



2nd All-Ireland Pine Marten Symposium

14th-15th October 2016



An Roinn Ealaíon, Oidhreachta,
Gnóthaí Réigiúnacha, Tuaithe agus Gaeltachta
Department of Arts, Heritage,
Regional, Rural and Gaeltacht Affairs



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ABSTRACTS

Living in a changing countryside

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Cairngorm Wildlife

"Living With A Changing Countryside". Using examples of both outright reintroductions and natural re-establishment of once common native species (and in some cases owning up to mistakes that were made) Allan will conclude that it's vital to involve from day one the people most affected by such changes.

Back from the brink: the pine marten recovery project in Wales

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Pine martens became rare in Wales during the early 20th century but were still in low numbers in parts of the Cambrian Mountains, Carmarthenshire and Snowdonia. However, the population showed no signs of recovery from its historical decline. In autumn 2015, following a feasibility study, extensive field surveys and consultation with local communities and stakeholders, work began on a pilot reinforcement to boost numbers and genetic diversity and prevent pine martens from going extinct in Wales. During autumn 2015, twenty pine martens were captured in Scotland, in areas where there is a healthy pine marten population. These animals were translocated and released in the large woodlands of mid-Wales. All of the martens were fitted with radio-collars and tracked daily to monitor their movements and find out where they have set up territories. Some of the females successfully bred in Wales in spring 2016 and in autumn another twenty pine martens are being released into the same area to consolidate the population. This is the first large scale carnivore restoration in the UK.

Boxing Clever: Trials of pine marten den boxes in Galloway Forest

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Elevated tree cavities suitable as natal dens for pine martens are scarce or absent in woodlands in Britain and Ireland, so populations may be constrained as a consequence. In 2002 The Vincent Wildlife Trust (VWT) produced a den box designed to meet the needs of breeding female pine martens for cavities that offer elevation, shelter and insulation. This presentation describes a collaborative study with Forest Enterprise Scotland (FES) to monitor usage of the VWT den boxes in Galloway Forest over 13 years from 2004-2016 inclusive. In most years at least 30% of boxes showed evidence of occupancy by martens (to a maximum of 70%), and a maximum of 20% of boxes were used for breeding in each year. The boxes serve as a habitat enhancement tool for pine martens in commercial forests; they also facilitate monitoring of breeding success and the collection of hair samples for wider population assessments. The large size of the VWT den box constrains the choice of sites at which it can be deployed in commercial forests, so in 2014 trials of a smaller design – the 'Galloway Lite' – commenced in Galloway Forest in collaboration with FES and the Peoples' Trust for Endangered Species.

Using electrical poultry netting to keep predators out of pheasant pens

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In 2013 a leaflet was published by the Vincent Wildlife Trust and the National Parks and Wildlife Service that provided information on how to exclude pine martens from game and poultry pens. This was in recognition of the fact that in recent years there has been a growing conflict between gun clubs and pine martens, coinciding with an increase in the population size and range of this species in Ireland. Some of the measures recommended in the leaflet, however, were beyond the scope of most Irish gun clubs who have limited resources, both time and money, for predator control measures at pens. In 2015 the Kilcormac Gun Club accepted an invitation from the Vincent Wildlife Trust to test the value of using standard electrical poultry netting at a pheasant pen over the summer to deter predators. Trail cameras were used to record the behaviour of predators in the vicinity of the pen. This presentation describes the trial and its relevance for future predator control by gun clubs.

Coillte, Forestry and the Pine Marten

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After thousands of years of deforestation, Ireland's forest cover is believed to have fallen to approx. 1% by 1900 AD. During the 20th Century, the state embarked on an extensive afforestation programme and, as a result, Ireland's national forest area stands at almost 11%. Just over 50% of these forests are on the Coillte (a state owned company with a mandate to manage forests on commercial basis) estate which comprises approx. 440,000ha of land or 7% of land area of Ireland. The pine marten population meanwhile, fell to a low point in the 1970s and '80s, but has since enjoyed a resurgence, which appears to have coincided with the spread and maturing of plantation forests. So forestry has an important bearing on the pine marten, and Coillte is very aware of this fact.

