Lancashire, Manchester & N Merseyside

Red Squirrel Monitoring Report Spring 2020

Introduction

The spring monitoring of the North Merseyside and West Lancashire Red Squirrel Stronghold was conducted from March to May 2020 using three different surveying techniques; visual transects, hair tubes and trail cameras. All visual transects were completed within a 3-week period in March. 14 sites throughout the reserve woodlands of Formby, Ainsdale and Altcar were surveyed. A further 14 woodlands within the buffer zone were surveyed covering Little Crosby, Ince Blundell, Halsall, Southport and Scarisbrick.

Reserve Woodlands – Spring Surveys

14 visual transects were carried out throughout the reserve woodlands, with each transect being walked 3 times*. Hair tubes were placed along 4 of these transects (3 hair tubes per transect) as an additional survey method. Red Squirrels were seen on all 14 of the visual transects. No grey squirrels were sighted on the monitoring transects within the reserve. However, there have been public sightings of grey squirrels in the south of the reserve during this period.

* Coronavirus - March 23rd 2020 the UK entered a nationwide lockdown under government guidelines. This meant many of our volunteers were unable to complete all 3 of their visual transects, this may have impacted the monitoring results for spring 2020.

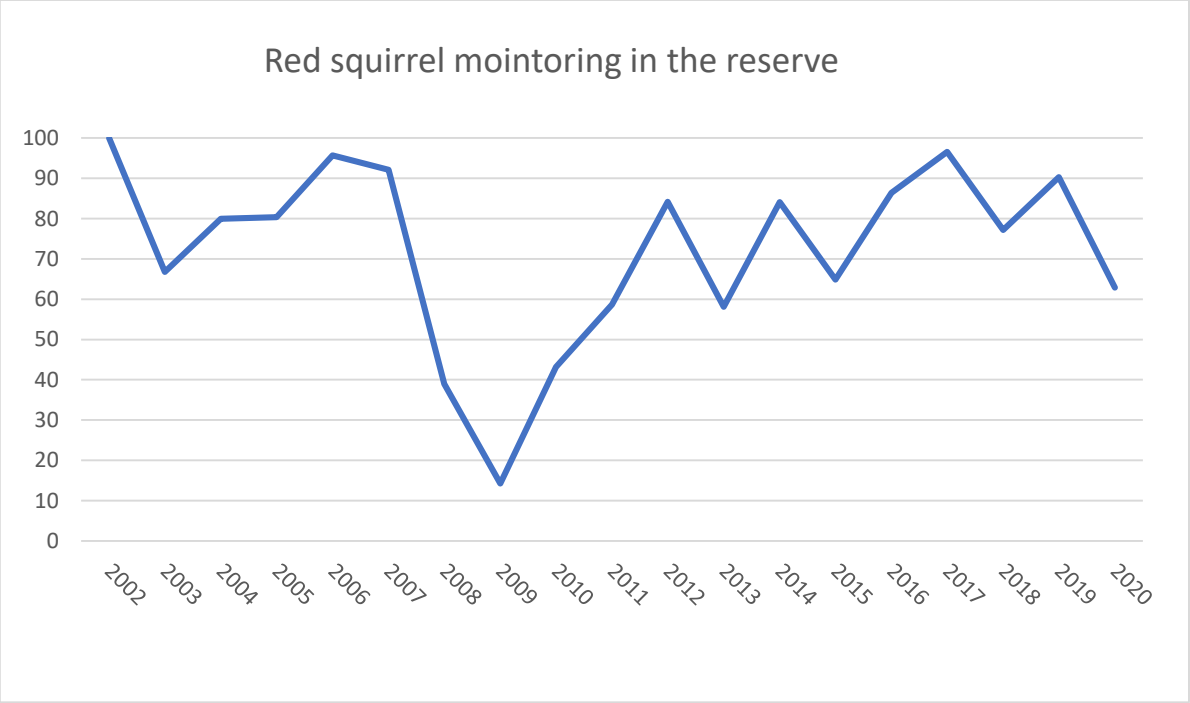

Figure 1: Line graph showing the changes in overwinter survival in the spring Red Squirrel reserve population between 2003 and 2020.

