites to establish whether there is a plentiful supply of food for the martens, as well as bat surveys - the first of their kind in that region of the Cambrians.



Project Officer, David Bavin, carrying out survey work

### Polecats and pine martens

We are keen to get an idea of the abundance of one of the pine marten's guild members, the polecat, in our release sites. Mid Wales is the polecat's heartland, and the source of their successful range expansion throughout Wales and into England. The polecat is subject to some protected status in Britain, so we wish to understand early on if there is potential for intra-guild competition. It is unlikely: polecats make their living primarily from rabbits, rats and amphibians and are associated with lowland and riparian sites. Pine martens on the other hand prefer forest and preferentially predate field voles and other small mammals. They are rarely, if ever, a threat to each other - the pine marten is superbly adapted to detect conflict long before it arrives and would likely defer up a tree on encountering a polecat. We will be conducting surveys in February and March, whilst also trialling a new non-invasive method for collecting hair samples, in order to get an idea of polecat presence in our release sites.



Polecat © Jane Parsons

## Monitoring signs of impact on grey squirrels

We also intend to monitor the grey squirrel population before and after the pine marten releases. This is in order to assess the hypothesis that pine martens have an adverse impact on grey squirrel populations. This has certainly been the result of research in Ireland, and is anecdotally reported from Scotland. If this were to be borne out in Wales, it would be very positive for native biodiversity. Grey squirrels can live at astonishingly high density in broadleaf woodland - up to 18 squirrels, or approximately 10kg of squirrel per hectare in peak years. That is in stark comparison to the pine marten, which typically lives at a density of 0.045 per hectare (a home range of approx. 2km<sup>2</sup> in broadleaf woodland). The reason this is significant is counter-intuitive. There is actually some dietary overlap between martens and grey squirrels. The squirrels are omnivores, and will take birds' eggs, nestlings, and small mammal young. This is in addition to the direct competition for resources with other herbivorous native species, and the infliction of damage or death to broadleaf trees. It would appear to be a case, for our native wildlife, of better the devil you know.

## Ground-truthing

We will also be spending time ground-truthing the results of our habitat modelling. It is one thing to feed some data into a computer, which provides a coarse map of potentially suitable habitat, but we need to confirm the results in order to have confidence that the areas we have selected are in fact capable of supporting a self-sustaining population of pine martens. Our initial forays have been encouraging. What at first glance appears to be a featureless monoculture of sitka spruce can be deceptive. The sample plots are numerous and randomly sited, which means that almost every type of habitat within the forests is represented. Inevitably, a proportion of the sites are characterised by dense spruce, with no light penetration and a dense carpet of needle litter and twigs, but this, to my great joy, has been a relatively small proportion.

The forests are a patchwork of different age cohorts (mainly sitka spruce, but also lodgepole pine, Norway spruce, larch, western hemlock, Douglas fir, noble fir and the occasional Scots pine), with open areas cut in as access tracks, forest rides, and streams. In these open parts where light is plentiful, willow (mainly goat willow, *Salix caprea*), oak, rowan, alder, beech, bird cherry, ash and hazel can take root - never all together but all patchily present in the forest. Rosebay willowherb flanks the track sides and competes with bramble thickets in the guts and ditches. The ground cover in the forest interstices is a variable heath of bilberry, cowberry, heathers, soft rush, mosses and grasses.



Examples of sites selected for the ground-truthing surveys

The ground flora under mature spruce (20m+), which has made up a large proportion of the plots so far, is usually dominated by mosses - *polytrichum*, *dicranium* and *hylocomium splendens* being most abundant - with carpets of sphagnum in the wetter areas. Heath bedstraw, wood sorrel, common heather, bramble and/or bilberry usually contribute significantly to the ground flora in drier patches. The percentage ground cover of fruiting shrubs is one of the key measurements in the plots (very important for pine martens in the autumn), and it has been very encouraging to find, so far, that two thirds of the plots have some fruiting shrubs present, and approx. 40% have more than 25% coverage. This is not only good news for martens, but also invertebrates, rodents and birds. It is also good news for roe deer, which are creeping back into the forests of mid Wales - a natural recolonisation to celebrate. Also encouraging is that half the plots surveyed have coarse woody debris with trunks or stems over 7cm in diameter. This adds to the three dimensionality of the forest, which is exactly what pine martens have evolved to exploit.

