Red Squirrel Conservation

WILD CHALLENGE – RED SQUIRRELS

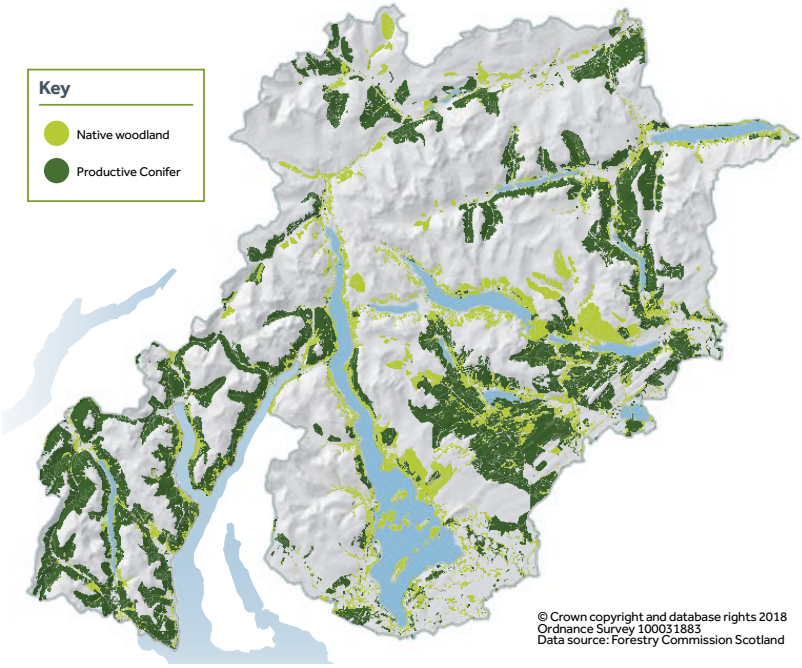
The red squirrel Sciurus vulgaris is one of our most popular and well-loved mammals but they are in danger of becoming extinct in Scotland. There are less than 120,000 red squirrels remaining in Scotland which is about 75% of all of the red squirrels in the UK. Compare this to 2.5 million grey squirrels in the UK!

Historically large areas of native woodland across the country have been lost due to de-forestation and changes to land management practices, and red squirrels are also threatened by the introduced North American grey squirrel, Sciurus carolinensis.

Loss of habitat

Tree cover in Scotland used to be so extensive that a red squirrel could have travelled from one side of the country to the other without touching the ground.

Following a long history of land use change, the small, isolated fragments left over from Scotland's once huge native woodland could not support our red squirrels. Modern-day woodland planting is helping to turn this around. With help from the Forestry Commission Scotland we're making sure large areas aren't felled all at once but in stages so red squirrels always have access to a suitable habitat.

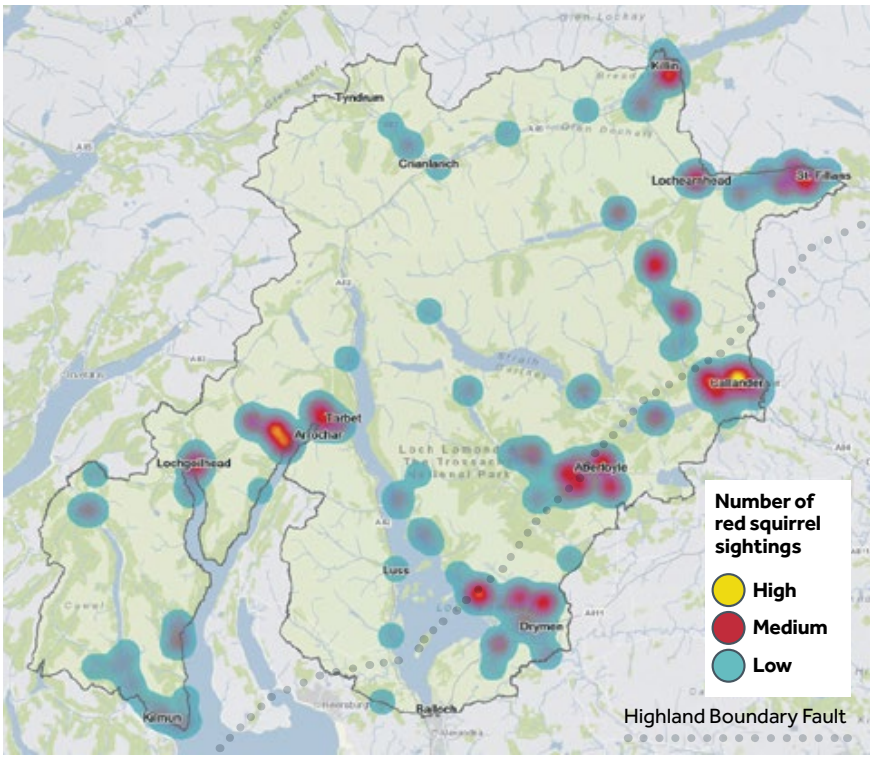


The spread of American grey squirrels and squirrelpox

The non-native grey squirrel was introduced in Britain by the Victorians. This American cousins of our native red squirrels have spread out in our woodlands and ended up as neighbours to our red squirrels.