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Figure 1 shows red squirrel spring monitoring results in the reserve woodlands from spring 2002 to spring 2020. The average number of red squirrels seen across reserve transects in 2002 are taken as 100% of the population. The average number of red squirrels seen in subsequent years are compared to this value. You can see from the graph that there has been a decrease in the number of squirrels seen on visual transects this year (2020) compared to last year (2019). This year the red squirrel population indices is 62.9% of the baseline figure from 2002, compared to last spring at 90.3%. This decrease is likely the due to the combined impact of the outbreak of squirrel pox across the reserve last year, and perhaps further impacted due to some volunteers not being able to complete all 3 of their allocated transects. Particularly, as Formby Asparagus Fields was not completed this spring due to national restrictions. Previously, Formby Asparagus Fields has been the transect with the highest number of red squirrels on a single transect within the reserve.

This spring, red squirrels were seen on all transects across the reserve. However, the impact of the squirrel pox outbreak in 2019 is still evident as there was a significant decrease of the average number of squirrels seen on the transects located in North Formby. Though it is worth noting that red squirrels were seen on transects in the South Formby. Which for the previous two monitoring seasons had no squirrel sightings, possibly indicating that vacant territories are being taken up. The highest number of red squirrels were seen on the Ainsdale NNR, No2 with 23 sightings on a singular transect.

Spring 2020 has seen an increase in the number of greys spotted in the reserve. With grey control taking place within the reserve in early March and post national lockdown in Formby. In total 12 grey squirrels have been caught in the reserve woodlands and throughout the town between January and June 2020. The impact of this will not be evident now until the autumn report.

