

# Grey Squirrel Woodland Damage Surveys

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THE NATIONAL  
FOREST

## Introduction

### The research

This study<sup>1</sup> examined the occurrence of grey squirrel damage to young woodlands in The National Forest and assessed the nature and extent of damage caused. A sample survey of nineteen 10 - 15 year old woods was undertaken, plus two 25 - 30 year old woodlands, to help assess and compare impacts in maturing woodlands. The surveys were undertaken in the autumn/winter of 2007. This study forms part of the National Forest Company's (NFC) on-going work to monitor the extent and impact of woodland pests and diseases on the Forest resource.

### Why do it?

National research has identified that grey squirrels can cause widespread and severe damage to woodland trees and shrubs<sup>2</sup>. This can impact upon the commercial viability of timber tree species, as well as reducing the public amenity value of woodlands. Many of the newly planted woodlands in The National Forest are now entering the period when they can be susceptible to grey squirrel damage (over seven years old dependent upon tree species). It is essential for the NFC and partner organisations to protect the Forest's woodland resource – to maximise its long-term timber potential and public benefits and to safeguard the public investment that has gone into the Forest's creation. This research helps to provide evidence of grey squirrel damage to enable forestry stakeholders to anticipate future impacts and plan for long-term management issues.

### Aims & objectives

- To provide an overview assessment of whether each woodland has been, or currently is, subject to grey squirrel damage.
- To identify which tree/shrub species are being damaged.
- To obtain an indication of the level of damage at each site, its severity and where it is occurring.
- To identify any trends that will help to inform future actions, to ensure that woodlands are not damaged beyond the point where they cannot meet their primary aims.



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# The Project

## Description

The survey was devised to include a range of woodlands from across the Forest's different landscapes. It included different types of woodlands (commercial and amenity); varied species (broadleaved, mixed broadleaved and conifer, poplar); a wide range of site sizes (1 - 60ha); and a mix of landowner types (private, public and charity). Woodlands were also chosen in a range of settings, including ones adjoining mature woodland, in areas connected by hedgerows and mature hedgerow trees and in more open farmland locations. This helped to identify where existing populations of grey squirrels were coming from to colonise young woodlands. Damage reports were produced for each site, including assessments of whether commercial timber potential is being affected.

## Approach

The survey methodology assumed that grey squirrel incursions into the new woodlands would come from existing populations adjoining or already on the site. A 20 metre wide sweep of the internal and external boundaries of each woodland was therefore undertaken and woodland edge trees were surveyed, to identify any signs of damage. All internal paths were also walked and damage to any edge trees recorded. Finally, further sweeps were made into each woodland adjacent to vulnerable boundary sites (e.g. where the young woodland abutted a mature woodland or mature hedgerow with large hedgerow trees). Signs of damage were recorded on a handheld GPS data logger, allowing details to be accurately mapped and recorded on a summary survey form.

## Timescales

June 2007 – February 2008.

## Budget

£6,086 inclusive of VAT.

# Results

## Outcomes

Detailed findings are available for all 21 surveyed sites. The main overall findings are:

### Woodland age

- All the woodlands except two had evidence of some squirrel damage.
- Squirrels will start to damage young trees on the basis of their size and suitability rather than age.

### Location

- The assumption that damage would be close to an existing mature habitat for squirrels proved to be correct in almost all of the sites with recorded damage.
- To look out for the onset of damage it is therefore recommended to inspect trees at target locations adjoining or close to existing woodland, mature hedgerows with hedgerow trees or urban gardens.

### Species and level of damage

- Only a limited amount of damage is occurring, and is mainly affecting small numbers of amenity species. The most common species affected are field maple, silver birch, goat willow and regenerated sycamore.
- At seven sites timber species have been damaged. Oak was most frequently recorded with ash and walnut affected on a small number of sites. No damage was recorded to conifers, which were present at 13 of the survey sites.
- At one site (4.75ha), which was enclosed by mature trees, there was widespread damage recorded.

- In the two older plantations, damage to oak was severe. At one of these sites thinning had been undertaken to salvage the final crop trees.
- Anecdotal evidence from some woodland owners suggested that damage had increased following woodland management operations.

### Applications

- Providing baseline data for the NFC and stakeholder organisations to develop a squirrel management action plan for the Forest area (produced in 2008).
- Providing information to National Forest woodland owners to inform decisions about future squirrel management, if appropriate (control methods are being trialled with some landowners).
- Providing a cost effective survey method which can be applied to other locations.

## Further information

### Dissemination

- Woodland site owners.
- Squirrel management stakeholders.
- NFC research review seminar 2010.

### Links to published work

<sup>1</sup> *National Forest grey squirrel damage survey*. (2008). Chris Wait and Associates.

<sup>2</sup> *Controlling Grey Squirrel damage to woodlands*. (2007). Mayle, B., Ferryman, M. and Pepper, H. Forest Research Practice Note.

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