

4.5 Red Squirrel

4.5.1 Current Status

The red squirrel (*Sciurus vulgaris*) is a UK BAP priority species and a species listed on the Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). There are estimated to be 120,000 in Scotland, about 75% of the UK population (Saving Scotland's Red Squirrels, SSRS 2015). The species is present from Ireland, Spain and Portugal in the west, through continental Europe, Russia, Mongolia, and north-east China to the Pacific coast. Globally it is classed as stable but is declining in UK, Ireland and Italy²⁷. The red squirrel is native to the UK while the closely related grey squirrel is non-native, being introduced to the UK from North America in the 19th century.

4.5.2 Ecology and Habitat Requirements

Red squirrel is a native squirrel species associated with woodland habitats. Unlike the non-native grey squirrel, the red squirrel can be found in both large tracts of coniferous forest as well as broadleaved woodlands.

Squirrel shelters are called dreys and resemble large nests, and are usually built high in the branches of tall trees. The diet of a red squirrel comprises predominantly of seeds (pine, spruce, larch) and nuts, however, it may also feed on berries, fungi and eggs. The diet preference of the grey squirrel is for large-seeded broadleaved species such as beech, oak and sycamore, and they are likely to out-compete red squirrel in broadleaved woodlands with these species. Red squirrel conservation is more likely to succeed in broadleaved woodlands comprising small seeded species (birch, rowan, willow, alder and ash) or in coniferous woodlands (semi-natural or commercially planted).

Grey squirrels not only out-compete the smaller red squirrels, but also carry the squirrel poxvirus, which is highly pathogenic to red squirrels. Grey squirrels can carry the virus without being affected, and UK studies have shown that apparently healthy grey squirrels have been exposed to the virus and may be carriers²⁸. To date in the Biosphere the virus has been detected primarily in the Nith catchment at Thornhill, Moniaive and Sanquhar. Other than the threat posed by grey squirrel, the main predators of red squirrels are birds of prey, such as goshawks and pine marten and domestic cats in urban areas.

Red squirrels are found throughout the Biosphere but the forests supporting red squirrels within the Buffer zone around New Galloway, Laurieston and the southern end of the Galloway Forest Park have been identified as the priority area for grey squirrel control in the Scottish Strategy for Red

²⁷ Sandro Bertolino, Heikki Henttonen, Boris Kryštufek, Holger Meinig 2007. *Sciurus vulgaris*. The IUCN Red List of Threatened Species. Version 2015.2.

²⁸ McInnes, C. J., Wood A. R., Thomas K., Sainsbury A. W., Gurnell J., Dein F. J., et al. 2006. Genomic characterization of a novel poxvirus contributing to the decline of the red squirrel (*Sciurus vulgaris*) in the UK. *Journal of General Virology*. 87(8):2115 - 2125.

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Squirrel Conservation, with some areas identified as stronghold forests and a priority for habitat management. In addition, the Nith catchment has been identified as a priority for grey squirrel control as well as a small discrete area around Maybole. Forestry Commission Scotland has an ongoing programme of extensive monitoring for grey squirrel presence, testing for squirrel pox virus and grey squirrel control.

Management to benefit this species will have to be considered when drafting management proposals for other priority species and priority habitats, as these might be mutually exclusive.

4.5.3 Concerns

- Habitat loss
- Habitat fragmentation
- Threat from grey squirrels (competition and squirrel poxvirus)

4.5.4 Conservation Objectives

In addition to habitat management measures detailed in section 3, Red Squirrel require specific management action to maintain and enhance its population as the species has undergone a significant decline.

The recommended management actions for Red squirrel are:

- Grey squirrel control
- Red squirrel priority areas for management

4.5.5 Management

Primary management for the red squirrel is appropriate woodland management and creation (see Section 3.2 Woodlands for Red Squirrel) with some areas being appropriate for grey squirrel control.

4.5.6 Example Projects

- FCS Grey squirrel monitoring and control project aims to safeguard the interest of a red squirrel population. The project involves monitoring of commercial plantations for presence of non-native grey squirrel (*Sciurus carolinensis*) using hair tubes and camera traps and eradication of grey squirrels using humane methods of dispatch.
- Cree Valley Community Woodlands Trust (CVCWT) manages a number of FCS-owned woodlands on behalf of FCS. As part of their work and engagement of communities and volunteers, they carry out a number of monitoring initiatives. Relevant to Red squirrel is work on biological recording and non-native invasive species. <http://www.creevalley.com/>

- Work of Saving Scotland's Red Squirrel Project to promote community and land owner control of grey squirrel populations and monitoring of red squirrels. <http://scottishsquirrels.org.uk/about/in-your-area/>
- SRDP 2014-20 forestry grant: <https://www.ruralpayments.org/publicsite/futures/topics/all-schemes/forestry-grant-scheme/sustainable-management-of-forests/grey-squirrel-control/>
- RSPB Scotland carryout monitoring for grey squirrel on the Wood of Cree reserve in liaison with South Scotland Red Squirrel Project with additional effort being explored at Ken Dee Marsh reserve.
- Forestry Commission Scotland is continuing research into red squirrel densities in Galloway Forest Park and the impact of invading greys. Research into the density of pine marten is underway in the Fleet red squirrel stronghold site and if there is any indication of natural control of grey squirrel by pine marten as observed in Southern Ireland.

4.5.7 Opportunities

- Saving Scotland's Red Squirrels work on the new South Scotland Priority Areas for Red Squirrel Conservation (PARCs) Project, in Nith Valley, Culzean and the Glenkens and Galloway. This is part of a network of 8 priority networks in South Scotland to protect significant red squirrel populations through the development of greater "community" responsibility for grey squirrel control/red squirrel protection.
- Forest restructuring to create a diversified food supply.
- Use of small seeded broadleaves in main conifer woodlands to reduce grey penetration by limiting amount of large seeded broadleaves of large seeded broadleaves in conifer forests, the habitat is less attractive to grey squirrels.
- Promoting recording of grey and red squirrel sightings with Savings Scotland's Red Squirrel Project.
- Designated Scottish Wildlife Trust project officer for the South West who can help support applications to SRDP for grey squirrel control and woodland management.

4.5.8 Further Information

Red Squirrel in South Scotland project <http://www.red-squirrels.org.uk/>

Saving Scotland's Red Squirrels Project <http://scottishsquirrels.org.uk/>