



Westmorland Red Squirrels

making the future safe for our red squirrels

Newsletter

Issue 12, Spring 2016

We're privileged to bring you an article about which tree species help red squirrels, written for us by three eminent red squirrel scientists: Dr Peter Lurz, Dr Craig Shuttleworth and Professor John Gurnell. In Westmorland's area we are experiencing tree disease and its consequent felling and re-planting, and it's important that our red squirrels are taken into account in woodland planning, alongside all the other woodland species that vie for attention.

A glut of natural food caused last year's grey population explosion, but there's been a complete reversal of food supply over this last autumn/winter, which has had an impact on grey numbers. Only time will tell exactly what we'll face this year, but there have been good years for greys in the past and we're not known for giving up at the first hurdle. The problem with the Forestry Commission not allowing suitably trained volunteers to shoot on their land continues to be a thorn in our side.

Our work couldn't continue without your financial support as members, sponsors, donors and fundraisers, and I can't thank you enough for your generosity and goodwill. Some very generous individual donations and sponsorships are making a substantial difference to what we can achieve, especially when added on to the significant sum raised in smaller amounts. We need to keep this momentum going, and this year we'll be asking more local businesses to give us their sponsorship and support.

We wish our latest local group in Arnside & Silverdale well—they've put in a lot of hard work. We now hope to generate the same enthusiasm and commitment in the Rusland area in support of the Heritage Lottery funded 'Rusland's Reds' project.

Geoff Hetherington, Chairman

Arnside and Silverdale

In the Autumn Newsletter I mentioned growing interest in restoring red squirrels to the area. That interest has become a movement! The strategy is to roll back the tide of greys eastwards from the coast and already more than 100 traps have been deployed, looked after by a small army of volunteers and landowners. Elsewhere in this Newsletter you'll read what one estate, Dallam Tower, is doing to raise awareness and play its part. They're not alone. With such support, and very welcome financial support from Holgate's Caravan Parks and Beetham Holiday Homes, we have every chance of creating the space for reds to return to this beautiful and richly wooded area. With red populations close by, around Burton in Kendal and over the Kent estuary at Ulpha and Foulshaw, recolonization is a real prospect. We're also talking to Wildlife Oasis near Beetham about the possibility of a captive breeding programme as a back-up to natural re-colonisation,



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Coastal path from Arnside to Silverdale at New Barns

but also about how we can raise awareness among their customers and school groups.

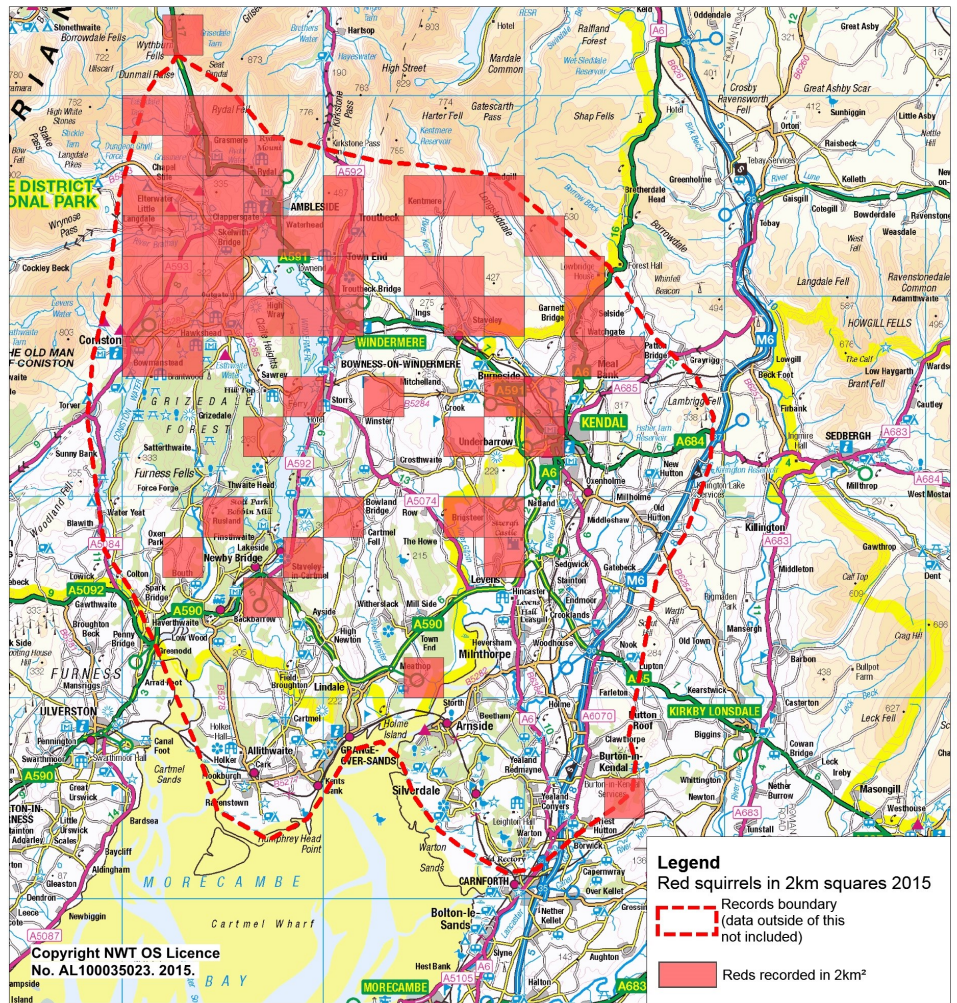
Bob Cartwright
Secretary, Westmorland Red Squirrels

