



Lancashire,
Manchester &
N Merseyside

Red Squirrel Monitoring Report Autumn 2018

Introduction

The autumn monitoring of the North Merseyside and West Lancashire Red Squirrel Stronghold was conducted throughout October 2018 using three different surveying techniques; visual transects, hair tube and trail cameras. All visual transects were completed within a 3 week period in March. 15 sites throughout the reserve woodlands of Formby, Ainsdale and Altcar were surveyed. A further 11 woodlands within the buffer zone were surveyed covering Little Crosby, Ince Blundell, Southport and Scarisbrick.

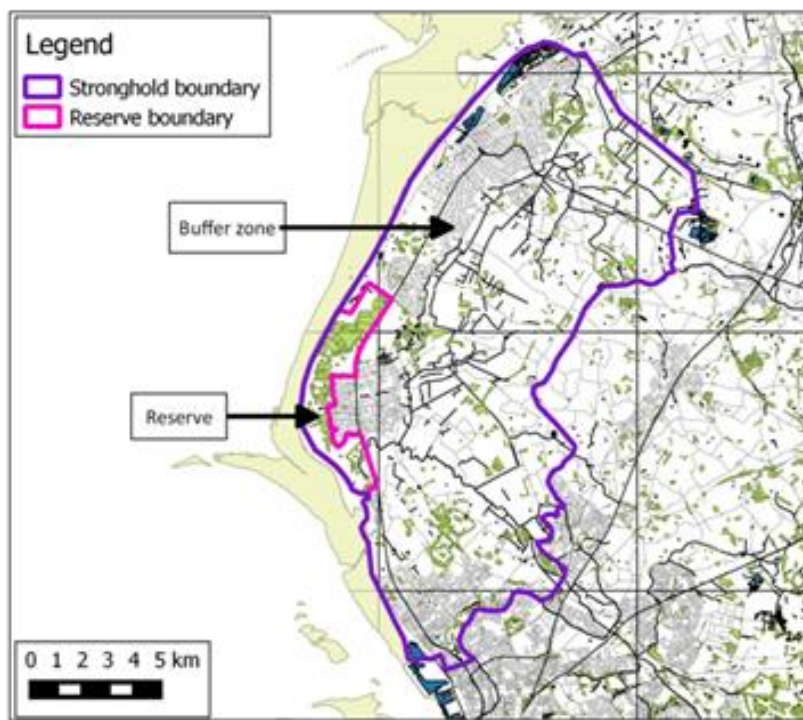


Figure 1: Map showing the boundary of the North Merseyside and West Lancashire Red Squirrel Stronghold, including reserve and buffer zone woodlands.

Reserve Woodlands – Spring Surveys

15 visual transects were carried out throughout the reserve woodlands. No grey squirrels were seen within the reserve woodlands and red squirrels were seen at all sites. Additionally, 5 of these transects were surveyed using hair tubes (3 hair tubes per transect).



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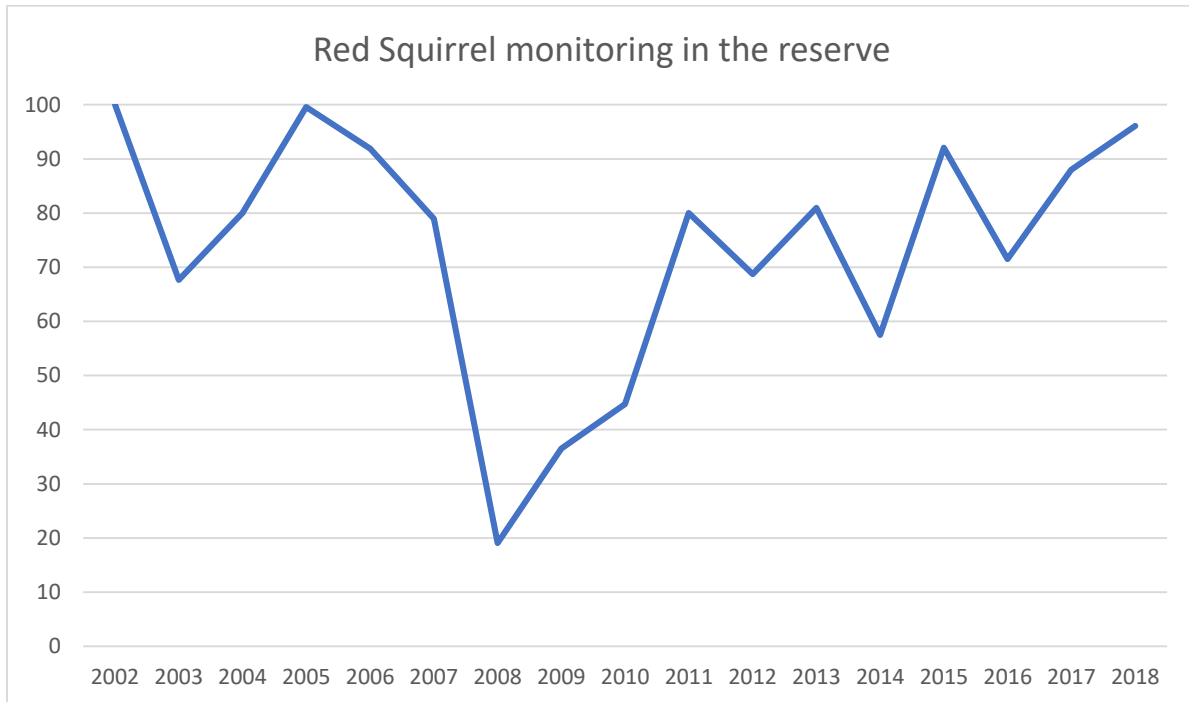


