RED SQUIRREL *Sciurus vulgaris* SPECIES ACTION PLAN

DESCRIPTION

The red squirrel is smaller and thinner than the grey squirrel, and can be distinguished from the grey squirrel by the prominent ear tufts. Red squirrels are found in a wide range of woodland types but survive the competition from grey squirrels better in large blocks of coniferous woodland. The diet is quite varied but principally includes tree seeds especially pine cones, beech mast and acorns. Buds, flowers, leaves and insects will also be taken depending on the time of year.

Breeding can occur from December through until September with two peaks in February-April and May-August. Females may produce two litters in years when there is sufficient food with between one to six, although usually two to four young. These are weaned at eight to ten weeks and will become independent shortly afterwards.

LOCAL BIODIVERSITY IMPORTANCE

At the start of the 19th century, the red squirrel was a widespread and common species found throughout Yorkshire. Populations subsequently began to decline, probably through habitat loss and disease, although the exact reasons are not known. The decline has been exacerbated by the introduction of the non-native grey squirrel from North America from 1876 onwards, with the first introductions into Yorkshire occurring in 1906.

Within the National Park, red squirrels are still present in the Cumbrian parishes of Dent, Garsdale and Sedbergh. They are also present at a number of sites in North Yorkshire in the area adjacent to the Cumbria county boundary around Hawes.

NATIONAL & INTERNATIONAL BIODIVERSITY IMPORTANCE

The red squirrel is listed on Appendix III of the Bern Convention and is protected by Schedules 5 and 6 of the Wildlife and Countryside Act 1981. It is a national UK BAP Priority Species.

CURRENT ISSUES, OPPORTUNITIES & THREATS

It has been estimated that the red squirrel could become extinct from mainland England in less than fifteen years unless positive action is taken. The main threat to the red squirrel comes from competition from the introduced grey squirrel. Although the exact mechanisms are not known, it would appear that the grey squirrel can out-compete red squirrels at times of the year when food is in short supply, and the grey squirrels may be better adapted to surviving in broad-leaved and mixed woodland. It has also been suggested that due to their larger size, grey squirrels may be more likely to survive during periods of severe weather. Grey squirrels also act as a carrier for diseases such as parapox virus which, although harmless to them, can cause significant mortality in red squirrel populations.

Fragmentation of suitable red squirrel habitat and unsympathetic management of woodland has also contributed to the decline of red squirrel populations. The importance of woodland within the Cumbrian Dales for red squirrels is acknowledged in the Dales

Woodland Strategy, the document outlining the policy framework for trees and woodlands in the National Park. At appropriate sites the habitat requirements for red squirrels will be incorporated into new planting and management of existing woods.
The red squirrel is still found throughout Cumbria with the core populations in the north of the county. In a regional context the Yorkshire Dales red squirrel populations are on the south-eastern fringe of this range and represent a small percentage of the total Cumbrian population. A Species Action Plan for red squirrels has already been published in the Cumbria Biodiversity Action Plan. Given that the majority of red squirrels in the National Park are also in the three parishes in Cumbria, the Species Action Plan for *Nature in the Dales* will be to implement the red squirrel Species Action Plan in the Cumbria Biodiversity Action Plan.

These actions will also need to cover the very small number of red squirrels that are present in the North Yorkshire area of the National Park adjacent to the Cumbrian boundary. There are several sites where red squirrels are known to be present in this area and a number of other unconfirmed sightings. There is a need to determine the distribution of red squirrels in this area although it is likely the squirrels occur at a very low population density. Consequently the use of hair tube or transect surveys unlikely to accurately identify the red squirrel distribution, with the collation of casual records likely to identify sites where red squirrels are present. Additional specific survey work might be necessary at some sites. Raising awareness of red squirrels and their conservation perhaps by forming a local red squirrel group will hopefully encourage the reporting of red squirrels by the general public.

In Cumbria, the distribution of red and grey squirrels in the National Park is monitored by the Sedbergh red squirrel group who also co-ordinate grey squirrel control. There needs to be continued support for this group.

AIMS OF THE SPECIES ACTION PLAN

- To maintain the current population and range of red squirrels within the Yorkshire Dales National Park.

OBJECTIVES

To achieve these aims we need to:

- Implement the Cumbria Biodiversity Action Plan for red squirrels in the Yorkshire Dales National Park by 2010.