Red Squirrels seen in South East Cumbria in 2015

The 2km squares marked in red show where red squirrels were seen in 2015 using Red Squirrels Northern England's own data combined with data from Westmorland Red Squirrels and the Grasmere Red Squirrel Group.

Compared with 2014 (our best year ever for reds), the range of reported red squirrel sightings decreased slightly in 2015, but red squirrels have been spotted near Levens and Brigsteer, and continue to be seen in Troutbeck and Windermere. The good news is that at the beginning of 2016 reds are still being seen in the three areas where squirrel pox virus was reported in Autumn 2015—Little Langdale, Kentmere and Grasmere.

Our thanks to all those who have submitted their red sightings, and to RSNE for producing the map for us.



Rusland's Reds

Yes! We have won the Lottery again! Three years on from the end of our successful Heritage Lottery funded Grizedale Project the Heritage Lottery Fund (HLF) has confirmed it will fund a three-year red squirrel conservation programme, which is a project within the wider Rusland Horizons Cultural Landscape Scheme. Encompassing an area between Coniston Water and Windermere, from Grizedale Forest to Newby Bridge, our project involves working with the local community to identify red squirrel populations, control greys and raise awareness among local people and visitors. By the end of the project we expect to have more active, comprehensive and sustainable commitment to red squirrel conservation. One of the strengths of Rusland Horizons lies in its over-arching approach to community-based woodland management. By engaging and employing local people, including apprentices, and increasing appreciation of the area's rich historical and natural interest, this scheme is a model of how to secure the special qualities and the long term future of our precious cultural landscapes.