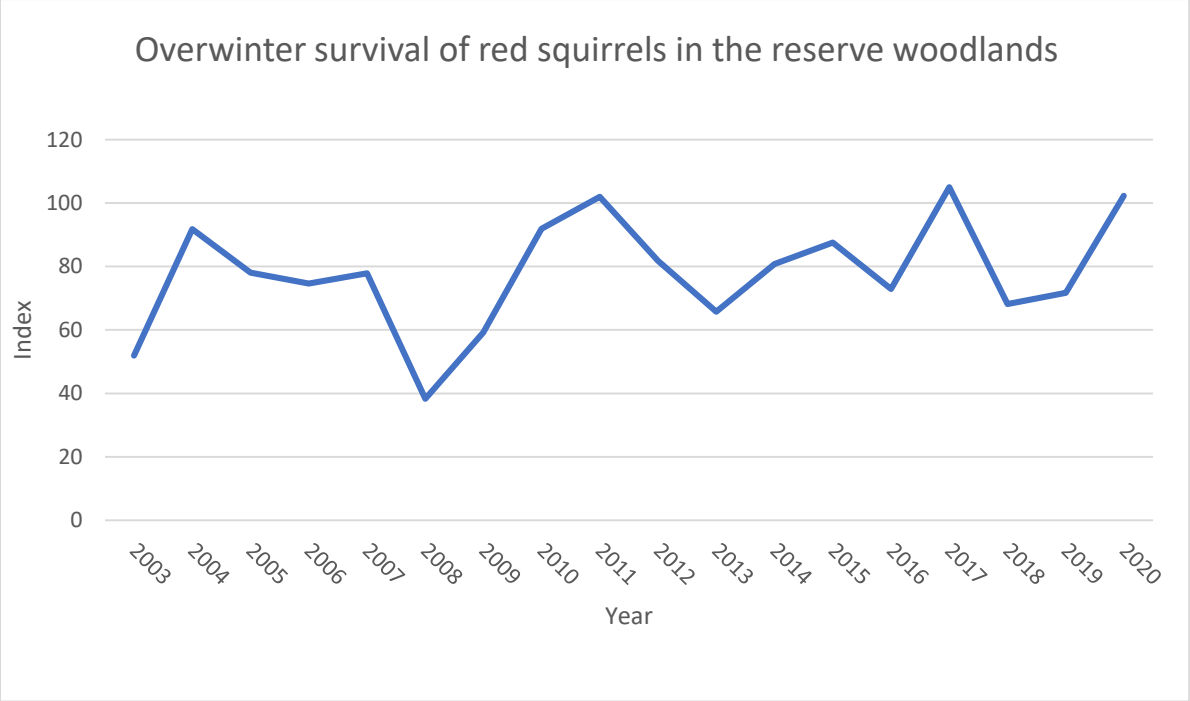

Figure 2: Line graph showing the changes in overwinter survival in the spring Red Squirrel reserve population between 2003 and 2020.

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Figure 2 shows the overwinter survival for the red squirrels, which is calculated by taking the average number seen on the spring transects as a proportion of those seen in the autumn of the previous year. This year the overwinter survival was at 102%, a significant increase from 2019. This increase could be due to lack of competition for resources.

Buffer Zone: Surveys and Analysis

A further 14 sites were surveyed outside of the reserve woodland, 12 within the buffer zone of the stronghold and 2 outside of the stronghold. These comprised of 12 visual transects (6 with hair tubes) and 2 trail cameras. The results are shown in Table 1.

Table 1. The number of transects within the buffer zone of the stronghold with Red Squirrel, Grey Squirrel or both species present.

	Red Squirrel only	**Grey Squirrel only**	**Both species**	**None**
Number of sites	1	6	2	3

Within the remaining stronghold, Ben's Gorse wood, Little Crosby and Hill House wood, Great Altcar, were the only woodlands to have a red squirrel presence, detected through visual monitoring at Ben's Gorse wood and a trail camera at Hill House wood. The number of red squirrel only sites has decreased from 3 in spring 2019 to only 1 in spring 2020 See figure 3. Both species were detected in Hill House wood during this monitoring period, via the use of the trail camera (spring 2020). While the trail camera at Big Wood, Scarisbrick did not record squirrels of either species.

There were 8 sites within the stronghold where only grey squirrel presence was detected (The Botanic Gardens in Southport, Moss Wood and Flea Moss Wood in Little Crosby, Jospice in Thornton, Ince Blundell Hall and Girl Guides in Scarisbrick.
The number of sites with a grey squirrel presence has decreased by 2 since spring 2019. However, Hesketh park was not surveyed this monitoring season. Increased trapping efforts in January at Girl Guides have seen the number of grey squirrels seen on transects reduce dramatically, from 20 individuals seen on a single transect in the autumn 2019 to 7 in spring 2020. It also worth noting that a red squirrel has also been spotted at Girl guides via the use of trail camera in a student project (Figure 4).

Southport crematorium, previously having returned to a red squirrel site had no squirrel presence recorded during the monitoring period. However, public sightings show that the site still has a red squirrel presence.

An additional 2 sites were monitored outside of the stronghold (Knowsley Estate and Mere Sands Wood) and only grey squirrels were detected at these additional sites. No grey squirrels were seen on the transect at Mere Sands Wood, but they were detected via hair tube samples. Knowsley Estate is a site we continue to monitor outside of the stronghold. Although red squirrels have not been

seen here for several monitoring seasons now, we are working in partnership with Knowsley Estate to increase monitoring and grey squirrel management efforts.