As grey squirrels are larger than red squirrels they can digest food such as acorns before they are ripe. This means that grey squirrels can utilise this food source before reds, leaving the reds hungry. They also carry a virus called squirrelpox which can be fatal to our native reds. Grey squirrels are carriers of the disease but they are resistant to it themselves.

Our Wild Challenge



One of our flagship Wild Challenge projects within the National Park is our partnership work which supports the conservation of our native red squirrels.

This large partnership project contributes to the aims of the Saving Scotland's Red Squirrels national initiative which aims to reverse the current decline in the distribution and numbers of red squirrels in Scotland. The long-term vision is to secure red squirrel populations in all the areas they currently occupy, together with expansion into some of their former range. The most serious threat to red squirrel populations is the ever expanding population of grey squirrels with the attendant risk of squirrel pox.

https://scottishsquirrels.org.uk

There is an area to the west and north of Scotland (approximately to the north along of the Highland Boundary Fault) where there are currently no grey squirrels, only populations of our native red squirrels.

To the east and south of this line there are populations of red and grey squirrels. The Highland Boundary Fault line is a key area for the project to focus on and falls diagonally across the National Park.

Within the Loch Lomond & The Trossachs National Park the project will seek to protect identified red squirrel populations and other existing grey-free areas by undertaking grey squirrel control to reduce the risk posed to the major grey-free populations of red squirrels.

In the past three years, a partnership of the Scottish Wildlife Trust, the National Park Authority, land managers, private estates, volunteers and Forestry Commission Scotland staff have worked together to establish long term survey and monitoring of both red and grey squirrel populations and a strategy for targeted grey squirrel control which is primarily funded through the Rural Priorities element of the Scottish Rural Development Plan (SRDP). The continuation of this project will rely upon the sustained contribution of these partners over the following years.

Survey methodology

FEEDER BOX SURVEYS

these surveys monitor the progression of populations over time and determine what is present in a specific area. The resulting data provides the most suitable locations to focus trapping or other conservation efforts.

In March and April hundreds of volunteers visit sets of feeder boxes (usually 4 in a set area), filling them up with peanuts and placing a sticky tab on the lid. This is done every 2 weeks and the peanuts and sticky tab replaced each time the boxes are refilled. The sticky tab collects hairs from squirrels that visit the box allowing the presence or absence of reds and greys in that area to be determined.

Colour alone cannot be used to separate red and grey squirrel hairs. It is necessary to view the samples under a microscope to observe the cross-section of the hair which are different for red and grey squirrels.

CITIZEN SCIENCE

Public squirrel sightings are essential to the success of the project. This wide scale data recording helps to focus the control of greys but also helps ensure woodland is managed for red squirrel populations. Public participation raises awareness of the project and the plight of the red squirrels in Scotland.

TRAPPING

Trapping is a targeted approach to controlling grey squirrel populations in a specific area. It is illegal to release grey squirrels once they have been caught as they are a non-native species so they are humanely despatched. The captured grey squirrels are tested to investigate the presence of the Squirrelpox virus, allowing the project to gather important evidence of the health of populations and ensure that the disease is kept as far from red squirrels as possible.

Mitigating against Climate Change

There are various implications of climate change for red squirrels in Scotland which include changes in rainfall patterns, increased risk of storm damage which may reduce the number of seed-bearing trees and the amount of red squirrel habitat, and possible greater prevalence of new tree diseases which could have an impact on food sources.

To allow populations to respond to these potential impacts, it will be necessary to continue to plan woodland management on a landscape scale, ensuring a sustainable food supply and habitat connectivity for red squirrels to successfully adapt and thrive.

The future for the project

The Saving Scotland's Red Squirrels spring 2017 survey results show that red squirrel populations have remained stable in the past year, a sign that with continued effort from conservationists and volunteers, their decline can be halted.

Our commitment is to work in partnership to continue with this flagship project so that the woodlands and forests can support healthy stable populations of our native red squirrels and further reduce the threat posed by the grey squirrel populations. Our ambition is to push back the grey squirrel population to the south and eastern boundaries of the National Park and to promote it as a place where visitors can experience and enjoy our much-loved red squirrels.

Questions and pupil enquiry

- What are the main causes of red squirrel population decline in Scotland?
- List the ways grey squirrels eventually replace red squirrels in locations they spread to.
- Explain the variety of ways conservation management can support the increase of red squirrel populations
- How will climate change impact red squirrel populations?

FURTHER READING

Online

Scottish Natural Heritage Naturally Scottish: Red Squirrels publication

Saving Scotland's Red Squirrels project website

Scottish Strategy for Red Squirrel Conservation

Video clips

Wild Challenge 1 - Red squirrels

Site visits

- Balmaha on east Loch Lomond is a great location to base a field visit, with the National Park Visitor Centre and Outdoor Classroom available for school groups. Follow the red squirrel trail through woodland walk behind the visitor centre to learn more about them and hopefully spot a squirrel too.
- Other suitable sites for field visits include at the The Lodge, Aberfoyle owned by the Forestry Commission Scotland which has a viewing hide where they regularly feed the squirrels.