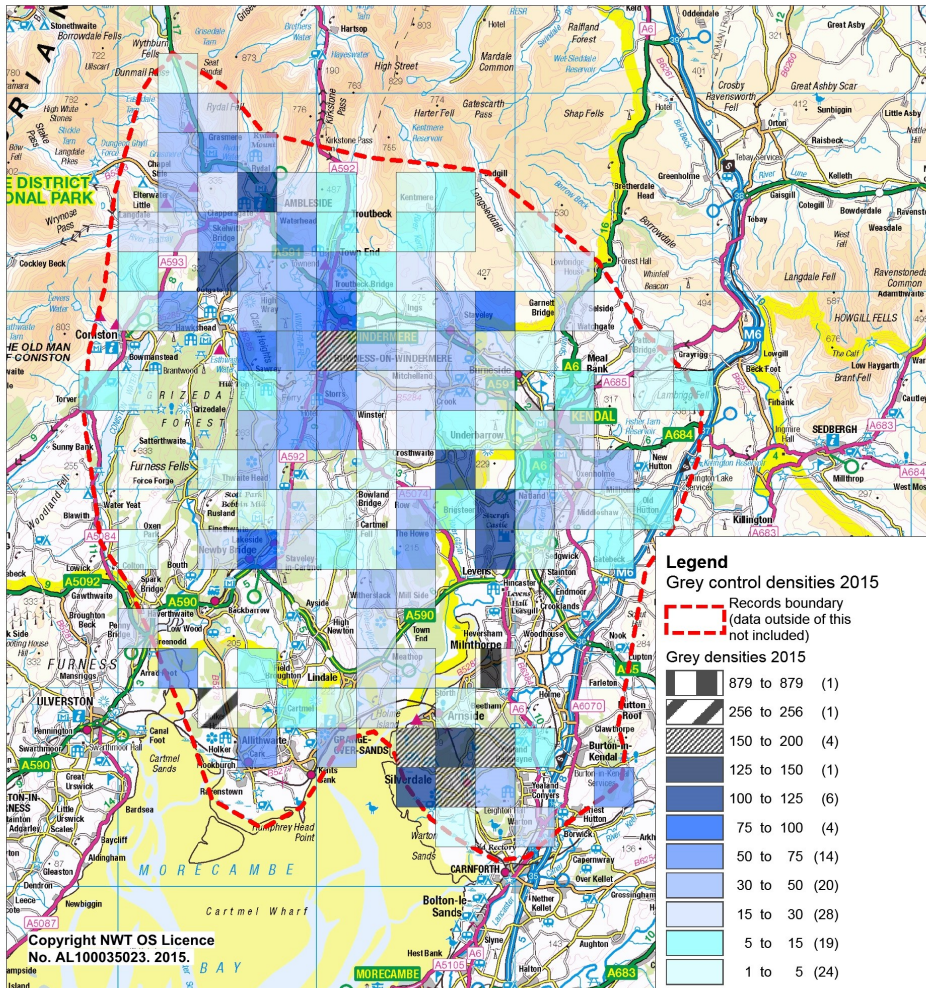
UK Squirrel Accord

Created at the invitation of HRH The Prince of Wales the Accord is a commitment by 32 organisations across the UK to bring a concerted and coordinated approach to securing the future of our red squirrels and woodlands, and to controlling the introduced grey squirrel. Their website is www.squirrelaccord.org.uk. Northern Red Squirrels, the umbrella body for Red Squirrel Groups across the north of England, has applied to become a signatory to the Accord.

Red Squirrels United

This is another HLF-funded project you might have heard about but on this occasion doesn't affect or benefit us – at least directly. The Red Squirrels United programme is led by The Wildlife Trusts in partnership with Newcastle University, Forest Research, Lancashire Wildlife Trust, Red Squirrels Wales, Northumberland Wildlife Trust, Ulster Wildlife and The Wildlife Trusts of South & West Wales.

Grey Squirrels caught in South East Cumbria in 2015



The coloured 2km squares show where grey squirrels were reported to have been culled in 2015. The shading of the squares indicates the numbers caught—see key.

We supply our cull data to Red Squirrels Northern England and they combine it with data from their own rangers and data supplied by the Grasmere Red Squirrel Group to produce the map.

If you know of anyone controlling greys, please urge them to let us have their cull figures so that their efforts can be shown.

Thanks to all who work so hard to carry out grey control and provide their cull figures, and also to RSNE for producing the map.

Forestry Commission: Shooting the breeze?

In the last Newsletter we mentioned discussions between Northern Red Squirrels (NRS) and Forestry Commission England about its policy not to allow shooting of grey squirrels in the woodlands they manage. Officers of NRS, the umbrella association that represents the shared interests of voluntary red squirrel groups in northern England, had met the Commission's Regional Director for the North of England, but with no success. Since then, the European Squirrel Initiative, with input from NRS, took up the baton but the Commission's silence was deafening. In February, however, the matter was raised in the House of Lords by Lord Inglewood through a Parliamentary Question. Once more the case was dismissed.