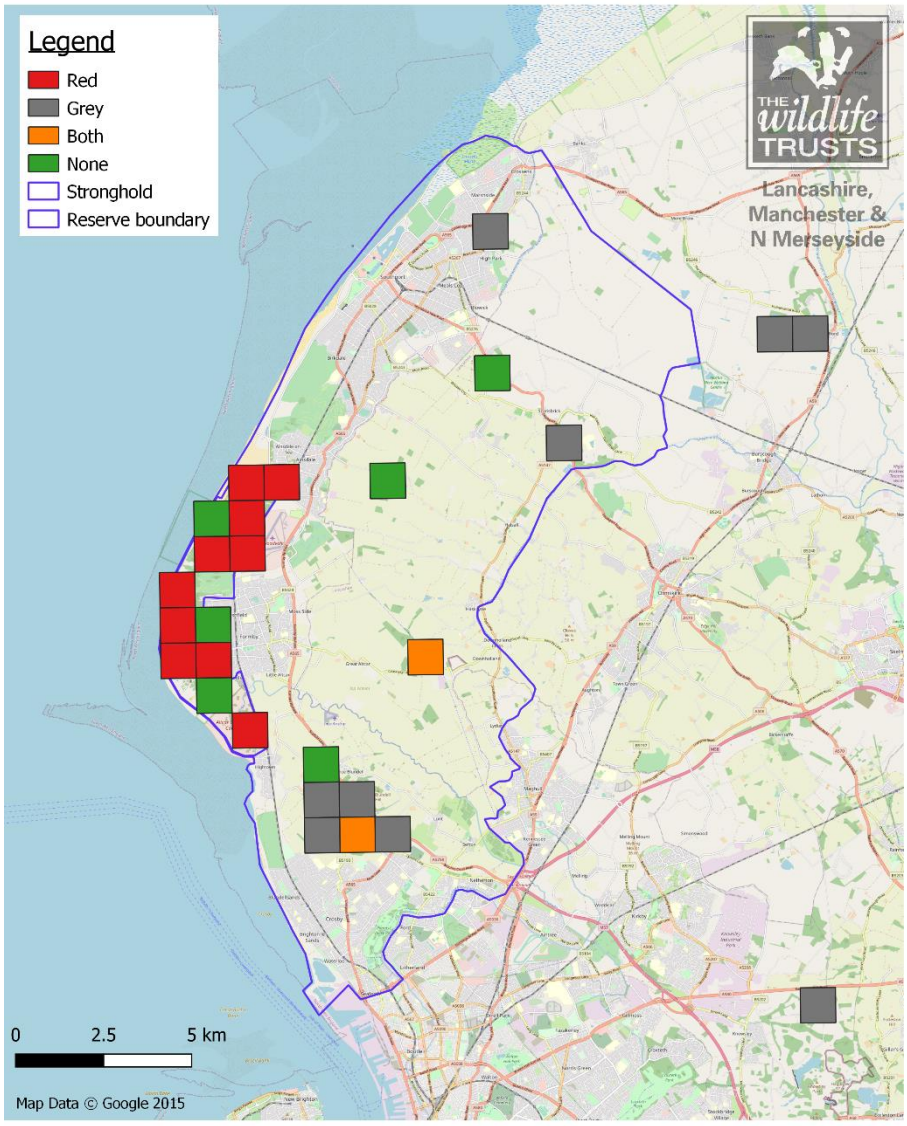

Figure 3: Spring 2020 standardised monitoring results in the North Merseyside and West Lancashire red squirrel stronghold. Map shows presence of red squirrels (red), grey squirrels (grey), both species (orange) and no squirrels (green) in 1km x 1km squares. The Knowsley Estate and Mere Sands Wood transects (outside the stronghold boundary) are also shown. * **Ben's Gorse Wood** is recorded as orange (both) on the monitoring map, as it sits within the same monad as another site in which grey squirrels have been recorded.

Figure 4: Red Squirrel captured on the trail camera at Girl Guides Campsite in Scarisbrick, January 2020

Public Sightings and grey squirrel control data

Grey squirrel control is undertaken in the woodlands throughout the stronghold all year round by the Red Squirrel Ranger and volunteers. There is also an urban trap loan scheme to tackle grey squirrels in urban areas. This is co-ordinated by the Red Squirrel Ranger but run by local volunteers. Records of grey squirrel captures, and red and grey squirrel sightings are kept up to date to keep track of their distribution and population within the stronghold. Combining this data with the standardised monitoring results further informs our knowledge of red and grey squirrel distribution. Figures 5 and 6 (below) show the current distribution of red squirrels and grey squirrels respectively in North Merseyside and West Lancashire using the combined data. It is important to note, particularly for the grey squirrel sightings map, that one grey square may only denote 1 grey squirrel sighting.

