



GREY SQUIRREL CONTROL SURVEY REPORT 2021



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1. SUMMARY SURVEY RESULTS

- Grey squirrels continue to be seen as the greatest threat to broadleaf trees, ahead of pathogens and deer.
- More than a third of survey respondents do not control grey squirrels.
- No control method is considered very effective. This in part reflects lack of knowledge on how to use the various control methods to best effect, and in part that however proficient, respondents see no improvement in the situation.
- The survey highlights a clear need for greater access to training for woodland owners on grey squirrel control.
- Shooting is the most common method of control, with shooting at bait stations and Fenn traps considered the most effective.
- Natural predators (pine martens and goshawks) are reported to be making a difference in some areas.
- Silvicultural practices to mitigate damage including planting species which are least susceptible to grey squirrel bark stripping have been adopted in significant numbers.
- There is widespread support for current research and development of immunocontraceptives.
- It is recognised that without a landscape scale approach little progress will be made with the tools currently available.
- There is support for a grant for grey squirrel control but long-term respondents believe natural predators and fertility control currently offer the best prospect of a solution.

66% ranked the grey squirrel threat as high or very high compared with 62% for pathogens already present in the UK (such as Ash Dieback and Acute Oak Decline) and 38 for deer.

777 respondents



2. CONTEXT

Grey squirrels strip bark from trees and either kill them directly or expose them to secondary infection by pathogens. Damaged trees do not provide timber, sequester carbon or provide habitats for wildlife to the same extent as healthy trees. There is a risk that unless grey squirrels are controlled more effectively, current efforts to drive up the rate of new woodland creation will leave a disappointing legacy.

In January 2021 the RFS published *An analysis of the cost of grey squirrel damage to woodland in England and Wales* which estimated the cost of grey squirrel damage at £37m a year, as a result of a combination of loss of future timber value, reduction in future carbon sequestration and the annual cost of squirrel control.

The RFS also issued an online survey in January 2021 asking woodland owners and managers about their views and experiences of grey squirrels. This survey aims to refresh findings of a similar survey conducted in 2014, to identify what, if anything, has changed, and to provide practical information for land managers to support better grey squirrel control practices.

Since the RFS 2014 survey the following events have taken place:

- **Formation of the UK Squirrel Accord (2014)**
- **Ban on use of warfarin to control grey squirrels (2015)**
- **Start of grey squirrel fertility control research project by FERA (2017)**
- **Reintroduction of pine martens to mid-Wales and the Forest of Dean (2015 & 2019)**
- **License granted to GoodNature A18 trap for grey squirrels (2018)**
- **Government aspiration to establish 30,000 ha of trees a year from 2030-50 in the UK (2019)**



3. RESPONDENTS

The online survey was sent to all RFS members and was widely networked in the forestry sector including to, among others, members of CONFOR and the Small Woods Association. 777 people responded, slightly more than for the RFS 2014 survey. 73% of respondents are RFS members, 64% woodland owners and 22% forestry managers or agents. A number of respondents are game keepers, pest controllers or rangers.

81% of respondents are in England, 13% Wales, 3% Scotland and 2% Northern Ireland. The highest number of survey responses come from South East England, West Midlands and the South West (44%). Woodlands in these areas have some of the highest levels of observed squirrel damage across the UK.

Respondents own or manage woods ranging from less than 1 ha to 1,500 ha. 55% of them own or manage woodland which is over 75% broadleaf. 62% of respondents manage broadleaf woodland of which 25% or more is less than 50 years old.

10-40 years is frequently cited as the age class at which broadleaf trees are most vulnerable to grey squirrel damage, although damage can occur earlier and later.

Overall the survey captures a wide diversity of woodland ownership, management and composition in areas where grey squirrels are most present and is considered broadly representative.