In addition there are a number of objectives to be implemented in the Yorkshire area of the National Park including:

- Raise public awareness about the presence of red squirrels and red squirrel conservation to encourage the reporting of red squirrel sightings to help determine the distribution in the Yorkshire area of the National Park by 2002

- Collate any records to determine where red squirrels are present and undertake more detailed site specific survey work if necessary by 2002.

- Encourage positive conservation management for red squirrels in areas of suitable habitat by 2010.

- Alleviate the threat from grey squirrels to red squirrel populations by encouraging ongoing legal and humane methods of grey squirrel control.

ACTIONS & TARGETS

To achieve these objectives the following actions should be carried out and the targets achieved within the time-scale given:

Actions	**Target date**	**3 year cost £**
Implement the Red Squirrel Species Action Plan detailed in the Cumbria Biodiversity Action Plan. [reproduced as Appendix 1]	2010	
The following actions need to be carried out in the Yorkshire area:		
Create a draft map of red squirrel distribution by collating Red Squirrel sightings.	2002 then ongoing	500
Raise awareness of red squirrel conservation to assist in the above through press releases	2002	Officer Time
Encourage woodland owners and managers, through the use of advice and management grants, to include positive conservation management for red squirrels in appropriate areas of existing woodland and new planting.	2002 then ongoing	Woodland Grant Scheme & Agri-environment Scheme Funding
Encourage woodland owners and managers through the use of advice and management grants, to undertake control of grey squirrels where these are likely to effect red squirrel populations.	2002 then ongoing	Woodland Grant Scheme & Agri-environment Scheme Funding
Support the monitoring work and grey squirrel control carried out by the Sedbergh Red Squirrel Group	Ongoing	750

WHO WILL BE RESPONSIBLE FOR THE ACTION PLAN?

Lead Agency	Key Partners
Joint Nature Conservation Committee	Cumbria Biodiversity Partnership Forestry Commission English Nature Yorkshire Dales National Park Authority North West Red Alert Landowners and managers Sedbergh Red Squirrel Group Local Volunteers

Appendix 1:

CUMBRIA BIODIVERSITY ACTION PLAN

RED SQUIRREL
Sciurus vulgaris

C. Current status

The Red Squirrel is distributed throughout the northern Palaearctic, from the British Isles in the west, to the east coast of Russia. Once ubiquitous in Britain, the species has undergone a drastic decline over the last 50 years and is now essentially restricted to Scotland, Cumbria, Northumberland, County Durham, West Lancashire and Merseyside, with small isolated populations in Norfolk, the Isle of Wight, three small islands in Poole Harbour and North Wales.

Reasons for the decline of the Red Squirrel in Britain include loss and fragmentation of habitat and disease. However, the most important factor appears to be competition with the introduced American grey squirrel. The grey squirrel was introduced to Britain in the late 19th Century and has replaced the Red Squirrel in most of its former British range. Grey squirrels are better adapted to broad-leaved and mixed woodlands, enabling them to out-compete the reds, which are more adapted to coniferous woodlands.

The Red Squirrel still occurs throughout most of Cumbria, with the strongest populations in the north of the county. The main interface area where the two species are directly competing is in south Cumbria, to the south of Grasmere. Grey squirrels are also moving into the county, apparently from Scotland.

C. Legal protection

The Red Squirrel is fully protected by the Wildlife and Countryside Act 1981 (as amended), and is listed in Appendix III of the Bern Convention. At least seven Sites of Special Scientific Interest and three National Nature Reserves support Red Squirrel in Cumbria.

C. Relevant ecology/management requirements

Red Squirrels need a consistent and diverse food supply consisting of tree seeds, nuts, berries, buds, shoots, flowers, lichen, fungi and, occasionally, insects. The autumn and winter seed harvest is extremely important both for over-winter survival and for breeding success the following year. Red Squirrels need to increase their body weight by 10% in order to survive the winter and maintain good condition for breeding. The autumn and winter food runs out by late spring and between April and August natural food becomes scarce. Mortality in Red Squirrels is high, with five out of six young dying in their first year. They can, however, live for 4-7 years in the wild and have lived up to 10 years in captivity. Causes of mortality include lack of food, disease, predation and road deaths.

