

# Back from the brink: pine martens in Wales

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Pine Marten

**In the ancient wildwoods that once blanketed much of Britain, the pine marten was one of our most common carnivores, but today the story is rather different.**

The pine marten, *Martes martes*, is one of six members of the weasel family (Mustelidae) native to the UK. Pine martens are about the size of a domestic cat, with males being slightly larger than females. In common with many carnivores, pine martens are solitary and territorial and, while a male home range usually encompasses that of one or two females, there is rarely overlap between adult male ranges.

They are attractive animals with light to chestnut-brown fur and a distinctive creamy yellow throat patch or 'bib', which can be almost apricot in some individuals. Pine martens are predominantly associated with woodland habitat and are adept tree climbers. Their many adaptations for arboreal life include powerful forelimbs, a long tail to aid in balancing and well-developed, semi-retractable claws.

## Historical decline

Pine martens were once common and widespread in Britain. However, during the 19th century the species suffered one of the most dramatic declines of any UK mammal. This was largely due to increases in predator control as sport shooting rose in popularity, which compounded the earlier effects of habitat loss. By the

turn of the 20th century, pine martens were extinct in almost all of southern Britain. The majority of the remnant population was restricted to north-west Scotland, with much smaller areas in the uplands of northern England and Wales. Here the species hung on in areas of remote forest and rocky moorland<sup>1</sup>.

## Slow recovery

In the latter half of the 20th century, the pine marten population in Scotland made a significant recovery, with an expansion south and eastwards from the core areas in the north-west Highlands. However, the species is still rare in Britain with population estimates ranging from 2,600 to around 3,500 adult martens in Scotland. South of the border the situation is very different, and there has been no discernible recovery of pine martens in England and Wales, where the species still remains very rare or absent altogether<sup>2</sup>.

Pine martens do not usually breed until their third year and only have one annual litter of two to four kits, so it takes a long time for populations to recover once diminished. Records, mainly in the form of sightings, are still reported from parts of England and Wales, but it is unlikely these populations are large enough to be viable in the long term. It is probable that pine martens will naturally recolonise parts of northern England as the population in Scotland continues to expand southwards, but the large urbanised areas in north-west and central England may act as a barrier to dispersal further south.

## A helping hand

The Vincent Wildlife Trust's Pine Marten Recovery Project began in 2014 to address some of these issues and help restore the mammal to suitable areas throughout England and Wales. Initially, a detailed study was carried out to look at the feasibility of using translocations as part of the conservation strategy for this species<sup>3</sup>. Modelling was used to identify regions with enough potentially suitable habitat to support a viable breeding population.

Although pine martens are not restricted to forests, each animal requires a significant amount (c.200 hectares) of woodland within its territory. Of all the areas considered, central Wales was prioritised as it has a large amount of well-connected, suitable woodland habitat and a low risk to pine martens of road mortality. This is also the region from which there was the most recent (2007 and 2012) DNA evidence of pine martens persisting.

## Bringing in reinforcements

Following the preparation work, an initial two-year pilot reinforcement began in autumn 2015. Twenty healthy, adult pine martens were released into a large area of well-connected woodlands, with a further twenty animals released in autumn 2016. These are taken from robust populations across the north of Scotland to boost numbers and genetic diversity, so the endangered population in mid Wales can recover.

All the pine martens are radio collared and are being studied intensively for a long period following release. The data collected will provide a huge amount of information, which will inform subsequent reintroductions elsewhere. Some of the research is focused on how they use the habitats available to them in the release areas. From our initial radio tracking results, the first released animals

made relatively long-distance exploratory movements, often using wooded river valleys to travel around before tracking back and settling in the release area. The observed avoidance of open ground is probably related to the increased risk of predation, mainly by foxes.

## Suitable woodland

Extensive mature conifer plantations provide martens with plenty of cover and previous radio-tracking studies show they spend much of their time in such areas. However, while they may be used by pine martens as habitat and for feeding, even-aged plantations often do not provide good denning opportunities, generally due to the lack of deadwood habitat and cavity trees.



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Pine martens prefer tree holes for breeding dens so they can safely rear their kits above ground for the first weeks after birth. Woods with 'old growth' attributes, such as large old trees grown to maturity, deadwood habitat, cavity trees and natural areas, will generally offer more suitable sites for denning. These are likely to be semi-natural woods, riparian zones, long-established plantations, long-term retentions, non-intervention or minimum-intervention areas, or natural reserves where old-growth characteristics have had time to develop.

Pine martens are predominantly nocturnal and return to a number of den and lie up sites within their home range during the day. A network of artificial den boxes was put up throughout the release area and we have observed animals using some of these. We have also tracked animals to natural den sites, including tree holes, squirrel dreys, rocky ledges and derelict buildings.

### Benefits of a native predator

The return of a healthy pine marten population could provide benefits beyond the re-establishment of one of Wales' rarest and most charismatic mammals. It should help bring more income to the local economy through ecotourism, as is the case in Scotland. Furthermore, the interaction between the pine marten and the American grey squirrel, *Sciurus carolinensis*, has recently become a subject of great interest.

Distributional evidence from a study in Ireland suggests that in some areas where the pine marten is recovering there have been declines in grey squirrel numbers to the benefit of native red squirrels<sup>4</sup>. Work has begun on collecting data through field surveys and in collaboration with other organisations to enable long-term monitoring of potential impacts from pine marten releases on other species present, including grey squirrels.

### Pine martens and woodland management

Where pine martens are returning, it is important woodland managers are aware of their presence and know the type and location of the features that should be preserved. Pine martens give birth to young, usually in above-ground breeding dens, from March-April. If a maternal (breeding) den site is identified, any planned operations in the immediate vicinity should be postponed or an exclusion zone created around the den for the breeding season. Further information and guidance can be found on The Vincent Wildlife Trust website: [www.vwt.org.uk](http://www.vwt.org.uk)

### A flagship woodland species

There is more woodland in the UK now than there has been for centuries and these woods are increasingly being managed for biodiversity. The pine marten is a native species that has been lost from most of the woodlands of southern Britain, so the biodiversity benefits of restoring viable populations here are high.

It is now recognised that diverse forests provide a range of benefits and are more resilient to changing environmental conditions, and many forest management plans aim to increase structural and species diversity to promote sustainability of forest ecosystems. The pine marten can be considered a flagship woodland species and healthy populations will be a good indicator of more naturally structured wooded landscapes and biodiverse forests.



SurreyJohn - Wikimedia Commons

Pine Marten



Nick Upton - naturepl.com

Pine marten box



Nick Upton - naturepl.com

Surveying

<sup>1</sup> Harris, S., Yalden, D.W.Y., 2008. Mammals of the British Isles: handbook. Mammal Society.

<sup>2</sup> Birks, J.D.S., Messenger, J., 2010. Evidence of Pine Martens in England and Wales 1996-2007. The Vincent Wildlife Trust, Ledbury.

<sup>3</sup> MacPherson, J.L., Croose, E., Bavin, D., O'Mahony, D., Somper, J., Buttriss, N., 2014. Feasibility assessment for reinforcing pine marten numbers in England and Wales. The Vincent Wildlife Trust, Ledbury.

<sup>4</sup> Sheehy, E., Lawton, C., 2014. Population crash in an invasive species following the recovery of a native predator: the case of the American grey squirrel and the European pine marten in Ireland. *Biodiversity and Conservation* 23, 753-774.