4. WHAT IS THE GREATEST THREAT TO THE HEALTH OF BROADLEAF TREES?

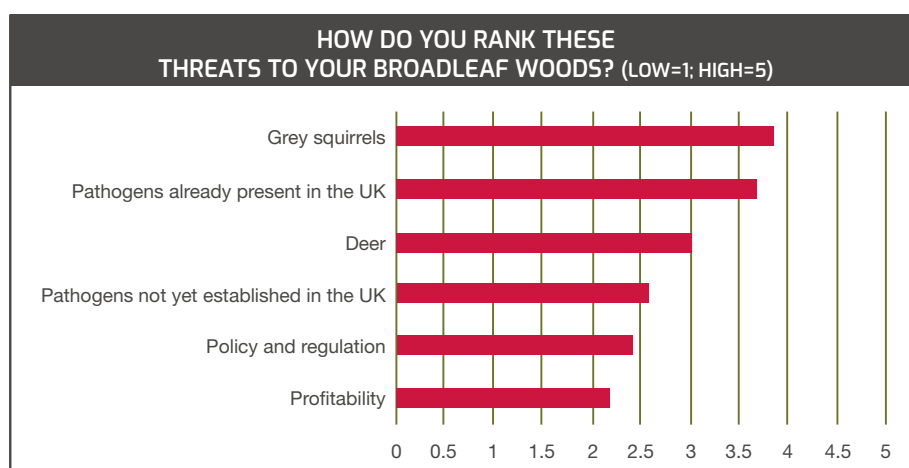


Chart 1 above shows that respondents ranked the severity of the threat of grey squirrel damage to their broadleaf woods higher than any other threat.

66% ranked the grey squirrel threat as high or very high compared with 62% for pathogens already present in the UK (such as Ash Dieback and Acute Oak Decline) and 38% for deer. This is consistent

with the results of the same question asked in 2014. The threat from pathogens not currently present in the UK such as Xylella and Emerald Ash Borer is ranked considerably lower than pathogens already present. The profitability of broadleaf woodland is considered the lowest threat of those listed.

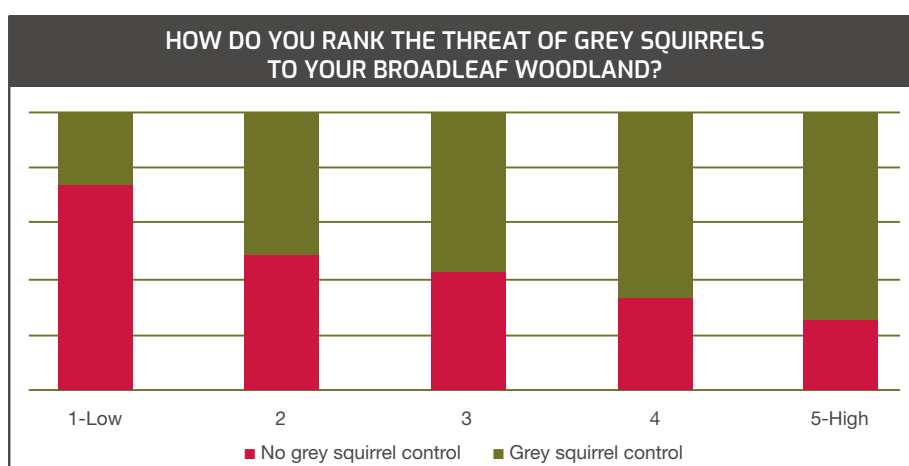


Chart 2 above shows that the perception of the threat is significantly greater among respondents

who manage grey squirrels than those who don't. A typical response on this question:

"Grey Squirrels are one of the biggest threats to the National Forest. Their damage is limiting the potential economic returns for woodland owners, which reduces the efficiency of the woodland economy and disincentivises the planting of broadleaf woodland. Their damage is also limiting the areas which are safely accessible by the public."

5. EVIDENCE OF DAMAGE

Respondents were asked to estimate the extent of stem and canopy bark stripping observed in 2020. 14% report none or less than 5% damage. 56% report between 35% and 100% damage. This is significantly higher than the levels of damage recorded by the National Forest Inventory (NFI) report *Squirrel stripping damage and presence of squirrels in woodland in Britain* published in December 2020. This survey records c.11% of woodlands in England showing evidence of squirrel bark stripping damage, c. 6% in Wales and 0.3% in Scotland.