When faced with competition from grey squirrels, research indicates that Red Squirrels will survive best in large blocks of coniferous woodland.

In woodlands where Red Squirrel conservation is considered a priority, large-seeded deciduous species such as oak, beech, hazel and chestnut should be excluded from planting mixtures to discourage ingress by greys. Small-seeded broad-leaved species can be planted to increase diversity and provide extra sources of food for Red Squirrels.

The UK Red Squirrel Group advocates the establishment of refuge sites where management is geared to Red Squirrel conservation. These will essentially be large conifer blocks, greater than 200 hectares in size, surrounded by a buffer zone of non-squirrel habitat to help prevent incursions of greys.

C. Current issues

- Exploitation competition with grey squirrels.
- Loss, fragmentation and unsympathetic management of woodland habitats for Red Squirrels.
- Disease (e.g. parapox virus) causing depletion of populations and even local extinctions.
- Road mortality

The most important threat to the survival of the Red Squirrel in Cumbria is the spread of the grey squirrel.

C. Current action

- The Joint Nature Conservation Committee has produced a UK Strategy for Red Squirrel conservation and a UK Red Squirrel Group has been established to implement it.
- The Red Squirrel is the subject of a Species Recovery Programme run by English Nature.
- A Red Squirrel conservation partnership, NPI Red Alert North West, has been running since 1993, with a Project Officer based at Cumbria Wildlife Trust, to implement conservation action in the region. The Project has local groups who deliver targeted action and a five year regional action plan has been developed. It should be noted that the project does not have permanent funding and the partnership organisations will need to take on the work of the project if it does not continue.
- Records are collated by NPI Red Alert NW and Tullie House Museum.
- Numerous research projects are underway to investigate habitat manipulation, disease and reintroduction.
- The Lake District Environmentally Sensitive Area scheme provides opportunities for protecting and managing farm woodlands, and can incorporate measures to aid Red Squirrel conservation.
- Most Local Planning Authorities have clear species protection policies within the latest versions of their local plans. Some Authorities however, have more general policies not mentioning protected species specifically.

C. Context in relation to other plans:

C.1. UK Species Action Plans

There is a UK Biodiversity Action Plan for Red Squirrel in *Biodiversity: the UK Steering Group Report* (1995), which sets the following UK objectives and targets:

- To maintain and enhance current populations where appropriate through good management
- To re-establish Red Squirrel populations, where appropriate.

C.2. UK Contact Point and Lead Partner

The UK Contact Point for Red Squirrel is English Nature, whose nominated officer is based at the Peterborough office.

The UK Lead Partner for Red Squirrel is the UK Red Squirrel Group, whose nominated officer is based at the Peterborough office of the Joint Nature Conservation Committee.

C.3. Local contacts

Project Officer, NPI Red Alert North West, based at Cumbria Wildlife Trust, Brockhole, Windermere, LA23 1LJ. Phone: 015394 48280.

C.4. Associated plans in the Cumbria BAP

There are potential conflicts between this plan and other Cumbria Biodiversity Action Plans, for example the native woodland plans which may act in favour of the grey squirrel. Other conflicts can occur where conifer removal will be required to fulfil the targets of other BAPs, e.g. lowland raised mire and limestone pavement. An overall balance will be required to ensure that some sites can be managed for Red Squirrels.

The following Cumbria habitat action plans are of relevance to Red Squirrel:

Phase I

- upland oak woodland
- upland mixed ash woodland
- wet woodland
- limestone pavement
- ancient and/or species-rich hedgerows
- lowland raised mire

Phase II

- parkland, wood pasture and veteran trees
- scrub communities (other than juniper)
- black grouse
- farmland bird

C.4.1. Objectives, targets and proposed actions for Red Squirrel in Cumbria

Broad Objective A	**Maintain viable self-sustaining populations of Red Squirrels through good habitat and species management and, where appropriate, protect populations currently threatened by small size and proximity to grey squirrel populations**			
Operational Objective	Action Required	Suggested organisational involvement	Time-scale	Type
1. Survey and monitor squirrel populations.	1. Monitor red and grey squirrel populations at key sites using standardised techniques (hair tubes and time/area observation counts) every four years starting 1999. 2. Collate public sightings on a	**NPIRANW,** EN, FE, NT, NWW **NPIRANW**, THM	O O	RM RM