Coillte has a very active environmental programme – we have been FSC certified since 2001 and now also have PEFC and ISO certification. We adhere to the legislation, through consultation with our main regulator, The Forest Service. One of the main influences of certification and legislation is the protection of species and habitats considered to be rare, threatened or endangered at national or international level. Protection of these species is enshrined in legislation, and measures to avoid impacts on RTE species and habitats are embedded in licensing procedures. The most obvious examples of RTE species are freshwater pearl mussel and hen harrier, while examples of RTE habitats include raised bogs and native woodlands. We engage proactively with the Forest Service on measures to avoid impacts on these species, usually by means of screening and mitigations administered through the felling licence procedures. We implement Environmental Risk Assessment (ERA) in advance of operations, to ensure that environmental impacts are avoided or minimised.

Coillte staff are very aware of the pine marten, and they often encounter them in their day-to-day activities. Coillte staff supported both of national surveys of pine marten, in 2005 and in 2016. We will be interested to hear the results of the latest survey, and hope that the pine marten continues to flourish as one of Ireland's iconic, forest-dwelling native animals.

CMNF Restoration Plan for the Wildcat and Pine Marten in the Nord-Pas-de-Calais région

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The distribution and number of pine martens in France are poorly known facts. According to current scientific knowledge, they cover almost all the territory. The ONCFS (French National Office for Hunting and Wildlife) recently conducted a study to clarify the density and the change of density of the species, but did not deal with numbers. In France, the marten appears on the national list of huntable species, and on a list of species classified as pests for every three years: the marten can thus be destroyed throughout the year in some French areas. As the conservation of biodiversity via regional parks and local nature reserves falls under the competence of the "régions" in France, the Nord-Pas-de-Calais région adopted its own biodiversity strategy, including the protection and reintroduction of patrimonial species. The région implemented regional biodiversity restoration plans after consulting local biodiversity experts. The pine marten has been chosen because of the scarcity of its numbers there, and because it is located at the northern limit of its French range, in a densely populated and highly fragmented area, hence most subject to isolation, collisions and trapping. The CMNF (local mammal trust for the north of France) has been entrusted with the restoration plan for the wildcat and pine marten. The restoration plan is based on a long term strategy to maintain the current distribution of the species along three themes - studying, protecting and raising awareness. Several types of action have been established. Particular emphasis has been placed on the characterisation of the regional population, and on the protection of habitat and the restoration of its ecological functionality. One of these actions consists in installing marten den boxes built by the carpentry section of a local vocational school (beginning of the project).

Seasonal Dietary Variation of the Pine Marten in Northern Ireland

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The recovery of this native predator from historical decline in Ireland has caused a trend in the literature catalysed by the media, which promotes the idea that the return of the pine marten and its increasing distribution may be linked to increasing red squirrel numbers. This popular narrative, has been supported by anecdotal reports of pine martens preying on grey squirrels more readily than red squirrels. However there is a paucity of quantifiable evidence on the mechanism by which such a relationship may exist. So what do pine martens eat, and how do they effect community population dynamics? To explore how pine martens are interacting with heterospecifics we investigated seasonal diet variation in 23 sites throughout Northern Ireland, ranging from coniferous plantation to mixed broadleaf forest. Line transects were visited monthly and scats collected. Traditional macro-analysis was performed from on scats to identify species predated upon and breadth of dietary niche.

Further evidence of the impact of pine marten on Irish grey squirrel populations

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In 2014, Sheehy and Lawton reported on the impact of pine marten on Irish squirrel population dynamics following research by Emma Sheehy during her PhD studies. The grey squirrel had become rare, or disappeared, from a large area of its former range in the midlands of Ireland and the red squirrel had recolonised areas where pine marten abundance was high. While the mechanism of the impact caused by the pine marten was unknown, the strong negative association between the pine marten and grey squirrel was clear. In this talk we will examine the extent of grey squirrel distribution loss following a survey of all three species (Lawton et al. 2015), and discuss factors associated with the presence or absence of grey squirrels in the Shannon region.

