Forest of Dean and Wye Valley Pine Marten Reintroduction

1. Project summary

The pine marten is the UK's second rarest carnivore. They are a woodland dependent mustelid, related to stoats and otters, with a broad diet which includes small mammals, birds, invertebrates, and large quantities of berries. They were eradicated from much of the UK by Victorian gamekeepers. In 2015, the population in England and Wales was deemed to be too small to recover. 51 animals were translocated from Scotland to central Wales to establish a population there. This single population is small and vulnerable, and the creation of a second population is now essential. Having two populations hugely increases the likelihood of population persistence and conservation success, decreasing overall extinction risk from 22% to 5%.

In summer 2016, Gloucestershire Wildlife Trust, The Vincent Wildlife Trust, and the Forestry Commission, supported by Forest Holidays and the Woodland Trust, began a collaborative project investigating the feasibility of reintroducing pine martens to the Forest of Dean and lower Wye Valley. The area has abundant suitable habitat and is just 100km away from the Welsh population. A reintroduction project to the area would involve the translocation of 40 animals over two years. A five-year project would oversee the reintroduction, and include detailed monitoring of the success of the population, the ecological impacts that occurred, and the adaptive management of any conflicts.

2. Project need

From 2015 to 2017 The Vincent Wildlife Trust translocated 51 animals from Scotland to central Wales. This was to establish a population there which would support the fragmented population that was thought to still exist. This pilot translocation project has been successful. However, isolated and small populations are vulnerable to extinction, and the creation of a second population is now vital. Having two populations greatly increases the likelihood of conservation success for a variety of reasons. Small populations are vulnerable to poor breeding years, years with low levels of food availability, or disease outbreaks. Having two populations with migration between them means that the populations will mutually reinforce each other, so if one population has a poor year, it may be supplemented by the other population. Also, small populations are more likely to suffer from inbreeding depression, and a reduction in genetic diversity caused by genetic drift. Having two populations greatly increases the genetic variability of the overall population, and the availability of unrelated potential mates. Our own population modelling indicates that the extinction risk of the overall population is reduced by the creation of a second population from 22% to 5%, virtually guaranteeing its survival.

The opportunity to create a second population alongside the establishing central Wales population is time limited. The sooner a second population is established, the sooner the risk of population extinction is reduced. The failure of the Welsh population now would be a hammer blow to conservation efforts of the species in England and Wales.

3. Feasibility Study

International guidelines on species translocations and reintroductions have been published by the International Union for the Conservation of Nature. These recommend that detailed feasibility studies are completed before any reintroduction is attempted. Although still to be formally concluded, the feasibility study findings suggest that a reintroduction could have a variety of benefits for pine martens, wildlife and people. Within the release area there is suitable habitat to support a core population of nearly 200 individuals. Foxes and roads may be sources of mortality, however road density is comparable with areas of the Netherlands which support healthy pine marten populations.

Ecological feasibility: The reintroduction of a generalist predator can have numerous positive effects for an ecosystem. By limiting the population size of our most common species they can let rarer species thrive, an important balancing effect for ecosystems. Pine martens have also been shown to have a controlling effect on invasive non-native grey squirrels. In central Ireland, the natural recolonisation of the pine marten has led to the local extinction of grey squirrels from six counties. Initial results from Scotland suggest that pine martens may be influencing grey squirrel populations in a similar manner there. An ecological risk assessment was also completed to assess any risks to rare and protected species. The only high risk identified was the potential disturbance of large bat roosts within buildings. The Vincent Wildlife Trust have previous experience mitigating against this type of disturbance. Further work will be needed to evaluate what mitigation options would be effective in the release region.

Socio-economic feasibility: As a charismatic mammal, pine martens could be a useful tool in engaging people with nature and increasing ecotourism to the area, as well as benefiting forestry businesses due to a reduction in grey squirrel numbers. However, enclosed populations of poultry such as pheasants and chickens, near or within woodlands, are at risk from pine marten predation. Evidence is lacking as to how often they pose a threat in comparison to other predators such as foxes and mink. The project is working closely with the National Gamekeepers Organisation and the British Association for Shooting & Conservation to get the opinions of their members, and potential mitigation options.

Community consultation: Community support is essential for the reintroduction to proceed. Initial results from formal stakeholder interviews completed by an independent project partner suggest a broad support for the principles behind the project. Many stakeholders suggested that potential concerns could be addressed by the detailed monitoring of impacts post-release. The main community consultation, including an independently run on-street survey, is currently being completed. Initial results show strong public support for the project. The on-street survey will be completed by the end of February.

4. Project description

Project aim: To re-establish a stable population of pine martens (*Martes martes*) in the Forest of Dean and Wye Valley with overall benefits for both wildlife and people.

The reintroduction project would have four major parts.

- **Capture, Translocation and Release:** Pine martens need to be released in a 6-week period in September/early October. The project would release 40 animals over two years. The overall project is five years, which encompasses time for further monitoring of the reintroduced population post release.
- **Monitoring:** We will monitor the survival and dispersal of individuals using radio collars fitted during capture. The health of individuals and the status of the population will be monitored using an array of camera traps. The impacts on the ecology of the release area will be monitored by, among other methods, dietary analysis. The impacts for people will be measured by recording the number of people engaged by the project, and collating all feedback the project receives.
- **Adaptive management:** An adaptive management strategy will be employed to maximise the chance of success of the project, and minimise any negative effects. This will include improving habitat quality, such as by installing den boxes. It will also mitigate any negative ecological risks, such as the potential risks to bat roosts. Furthermore, the project will include strategies to increase ecotourism, develop wildlife viewing opportunities, as well as mitigate human-wildlife conflict.
- **Communications and engagement:** An open and transparent approach to communicate the results of monitoring, promote benefits, and encourage dialogue regarding conflicts will be adopted. The websites of project partners will be regularly updated with project updates, information on pine martens, and contact information for project staff. The local community will be engaged with a range of volunteering opportunities including tracking, monitoring, ecological surveys, scat analysis and community ambassador roles to mitigate human/wildlife conflict.

This project could have a range of positive impacts for pine martens, biodiversity, and people. Conservationists often lament the decline in UK wildlife, and this restoration project could be a key step in reversing that decline. A decision will be made about whether to reintroduce pine martens in 2018.