Lord Gardiner of Kimble, responding for the Government, said that Forestry Commission England, "currently considers that free shooting has limited effectiveness in controlling grey squirrel populations, with better, more effective methods often available.

In addition, the majority of the public forest estate has unrestricted public access and public safety is of paramount importance. For these reasons the Commission does not allow the shooting of grey squirrels by volunteers on its land. Volunteers are, nevertheless, an essential part of controlling grey squirrels and control methodologies continue to be developed and evaluated against the criteria of efficacy, safety and animal welfare."

Lord Gardiner's full response can be found at <http://www.parliament.uk/business/publications/written-questions-answers-statements/written-question/Lords/2016-01-19/HL5225/>

Undaunted, NRS is determined to achieve a resolution that allows responsible and fully qualified NRS red squirrel group members to operate under strict guidelines on pilot sites on the public forest estate. Lord Inglewood continues to champion the cause at the highest levels of government. And we hope there will be better news in the months ahead.

Troutbeck Reds—Stand By Your Sheds



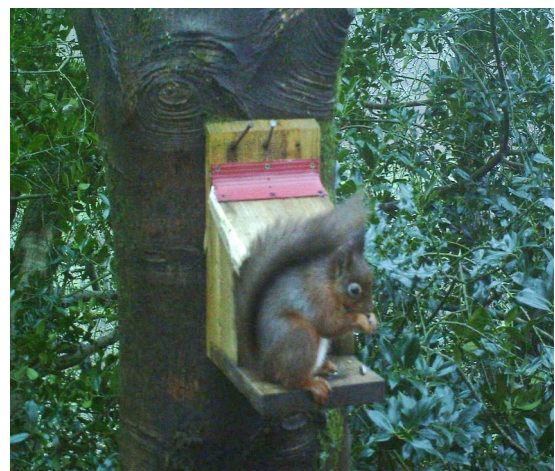
We have provided supplementary feed to the reds at High Kingate in the Troutbeck valley since August 2015.

It was a difficult decision as High Kingate is a remote area and after all Red Squirrels are wild animals. Would we upset the balance of nature?

But the balance has already been upset by the grey squirrel.

Hopefully our trudging through deep mud during the wettest year since who knows when will pay off!

Fingers crossed for a few little RED additions in 2016.



Ambleside & Langdale

A most unpredictable 2015 showed just how adaptable we have to be - working with whatever conditions are thrown at us. It was so mild and with so much food available the greys never stopped breeding, and we will be seeing the results for years to come. We simply carry on knowing that each grey we deal with is one less to breed, and so the fight goes on. As we enter 2016 we are confronted with one of the wettest starts to a year for many years, so again the patterns will change and we must remain flexible.

It's really pleasing to see more and more people over a wide area willing to watch traps in their gar-

dens, resulting in more time for trappers to get out into the woods. We continue to see reds in areas where they have not been seen for very many years – this is what all the effort is trying to achieve. A problem that does need addressing is that we continue to be thin on the ground with people willing to deal with squirrels in traps and to check traps on a daily basis in various woodlands. We must find ways of attracting more volunteers to undertake such work, with an emphasis on the younger element – and encourage them to carry on into the future with all the good work we are doing.

Area Co-ordinator, Ambleside & Langdale

Dallam Tower Estate

For many years the Dallam Tower Estate has tried to keep its grey squirrel population under control. Despite culling over 3000 in the last 5 years the numbers only ever appeared to increase. The Estate felt alone and unsupported in its efforts and desperately sad that only two red squirrels had been sighted during this period.

Since the efforts of Westmorland Red Squirrels (WRS) were made known to the Estate we have been given a new lease of life. Knowing that so many neighbours are now actively involved in trying to reduce the numbers of grey squirrels in the Area of Outstanding Natural Beauty has made us feel supported, appreciated, and has even encouraged a competitive spirit.



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View across Dallam parkland

We are delighted that our area of the WRS map has its very own black and white colouring to reflect the number of grey squirrels culled on the Estate, but now we want more! In fact, we have asked if the colour purple can be used on the map if we manage to cull more than a thousand grey squirrels this year. All of the people on the Estate involved with the project have taken up the challenge. The number of traps has increased, the number of volunteers

has increased, friends and neighbours have been railroaded into helping and grey squirrel traps and red squirrel calendars (helping to raise vital funds for the WRS) are a statutory gift for all the employees on the Estate.