An update on pine marten and squirrel research in Scotland

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In 2014 research in Ireland by Sheehy and Lawton found that the recovery of the pine marten in the midlands of Ireland was linked to the regional crash of the invasive grey squirrel population, and the natural recolonisation of red squirrels to the area. The 2014 study concluded by hypothesising that pine marten abundance, not merely presence, was a critical factor in grey squirrel decline and thus red squirrel recovery. Following from this, a 3.5 year research project supported by Forestry Commission Scotland, the Irish Research Council and Marie Curie actions has been investigating the relationship between pine marten recovery and squirrel distribution in the UK, by testing the abundance hypothesis in areas where pine marten abundance and time since colonisation vary. Sampling design will be discussed, along with preliminary results, which offer exciting insights into the relationship between both squirrel species and the recovering predator population in the UK and Ireland.

A Citizen Science Survey of Pine Marten on Abbeyleix bog, Co. Laois

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The Abbeyleix Bog Project (ABP) stemmed from a local action group to conserve and protect the bog which was threatened with harvesting for peat moss. The local community is currently managing, conserving and restoring the bog. To gain an understanding of the pine marten population at the site, a team of citizen scientists established a non-invasive hair-tube survey across the wooded area of the site which includes sections of wet woodland. The tubes were checked on a weekly basis for a period of six weeks and positive hair samples were removed and replaced with new patches, and the tubes were also rebaited. DNA analysis consisted of species verification, sex identification and genotyping to identify individual pine marten. Remote cameras were used to collect video evidence of the animals using the hair-tubes. The results from this project will be used to establish a baseline population estimate of the number of pine marten that live at ABP, and will be used to inform future conservation enhancements such as the placement of den boxes. The pine marten videos were uploaded to the ABP Facebook page as part of an awareness raising campaign and also appeared in a short television news clip about the project.

The Distribution of Pine Marten in Northern Ireland: a Citizen Science Survey

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Monitoring the distribution of a species is fundamental to its effective conservation and management. However, conventional monitoring methods can require specialist training and techniques (i.e. scat surveys), and can be expensive and time consuming. We therefore present a simple method that overcomes these limitations and has been effectively utilized by "citizen scientists" to rapidly assess the distribution of pine marten (*Martes martes*). More than 60% of the 250 sites visited were surveyed by the 70 citizen scientists who participated over 3 months. Pine marten were recorded in 20% of sites visited and in over 30% of 10 km squares surveyed. Our results reveal how the combination of a simple methodology with enthusiastic citizen scientists can be effective in monitoring species distributions. We advocate the use of citizen scientists in monitoring species distributions in the future.

Variation in Pine Marten Density and Abundance: How abundant are Pine Marten in Ireland?

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Pine marten (*Martes martes*) are a highly protected species in Ireland that are in a phase of natural range expansion after centuries of decline. There is very little knowledge on the biology or ecology of this species in Ireland, which is an obstacle to conservation management. In this study, we carried out a large-scale research project that aimed to establish pine marten density throughout Ireland. Using a non-invasive genetic survey technique, pine marten density and abundance was assessed at 19 sites, surveying over 20,000 ha of forest habitat. In each study site, hair tubes were deployed, multiple sampling sessions occurred, molecular techniques confirmed species and individual pine marten identity, which provided site-species capture histories and the basis of density estimation using spatially explicit capture recapture statistical models. We provide data on the results of this study and the implications of the results for the conservation of the species in Ireland.

Pine marten in Portlaw woods – a decade of DNA data

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Over the past 10 years the Molecular Ecology Group at WIT has developed the methods needed to collect samples and identify individual pine marten in the Irish population. This has allowed the long term monitoring of a small population of pine marten in Portlaw woods using scat and hair collection and DNA fingerprinting. The project field work was concluded in 2015 after 10 years, leaving a daunting mountain of data. This talk will attempt to describe the project, the data and the preliminary conclusions about the lives of Irish pine marten.