The survey highlights a need to establish a standard approach to assessing grey squirrel bark stripping damage which would lend greater objectivity to survey results and encourage more regular and closer inspection of trees by woodland owners.

Sycamore, oak and beech are the species which respondents report having the greatest level of grey squirrel damage, followed by sweet chestnut,

field maple and birch. Hornbeam is also frequently mentioned. Aspen and ash are the lowest ranked broadleaves. This is consistent with other similar surveys, with sycamore consistently ranked the most susceptible to damage. All conifer species are ranked lower than all broadleaf species by a considerable margin. However some damage is reported to a range of conifers which underlines the importance of recognising that grey squirrels do not confine their bark stripping to broadleaf trees.

54% of respondents report that the level of damage caused by grey squirrels has remained about the same over the last five years, even among those conducting a regular cull. Almost equal numbers report either better or worse damage than five years ago. Better results often reflect recently taking up control activities. Worse results are reported by those who stopped control activities when warfarin was banned in 2015 or because the problem is seen as unmanageable.



6. MANAGEMENT OF GREY SQUIRRELS

36% of respondents do not manage grey squirrels in their woods. The main reasons given are:

- *No or little damage observed*
- *Public access makes control difficult*
- *Policy of not culling*
- *Culling is too time consuming, expensive or ineffective*

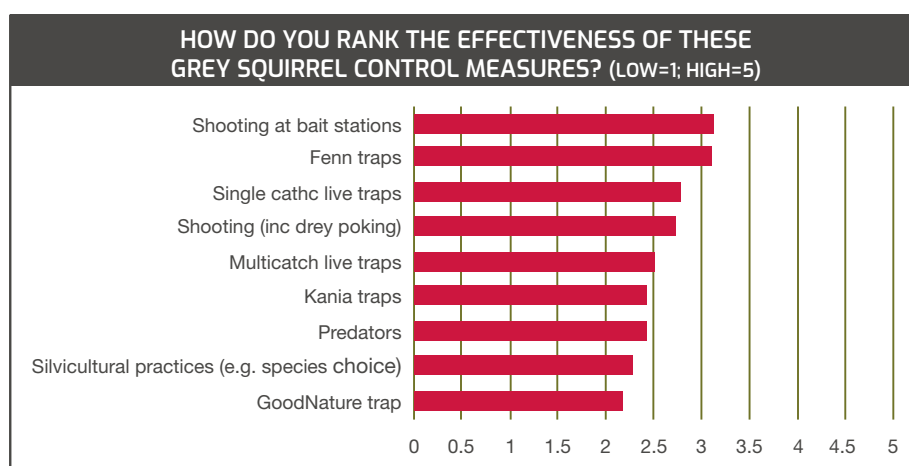


Chart 3 above shows that none of the control methods used is considered very effective, particularly if neighbours are not also actively controlling greys because of the speed with which they repopulate areas where numbers have been reduced.

However, averaging of respondents' replies masks evidence that for each method there are both strong advocates who achieve successful results, and those who have not yet learnt how to get good results from their chosen method. This highlights a knowledge sharing and training need for woodland owners. Contrast the following responses:

"I have no knowledge of best practise in this matter and would need more advice, but happy to carry out measures to keep squirrel population down."

"Our traps are highly effective and used in "zones" throughout the woodland."

Shooting at bait stations and Fenn traps are considered the best methods, followed by shooting throughout the wood and single catch live traps. While the GoodNature A18 trap is seen as the least effective method in its current form, it is acknowledged that there is still more to learn about how to use this trap to best effect.

The ranking of effectiveness is also in part a reflection of familiarity with the various control methods listed.





There is overwhelming support for the current research supported by the UK Squirrel Accord and being carried out by FERA to develop and commercialise an immunocontraceptive delivered to grey squirrels via modified bait hoppers.