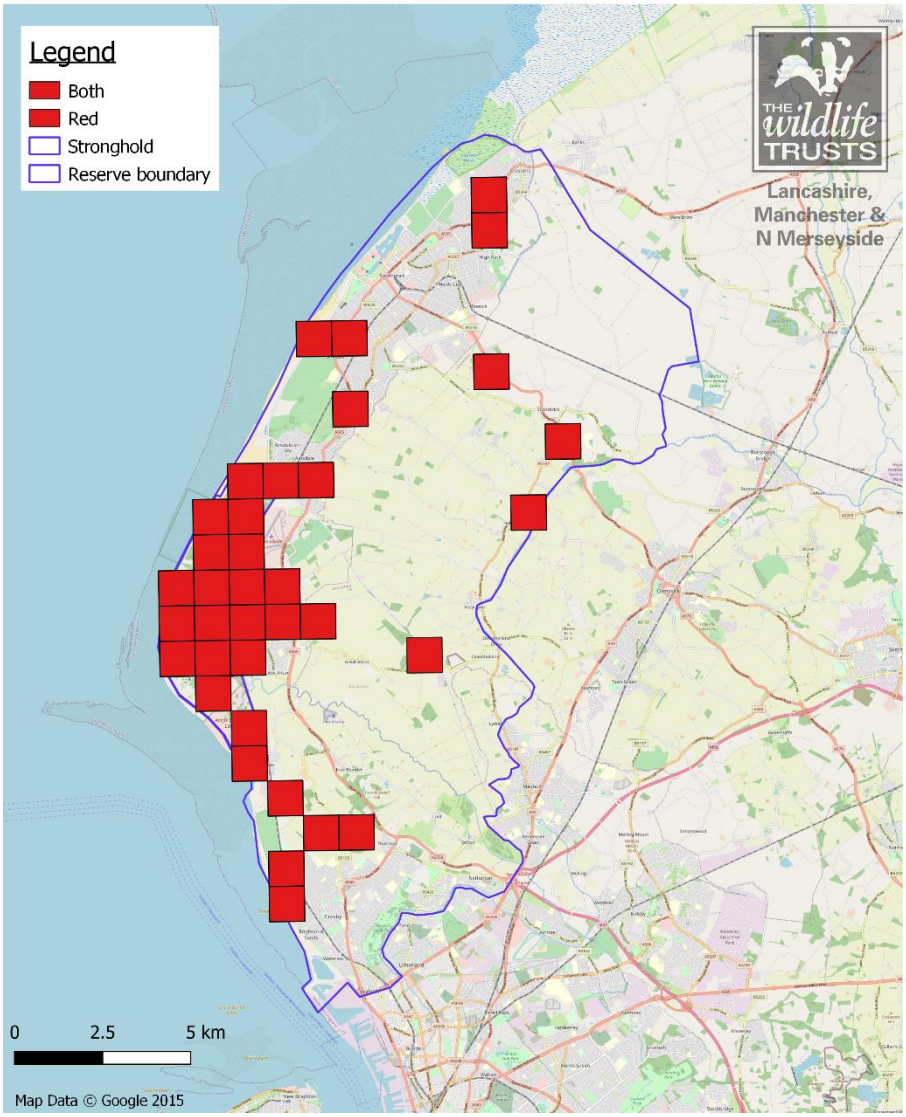

Figure 5: Red squirrel distribution in the North Merseyside and West Lancashire area. Map shows presence of red squirrels in 1km x 1km squares. Results compiled from public sightings, control records and standardised monitoring throughout January – July 2020

