Grey squirrels damaging UK timber

Kay Haw, UK Squirrel Accord

A century ago, far fewer grey squirrels (*Sciurus carolinensis*) were resident in the UK. Originally native to North America, they were intentionally introduced to a number of sites in England and Ireland between 1876 and 1929 for ornamental purposes, where they managed to successfully establish viable populations. In 1937, the UK Government passed a law prohibiting the importation and keeping of grey squirrels.

Current estimates put their population at over 2.5 million individuals and they are now widely spread in large areas of England, Wales, the Scottish Lowlands, Northern Ireland and Ireland, where they tend to live at higher densities than the native red squirrel. This invasive species causes declines and local extinctions of native red squirrels as it spreads across the UK and Ireland, outcompeting them for food and habitat and spreading squirrel pox, but it also poses serious problems for timber production.

Bark stripping damage

High densities of juveniles can strip bark from the main stem and branches of trees between April and September. Species particularly susceptible to damage include high value trees such as oak, beech, hornbeam and sweet chestnut, whereas species such as lime, horse chestnut and wild cherry are far less or unaffected.

Grey squirrels target young broadleaved trees, mostly 10-40 years of age, and repeat the damage year after year if their densities are high and unmanaged. This creates open wounds that pathogens can infect and may lead to girdling, which can cause irreversible damage and tree fatalities. As grey squirrels cause the loss of leaders, lesions, callus growth and dysfunctional shape, trees are prevented from achieving good timber form.

Evidence suggests most pre-world war woods experienced little to no damage from grey squirrels, as they had surpassed the vulnerable 10-40-year stage of their lives before grey squirrel numbers greatly increased. However, post-world war woods show increasing levels of bark-stripping damage. A situation that worsened from the 1960s onwards with the growing density and spread of grey squirrels in the UK.

Tree damage & fatalities

The 1985 Broadleaves Policy shifted the focus towards planting more tree species that support native biodiversity and provide an important, valuable hardwood timber resource. However, there is a reluctance to plant broadleaves for timber purposes due to grey squirrel bark stripping causing extensive damage to timber crops.

In 2014, a survey of Royal Forestry Society members highlighted grey squirrels as the greatest threat to broadleaf timber production, above those threats posed by tree diseases and deer.

One member stated, "I replanted the major part of my woodlands in 1987 with 80% English oak. The bark stripping by grey squirrels over those 26 years has seriously damaged an estimated 40% to 50% of the crop, in many cases fatally." This negatively impacts the forester and UK timber trade, but also the biodiversity that would benefit from the food and habitat provided by those maturing trees.

Looking forward, Graham Taylor, Pryor & Rickett Silvaculture, recently estimated the long-term cumulative cost of grey squirrel damage to the timber trade, over the next 150 years needed to produce mature, productive hardwoods, to be over £22.5bn. This is made up of £40m per year lost to the rural economy and £110m per year spent on foreign imports by businesses that need the sawn timber UK woodlands are failing to deliver when trees are damaged.

Grey squirrel management

From 1973, the anticoagulant Warfarin delivered via a hopper was a popular choice for grey squirrel control, but could not be used in red squirrels or pine martens areas. However, Warfarin is no longer available as its licence was terminated in 2014. Other management options include lethal traps, which cannot be used in red squirrel areas, and live traps with humane dispatch, which can be used near red squirrels. Shooting is another option. There is now a Lantra accredited air rifle best practice, safety and competency course for shooting grey squirrels for red squirrel conservation.

The UK Squirrel Accord partnership is fundraising for and funding research into a fertility control for grey squirrels, and is in the second of the five-year project being carried out by the Animal and Plant Health Authority (APHA). This would provide another humane tool to reduce grey squirrel densities. As well as research into the immune-contraceptive drug itself, APHA are developing a grey squirrel specific delivery hopper for deployment in woodlands, analysing the efficacy of using fertility control versus trapping and developing a model to predict grey squirrel densities.

http://squirrelaccord.uk

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