A recent visit to St James Park in London revealed that grey squirrels can be even more plentiful and even fatter than those of the Dallam Tower Estate. This made me ponder whether the red squirrel population could ever return to our cities or even the Capital. Believe it or not there are people as enthusiastic as WRS in London who manage the grey population in their gardens. It would be pretty amazing to think that the passion and drive of a few people in Cumbria might really spread to the entire country.

Obviously, my imagination is running a little wild, but keep an eye out for the 2016 map and have a look to see if there is a purple square below Milnthorpe. With the combined endeavours of all of our communities, we are more certain than ever before that the Red Squirrel will become established in all of Westmorland.

Editor's note: Just heard that Dallam Tower has topped the 1000 this year – well done!

Predation by a Grey Squirrel

About 15 years ago soon after the arrival of the grey squirrel into our county, an acquaintance of mine was walking in Dallam Park near Milnthorpe. The park has many very large trees of several species. One of these, an ash, had a hole where a branch had rotted off about 15 feet up on the main trunk. From this hole emerged an adult grey squirrel with a half grown red kitten in its mouth. The grey carried the kitten down the trunk of the tree on to the ground.

My informant grabbed a stone and threw it hoping to induce the grey to drop the kitten but his throw missed. Whereupon the grey, still carrying the red, returned up the tree trunk into the high canopy and was lost from view and not seen again. This account is a rare illustration of what must be a fairly common occurrence and accords with our widespread belief that breeding in the red squirrel is reduced or halted altogether where the grey population is moderate or high.

Bob Bradley. 24.11.15

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Which trees help red squirrels?

P. W. W. Lurz; C. Shuttleworth and J. Gurnell

"The common curse of mankind, folly and ignorance..." - (Shakespeare, *Troilus and Cressida*, Thersites: Act II, Scene III).

Thersites' observation in Shakespeare's play 'Troilus and Cressida' perfectly captures the apparent thoughtlessness, and seeming lack of understanding, when it comes to the release of non-native species. The introduction of North American grey squirrels into the United Kingdom (UK), Ireland and Italy exemplifies this. Despite tremendous efforts by volunteers and government agencies, and reported local recoveries in the North of the UK, the red squirrel remains absent over most of England and Wales, as well as parts of southern and central Scotland.

Grey squirrels originally come from the oak-hickory forests of Eastern North America and are broadleaf-specialists (e.g. see Koprowski 1994). Our red squirrel is the only native tree squirrel in Europe and occurs in all types of forest habitat across Eurasia. When both species are put together, red squirrels have persisted for longest in conifer-dominated landscapes. However, local red squirrel persistence is dependent on a range of factors such as overall woodland size, tree species composition, disease (e.g. squirrelpox virus) as well as characteristics of the wider landscape such as the presence of dispersal links into the wood or forest, distance to high quality grey squirrel habitat and so on. A key aspect of the current conservation strategy for red squirrels in the UK is the management of a small number of selected forest reserves (also termed strongholds). These tend to be large conifer-dominated woodlands of variable size (<100 to several thousand hectares of forest).

Forest management for red squirrels therefore

critically focuses on reducing grey squirrel immigration (where possible, either via grey squirrel control, or by minimising dispersal links to the wider landscape) and on providing conifer habitats that favour reds (Anon., 2012). It should be noted that there are many broadleaf dominated landscapes where grey squirrel culling is maintaining red squirrel populations that would otherwise have been lost many years ago. Here, the planting of beech and hazel may benefit red squirrels - but only as long as intensive grey squirrel control continues!



Figure 1. Norway spruce, *Picea abies*, produces a heavy cone crop every 7-10 years.