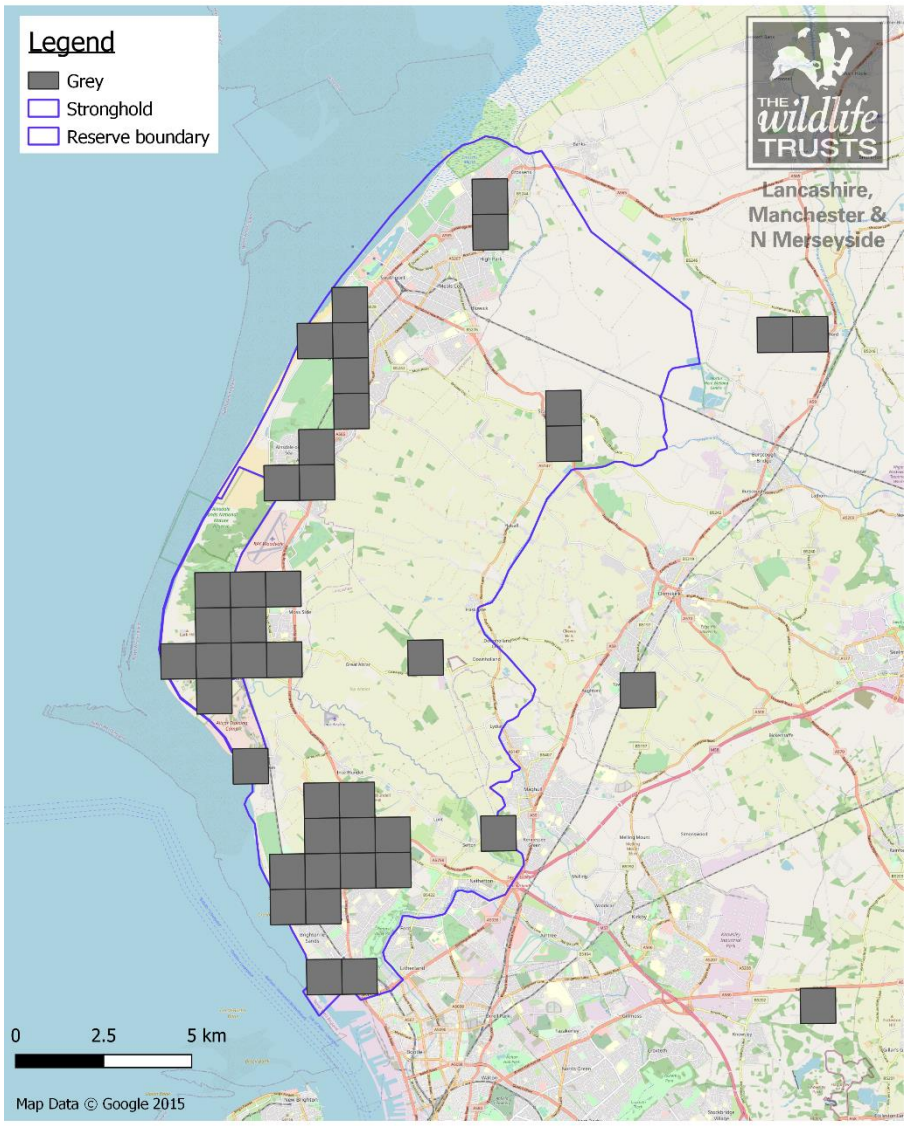

Figure 6: Grey squirrel distribution in the North Merseyside and West Lancashire area. Map shows presence of grey squirrels in 1km x 1km squares. Results compiled from public sightings, control records and standardised monitoring throughout January – July 2020.

Acknowledgements

Thank you to all the staff and volunteers who undertook the surveys and those who have informed us of their squirrel sightings. We also thank the many landowners who continue to grant access to their woodlands.

By Tasha Hesketh, September 2020