It has been an encouraging start to the surveys and I look forward to producing the results, which should go some way to consolidating our view that mid Wales is not only ready and waiting for a viable population of pine martens but crying out for one! There is still much preparatory work to be done, but we are busy and committed to making sure that we are as rigorous as possible in our science based approach to this ground breaking project.



## Pine Marten Study Tour to the Netherlands

BY HENRY SCHOFIELD, CONSERVATION PROGRAMME MANAGER

In June 2014, Jenny Macpherson, Lizzie Croose and myself visited the Netherlands to learn about some of the pioneering work being carried out in the country on pine martens. We were the guests of the Dutch Mammal Society, who are based in Nijmegen, a city in the east of the country close to the German border. There is a strong pine marten working group within the Dutch Mammal Society and their members have been carrying out long-term work on the species as populations recover from a historical decline.

### Veluwezoom National Park

One of their key study sites is Veluwezoom National Park, some 25 kilometres north of Nijmegen. This is the oldest National Park in the Netherlands and is primarily made up of extensive beech forest.

Vilmar Dijkstra has been conducting a meticulous study of denning behaviour in the Park. In his study plots Vilmar and his colleagues have GPS mapped every tree they can find with cavities, some 1200 to date. They have recorded the tree species, the origin of the cavity (whether they are natural rot holes or made by woodpeckers) and their size. They do this in the winter when the cavities are most visible and then return in the spring and summer to search for signs of pine martens denning. This undertaking has been made easier in recent years with advances in technology: Vilmar uses web cams on the end of fishing rods to look into cavities for signs of denning martens. In some of the sites that have had repeated use, permanent cameras have been installed and all Vilmar has to do is to unhook the camera cable, that has been stored high up in the tree away from human interference, and plug it into a mobile video recorder to view inside the cavity. This allows him to count the number of young and to assess the breeding success of the females.

On top of all the work on marten denning and reproduction, Vilmar and his team also carry out studies into the density of small rodents and have been relating prey availability to the breeding behaviour and success of the resident martens.



Retrieving the cable from a fitted camera in Veluwezoom

### Denning sites – link with great spotted woodpecker

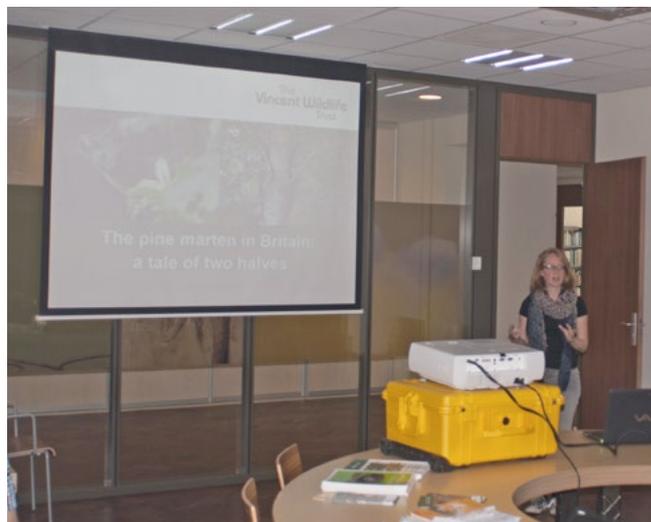
Visiting the Veluwezoom and seeing the range of denning sites first hand was very encouraging for us. The lack of availability of suitable denning sites had been raised as a possible reason for pine martens failing to recover in southern Britain, but we saw many denning sites created from rotted out great spotted woodpecker holes. Great spotted woodpeckers are doing well in Britain, and their healthy populations should be producing suitable denning sites for martens.

## Mini-symposium

The second day of our study tour was taken up with a mini-symposium. Jaap Mulder gave a presentation on a pilot translocation study and radio-telemetry, some of the techniques we hope to be employing in Britain later this year. This was followed up by a talk on the changing distribution of pine martens in the Netherlands. Henri Wijsman's description of the recovery of the species has many parallels with the situation in Scotland, as the Dutch population was restricted to a relatively small area of the country centred on Veluwezoom. As pressure on the species has eased and it has received legal protection, martens have spread west to the Dutch coast and now cover much of the country where the habitat is suitable for them.