Figure 2. Line graph showing the changes in the autumn red squirrel reserve population between 2002 and 2018.

Figure 2 shows the red squirrel monitoring results in the reserve woodlands from autumn 2002 to autumn 2018. The average number of red squirrels seen across reserve transects in 2002 are taken as 100%. The average number of red squirrels seen in subsequent years are compared to this value. There has been an increase in the average number of red squirrels seen on the visual transects for the last 2 years from 72% in 2016 to 88% in 2017 and 96% in 2018. These results show that despite the huge losses suffered over the summer and autumn of 2018 the red squirrel population in the reserve woodlands remains stable. 107 dead red squirrels reported in 2018, just in Formby but the majority of these were in the south of the town, around the Lifeboat Road area. There was an initial spike of mainly juveniles in the summer which we thought may be attributed to the hot weather, but this was then followed by numerous confirmed cases of squirrel pox virus. This was reflected in the results with only 1 or 2 squirrels being seen on the transects in the south of Formby.

Red squirrel numbers in the north of Formby remain healthy with Asparagus Fields transect still having the highest density. The increase however can be largely attributed to an increase in red squirrel density at Ainsdale National Reserve. The highest number of reds since monitoring began in 2002 were detected in autumn 2018, with a record 14 seen on one of the transects.



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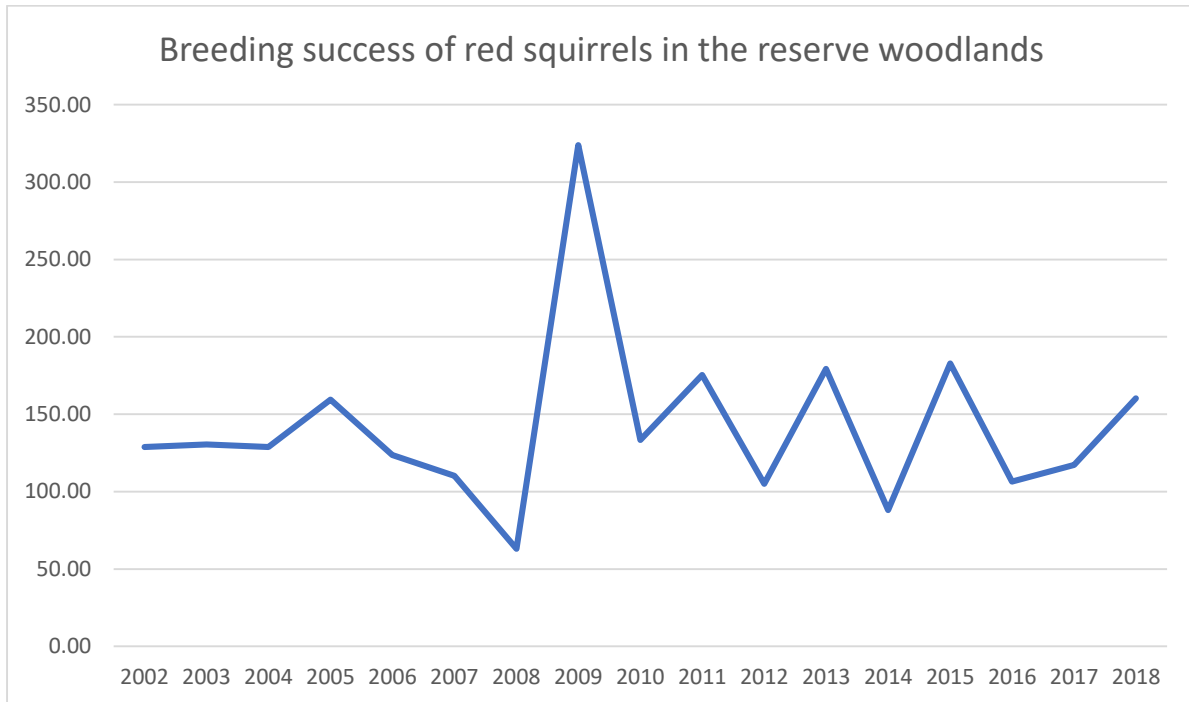