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Operational Objective	Action Required	Suggested organisational involvement	Time-scale	Type
	centralised database, produce annual distribution maps (including on GIS) and circulate to all appropriate organisations. 3. Monitor conservation efforts and review plan every five years.	**NPIRANW**	O	RM
2. Ensure that Red Squirrels are taken into account in all relevant policy decisions and that the law relating to red and grey squirrels is enforced.	1. Ensure that targets for Red Squirrels are included in Forest Design Plans and forestry strategies, where appropriate. 2. Raise awareness of the law relating to red and grey squirrels through local awareness campaign by 2000 and liase with Police Wildlife Liaison Officer to advise on appropriate enforcement.	**FE, FC** **EN, NPIRANW**	O O	SS/SP CP
3. Protect viable Red Squirrel populations through good habitat management and by the establishment of refuges.	1. Identify suitable refuge sites (conifer blocks >200 ha) and liase with landowners to incorporate Red Squirrel actions into management plans; 10 sites by 2005. 2. Ensure that the requirements of the species are incorporated into the conservation objectives for appropriate SSSIs by 2002. 3. Identify and liase with landowners in the buffer zones and ensure that	**NPIRANW**, FC, FE, EN, NWW **EN** **NPIRANW**, FC, FE, EN	M M M	SS/SP SS/SP SS/SP

Broad Objective A	**Maintain viable self-sustaining populations of Red Squirrels through good habitat and species management and, where appropriate, protect populations currently threatened by small size and proximity to grey squirrel populations**			
Operational Objective	Action Required	Suggested organisational involvement	Time-scale	Type
	appropriate conservation measures are in place; 10 sites by 2005. 4. Provide advice to all woodland owners on appropriate action for Red Squirrels. 5. Promote measures for Red Squirrel conservation through the Woodland Grant Schemes and Woodland Improvement Grant schemes.	**NPIRANW**, LDNPA, FC ECCP, FE, FWAG, EN, DEFRA **FC**, NPIRANW	O O	A SP/SS
4. Alleviate threats to Red Squirrel populations.	1. Promote targeted grey squirrel control in the interface area and ensure that control occurs on all appropriate nature reserves and sites owned/managed by conservation / forestry bodies by 2004 2. Support supplementary feeding in the interface area when natural food sources are limited, subject to advice regarding diseases. 3. Assist with research into disease and respond to outbreaks 4. Investigate Red Squirrel road mortality through one year survey and produce	**NPIRANW**, FE, FA, NT, DCs, LDNPA, YDNPA, NWW **NPIRANW**, LDNPA, NT, FE, NWW **NPIRANW** **NPIRANW**, THM **NPIRANW**	S/M O O S S/M	SP SP RM RM RM/SP

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Operational Objective	Action Required	Suggested organisational involvement	Time-scale	Type
	report by 2000. 5. Identify road mortality black spots and install 10 road signs and 10 rope bridges in appropriate locations by 2005.	, CCC		
5. Raise awareness of Red Squirrel conservation	1. Raise awareness of Red Squirrel conservation through ongoing public relations campaign to include 10 talks and 8 press releases per year for the duration of the project. 2. Take part in annual National Red Squirrel Week. 3. Raise awareness in schools through promotion of NPI Red Alert Education Pack.	**NPIRANW PR Group** **NPIRANW** **NPIRANW**, Schools	O O O	CP CP CP

Key to Tables

Suggested organisational involvement: Key Deliverers in bold type; Partners in plain type. CWT = Cumbria Wildlife Trust; ECCP = East Cumbria Countryside Project; EN = English Nature; FA = Forestry Authority; FC = Forestry Commission; FE = Forestry Enterprise; LAs = Local Authorities; LDNPA = Lake District National Park Authority; DEFRA = Department of Farming and Rural Affairs; NPIRANW = NPI Red Alert North West; NT = National Trust; THM = Tullie House Museum.

Timescale: O=ongoing; S=short term (2000-2001); M=medium (2002-2005); L=long (2006-2010).

Type: Type of action; PL=Policy & Legislation; SS=Site Safeguard & Management; SP=Species Management and Protection (species plans only); A=Advisory; RM=Research & Monitoring; CP=Communications and Publicity.