Camera trapping is a technique we have been using extensively in Wales in recent years in our search for our elusive pine martens; Erwin van Maanen has been using them in the Netherlands to assess populations. The shape of the creamy yellow bib on a pine marten is unique to the individual and so catching them on camera can allow researchers to determine the size of populations. The main problem with this is getting the marten to pose so you can get a clear view of the bib. Erwin and his colleagues have come up with an ingenious solution: they fill a tea infuser with peanut butter and suspend it above the ground. Any marten wanting to take the bait is made to stand on its hind legs and stretch to reach it. This gives a much clearer view of the bib on camera.

Finally from the Dutch side Arjen de Grot from the University of Wageningen presented work on the genetic structure of the populations of pine martens in the Netherlands. Using molecular techniques they were able to trace back the current population to two founder populations and show how these spread out to re-populate the country.



VWT's Lizzie Croose presenting at Nijmegen

## Input from VWT staff

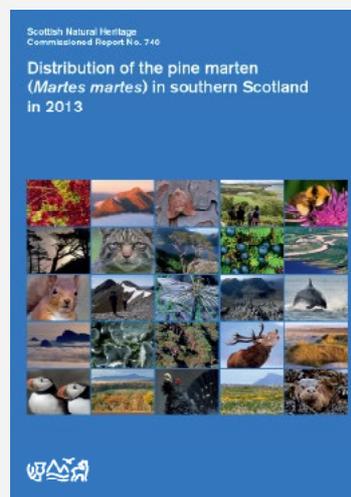
From our side, Lizzie Croose presented the results of our Scottish survey work demonstrating the recovery of the population north of the border. This was followed up by Jenny MacPherson describing the contrasting situation in southern Britain and outlining our thoughts on re-establishing healthy pine marten populations in those areas. In amongst the scientific talk we were given a real treat, a 20 minute High Definition film of a mother pine marten and her kits from near Utrecht. Bram Achterberg is a highly accomplished photographer and film maker, and we are very grateful to him for allowing us to use some of his photographs and video clips to illustrate our publicity material.

We had a very useful and thought-provoking few days in the Netherlands and it was really useful to get a different perspective on martens from our Dutch hosts. We'd like to thank Rob van Westrienen and the Dutch Mammal Society for hosting the trip, and particularly to Bart Noord who organised the programme for us.

## Scottish survey work

Lizzie Croose, who presented at the mini-symposium, was VWT's survey coordinator for the pine marten distribution survey in southern Scotland in 2013. Following this survey, a report was published in 2014 by Scottish Natural Heritage (SNH). The survey confirmed the presence of pine martens in three new separate areas of southern Scotland, which lie beyond the population in Galloway Forest where pine martens were reintroduced in the early 1980s.

[Read the SNH Report](#)





## Our Pine Marten Work in Ireland

BY KATE MCANEY, MAMMAL DEVELOPMENT MANAGER (IRELAND)

Since May 2014 the pine marten has been an ongoing feature of our mammal work in Ireland, following on from the successful one-day symposium we co-organised with the Mammal Ecology Group in National University Ireland Galway. A full account of that day's proceedings appeared in our recent E-newsletter (read it [here](#)) and we are happy to report that we have made some progress on a number of issues discussed then.

### New Pine Marten Leaflet

Our new leaflet providing advice to householders when pine martens are found in buildings has been widely distributed, both at public events and via the website. This publication, produced in partnership with the National Parks and Wildlife Service, is very timely, as we are receiving an increasing number of queries from the general public about this species. With our new staff member in Ireland, Ruth Hanniffy, we are now better placed to respond to all queries as soon as they are received.

### Reporting Pine Marten Sightings

We are very grateful for all reports, whether these relate to noises coming from attics, disturbances at bins early in the morning or sightings in woods or along roadsides. These are helping us to build up a picture of the animal's distribution, and in the case of definite sightings we encourage everyone to submit their record to the National Biodiversity Data Centre for inclusion in the Irish Mammal Atlas ([www.biodiversityireland.ie](http://www.biodiversityireland.ie)).



Pine marten © Colin Smith



Kate McAney opening the Pine Marten Symposium

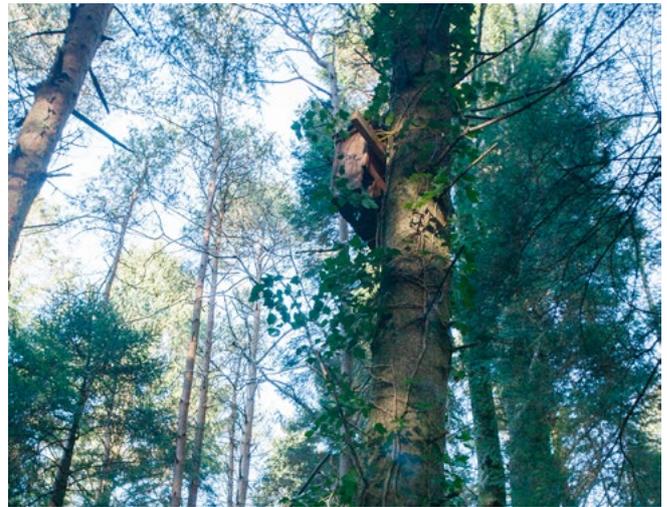
### Research Project – use of buildings as denning sites