Squirrel numbers tend to be linked to local food availability, i.e. mainly annual tree seed crops, and large cone crops increase reproductive success and reduce mortality (Gurnell, 1983; Bosch & Lurz, 2012). However, it is important to understand that forest managers cannot influence red squirrel numbers directly. Managers have no control over, for example, next year's

cone crop. What they can do is influence how many squirrels a forest can support through a range of measures:

- avoid planting tree species that give grey squirrels a competitive advantage (e.g. oak, and other large seeded broadleaves).
- increase conifer tree diversity to buffer against natural cone crop failures that occur in some years in most species. In particular, plant tree mixtures along forest edges and rides to promote good cone production (Figure 1).
- maintain a sufficiently large area of "connected" mature forest by careful planning of felling and restock operations (it can take >20 years for some trees to produce regular seed crops and be useful for squirrels, Figure 2).

Table 1 gives an overview of tree species in relation to red squirrel conservation. It also illustrates that

single species management for red squirrel is not possible everywhere. Broadleaf habitats support a wide diversity of native species! Site selection for squirrel reserves should therefore focus on existing conifer-dominated woodlands, or upland areas that naturally would not consist of beech or oak woodlands but support "neutral" broadleaves, with no impact on red-grey squirrel interactions (Table 1). Ancient woodland sites are not ideal areas to manage for red squirrels as their broadleaf, and in some cases oak composition favours grey squirrels (Table 1; Figure 3). But if red squirrels are present, and active grey squirrel control is in place, and the control can be sustained and justified, such sites could continue to maintain a red squirrel population.

Commercial forests are multipurpose environments and forest managers have to



Figure 2. It is important to avoid isolating plantations (and their resident squirrels) when carrying out felling operations as forced dispersal over open ground increases mortality through predators.

Table 1. Tree species and red and grey squirrels; some may be planted in small numbers to add diversity.

Tree species that provide food for red squirrels	
Cherry	Bird cherry and wild cherry.
Douglas fir	Seeds eaten by red squirrels.
Larch species	Currently not planted in Northern England due to fungus-like pathogen, <i>Phytophthora ramorum</i> .
Norway spruce	Positive impact on squirrel numbers when it cones, but intervals between large crops can be up to 10 years and other tree species are needed.
Pines such as Scots and Lodgepole	Risk of tree disease may affect planting options (e.g. Red Band Needle blight).
Serbian spruce	Good for dreys, seeds eaten by red squirrels.
Sitka spruce	Very small seeds which are eaten and can support low densities of red squirrels; seeds shed in autumn and it does not provide food year round; other tree species are required; excellent for dreys.
Yew	Seeds eaten by red squirrel.
Wych Elm	Seeds eaten by red squirrel; considered neutral in terms of competition.
Tree species that produce large seeds which encourage grey squirrels	
Beech	Would not be planted in a red squirrel coniferous reserve, but could be planted in habitats already containing significant amounts oak, hazel and other broad-leaved trees, e.g. islands with reds but not greys.
Hazel	Use as described for beech.
Horse chestnut	Not usually planted in large numbers.
Oak	A major benefit to grey squirrels.
Sweet Chestnut	Increasingly being used as a replacement for Ash, but should only be used as beech above.
Walnut	Not usually planted in large numbers, liked by both species.
Small seeded tree species that do not encourage grey squirrels and are effectively neutral	
Alder, Aspen, Birch, Box, Cypress, Field Maple, Hawthorne, Holly, Juniper, Poplars, Western hemlock, Western red cedar, Willows.	

balance economic, amenity and different conservation objectives. There are also planting restrictions due to tree disease (ash dieback, *Phytophthora* and Red Band Needle Blight) and ash, larch and Corsican pine are currently not planted in Northern England as a result. Climate change will also impact on planting choices and future strategy and conservation efforts for red squirrels might need to adapt. At least for red squirrels, one might need to consider conservation efforts in terms of maintaining forest ecosystems (and their services) by using non-native tree species favourable to reds and adapted perhaps to drier, warmer conditions. We already do this when it comes to economics (timber production), but we might have to consider that non-native tree species may become an important component in saving native red squirrels from grey squirrel competition and to maintain forest ecosystem services.

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Figure 3. Large-seeded broadleaves such as oak give grey squirrels a competitive advantage and support high densities of greys.

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Westmorland Red Squirrels

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