Figure 3. Line graph showing the changes in breeding success in the autumn red squirrel reserve population between 2002 and 2018.

Figure 3 shows the breeding success of red squirrels in the reserve area each year between 2002 and 2018. Breeding success is calculated by comparing autumn results to the previous spring. Again there has been a steady increase since 2016. The autumn 2018 population was 160% of the spring 2018 population indicating 2018 was a successful breeding year.

Buffer Zone: Surveys and Analysis

Table 1. The number of sites within the buffer zone with red squirrel, grey squirrel and both species present.

	<u>Red squirrel only</u>	<u>Grey squirrel only</u>	<u>Both species</u>	<u>None</u>
<u>Number of sites</u>	2	8	3	1

11 visual transects were conducted within the remaining woodlands inside the stronghold area and 3 outside of the stronghold. Table 1 shows a summary of the presence of red and grey squirrels throughout these 14 sites taking into account visual transects and hair tubes (placed along 5 of these transects).

Results are the same as spring 2018 except for an increase from 7 sites to 8 sites with grey squirrels only. This, however, is due to 1 extra transect being completed in autumn that wasn't completed in spring. Within the stronghold, Orrell Hill Wood and Bens Gorse in Little Crosby were the two sites



with red squirrel only presence, detected through visual monitoring. Both species were detected at 3 sites - Southport Crematorium, Church Wood in Little Crosby and Ince Blundell Hall. Southport Crematorium has historically been a red squirrel only site. During this monitoring period grey squirrels were also recorded but grey squirrel management has since been implemented and hopefully the site will show red squirrel only presence in spring 2019.

Of the 8 grey squirrel only sites, 5 were inside the stronghold (Hesketh Park and Botanic Gardens in Southport, Moss Wood in Little Crosby, Jospice and a site in Scarisbrick). The Jospice is a site where red squirrels were beginning to return but unfortunately we do not have permission to undertake grey squirrel control here and the results are now evident in the monitoring. The Southport parks and surrounding gardens continue to hold large populations of grey squirrels and expansion of the urban trap loan scheme here would be greatly beneficial but it relies heavily on the support of the local community.

Only grey squirrels were detected on the 2 transects within the Knowsley Estate, a site we continue to monitor outside of the stronghold. Although red squirrels have not been seen here for a number of monitoring seasons now we are working in partnership with Knowsley Estate to increase monitoring and grey squirrel management efforts.