There is some scepticism whether this research is being properly funded, whether the product will work in practice especially if neighbours are not using it, and a caveat that trapping and shooting must continue alongside fertility control. These points are well made as the FERA research team have indicated that effective trapping and/or shooting at a landscape scale is a prerequisite to the success of fertility control.

Woodland owners themselves carry out grey squirrel control in 37% of cases, followed by game keepers/estate staff and volunteers (25% and 20% respectively). Where woodland owners are the controllers, it is their time rather than cost that is often the most significant barrier to better control,

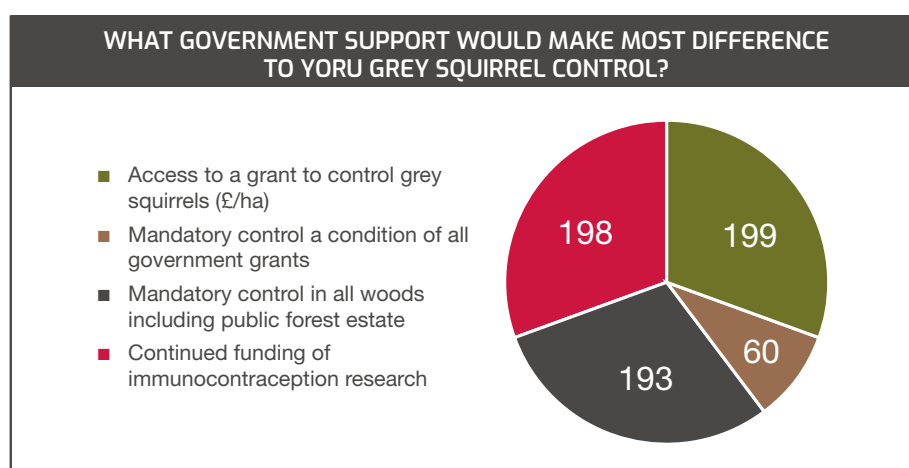
which has a bearing on developing more effective incentives.

It is generally recognised that grey squirrel control is only really effective when carried out on a landscape scale and coordinated with neighbours. In this survey, 45% of respondents report that their neighbours are not doing any grey squirrel control. 30% report that neighbours are doing control at least some of the time. 25% don't know what their neighbours are doing about grey squirrels. Over 90% are not attempting to coordinate any aspect of grey squirrel control with neighbours.

A typical comment on this issue:

"We shoot or trap between 80 and 130 squirrels a year on 135 acres and yet the numbers don't seem to diminish. There is no vermin control around us so every year they come in from outside."

7. POLICY INTERVENTIONS



The survey asked respondents what policy interventions would make most difference to the effectiveness of their grey squirrel control activities. Chart 4 above shows that there is equal support for:

- **introduction of grey squirrel control grants on a £/ha basis**
- **grey squirrel control is made condition of a government grant**
- **continued funding of immunocontraceptive research**

Widespread reintroduction of pine martens is also frequently mentioned as a preferred solution. However, the Vincent Wildlife Trust consider that there are relatively few parts of lowland England suitable for the reintroduction of pine martens due to the fragmented woodland landscape and population density.

There is a call to improve communications and engagement with the general public to raise awareness of the threat to trees as well as red squirrels. The least attractive option is to make control mandatory for all landowners regardless of grants.

Overall, respondents believe that pine martens and fertility control are currently the best long-term solutions which could make a material difference to what is currently seen as an intractable problem.

Typical responses to this question:

"The current UK agenda seems to push native broadleaf planting ahead of any other. This is clearly not a sensible plan when considering climate change and grey squirrel damage. Grey squirrel control should be grant funded and mandatory for woodlands over a certain size."

"The reduction of grey squirrel damage to broadleaved trees to an acceptable level is essential for the government to meet forestry related policy targets for climate change, water and air quality, and biodiversity. A government led programme to progressively remove grey squirrels from the countryside is unlikely to happen for political reasons and so I would like to see a focus on predator introductions and contraception where this has no adverse ecological consequences."

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in delivering this survey and report.*

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