Prior to our symposium in May 2014, we helped Brian Hughes with his short research project on the pine marten for his thesis at Galway Mayo Institute of Technology. Brian looked at the use of buildings as denning sites in three counties in the west of Ireland. With assistance from the National Parks and Wildlife Service, he surveyed fifteen different buildings that had been used or were still being used as den sites. He also asked the house holders to complete a questionnaire to assess their knowledge and attitude to pine martens.

Although based on a small sample size, Brian's study is the first to look at denning sites within buildings in Ireland. 80% of the house holders contacted had heard about the pine marten prior to having the animal in their home and the same percentage stated that they were happy to see the population of the species recovering. Perhaps not too surprising, only one

person was willing to tolerate having a pine marten den site within their attic, but 80% stated they would be happy to have a den box erected close to their home. Eight householders described the damage caused by the martens, this ranged from insulation being shredded/disturbed (four sites), felt or plaster board damaged (two sites), thatch disturbed (one site) and fouling (one site). 60% of the houses were used as breeding dens. Martens used a range of buildings, both new buildings (< 10 years old) to those over a hundred years old, but the main point of access common across the range of structures was via rotted soffits. The height of the access point was not a deterrent: although one pine marten gained access to a holiday home via a gap under a door, others gained access at eight metres above ground level. Interestingly, 73% of the buildings had no vegetation close to the access point, but the following habitats were present in the vicinity of the building: deciduous woodland (27%), scrub (27%), rough grassland (27%), coniferous woodland (13%) and upland farmland (6%).

We also erected six den boxes during Brian's study: two in a conifer wood in Mayo, three in Galway - two in a mixed woodland and one in a deciduous woodland, and one was supplied to Connemara National Park. We are now searching for scats near or on the boxes, and although nothing so far, maybe, just maybe, the tracks we recently saw in mud at the base of a tree with a box indicates that it is being checked out by a marten.



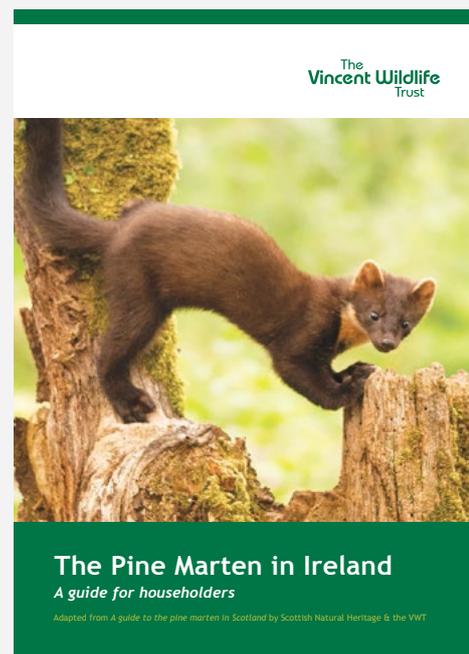
Den boxes erected during Brian's study © Ruth Hanniffy

## Leaflet for householders

A joint publication by the VWT and the National Parks and Wildlife Service was launched at the Ireland Pine Marten Symposium in May 2014.

'The Pine Marten in Ireland - A guide for householders' provides advice for when pine martens are found in buildings. The leaflet also includes a background to the pine marten in Ireland, their legal protection and steps you can take to prevent pine martens taking up residence in your home.

[Read The Pine Marten in Ireland](#)



## How you can help

This year we are hoping to raise £30,000 towards our Pine Marten Recovery Project which aims to bring the pine marten population back from the brink of extinction in England and Wales. Your support is vital if we are to be successful.

You can now donate towards the Pine Marten Recovery Project via our website or through our Facebook page. All donations of any amount are hugely appreciated and will be used towards the recovery of the pine marten in England and Wales.

Donate now via our Website

 Donate via our Facebook page



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