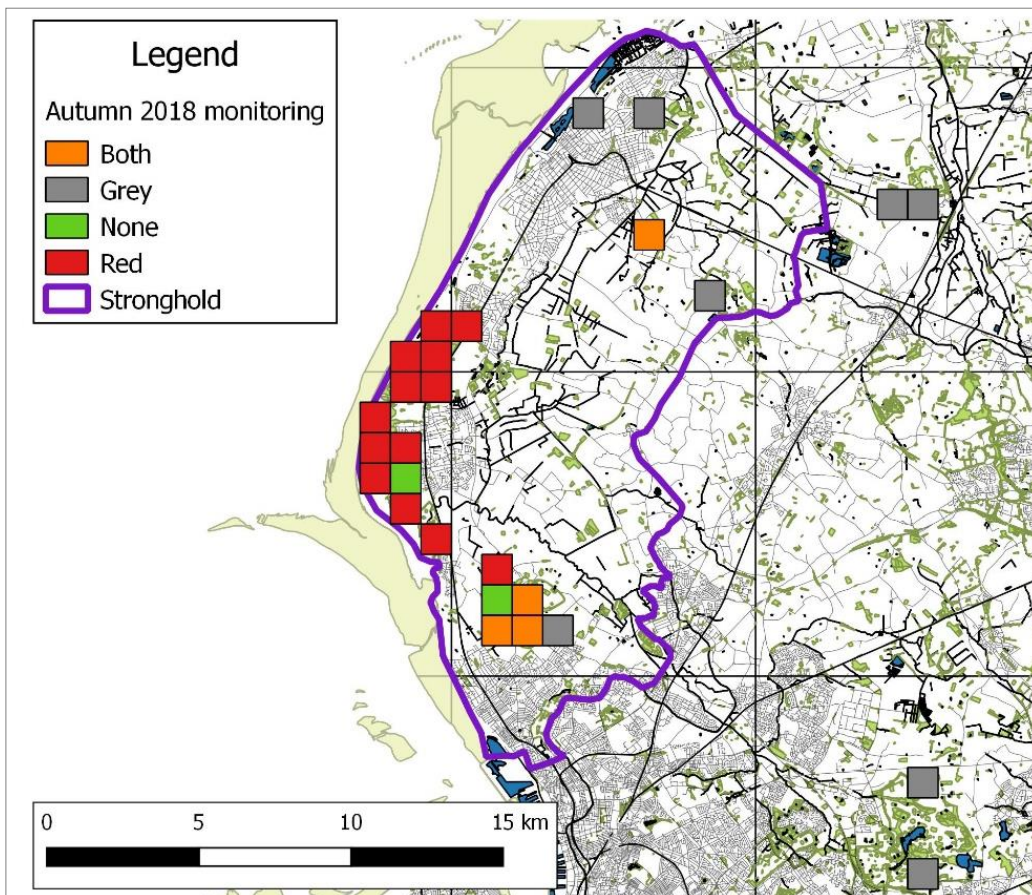


Figure 4. Autumn 2018 standardised monitoring results in the North Merseyside and West Lancashire red squirrel stronghold. Map shows presence of red squirrels (red), grey squirrels (grey), both species (orange) and no squirrels (green) in 1km x 1km squares. The Knowsley Estate and Mere Sands Wood transects (outside the stronghold boundary) are also shown.

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 Office 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.

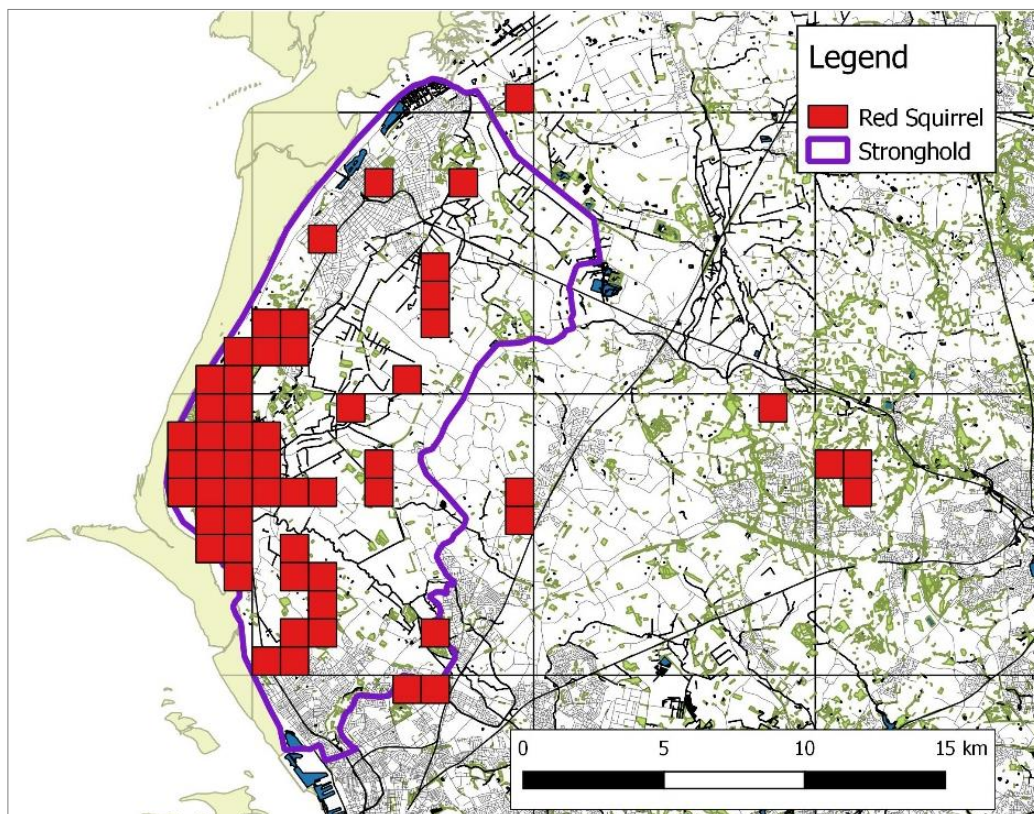


Figure 5. Red squirrel distribution in the North Merseyside and West Lancashire area. Map shows presence of red squirrels in 1km x 1km squares. Results compiled from public sightings, control records and standardised monitoring throughout 2018.

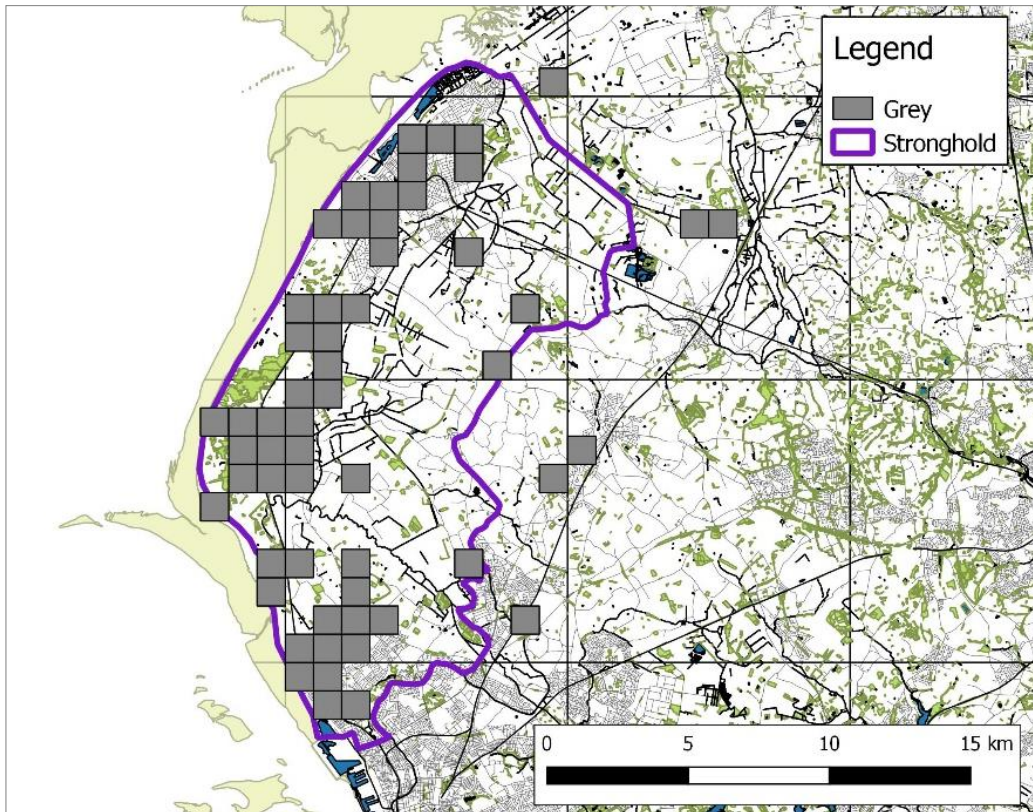


Figure 6. Grey squirrel distribution in the North Merseyside and West Lancashire area. Map shows presence of grey squirrels in 1km x 1km squares. Results compiled from public sightings, control records and standardised monitoring throughout 2018.

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 Rachel Cripps, Red Squirrel Officer, May 2019