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Red Squirrel Monitoring Report Spring 2019

Introduction

The spring monitoring of the North Merseyside and West Lancashire Red Squirrel Stronghold was conducted throughout March to May 2019 using three different surveying techniques; visual transects, hair tubes 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 10 woodlands within the buffer zone were surveyed covering Little Crosby, Ince Blundell, Halsall, Southport and Scarisbrick.

Reserve Woodlands – Spring Surveys

15 visual transects were carried out throughout the reserve woodlands. Hair tubes were placed along 5 of these transects (3 hair tubes per transect) as an additional survey method. Red Squirrels were seen on 11 of the visual transects. One Grey Squirrel was seen within the reserve woodlands at Ainsdale National Nature Reserve. 3 of the 4 transects that had no squirrel sightings within the reserve woodlands were in south Formby area with the other being in the Ainsdale area.

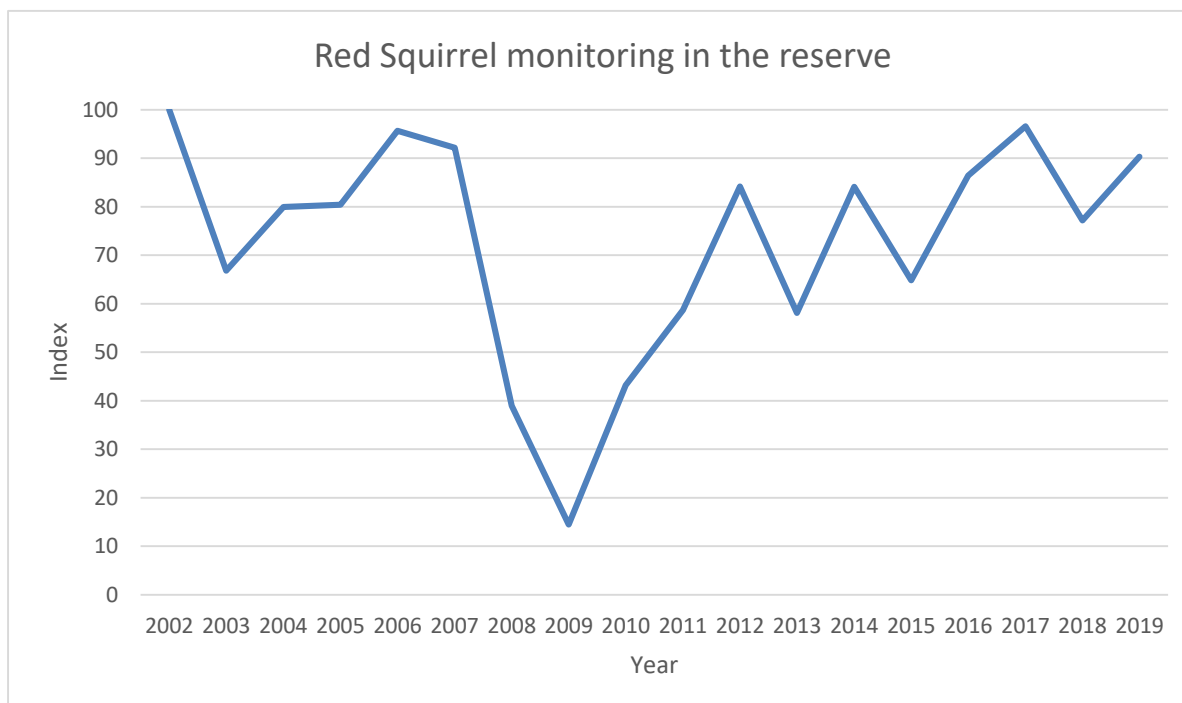


Figure 1. Line graph showing the changes in the spring Red Squirrel monitoring in the reserve population between 2002 and 2019.





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Figure 1 shows the Red Squirrel monitoring results in the reserve woodlands from spring 2002 to spring 2019. 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. You can see from the graph that there is an increase in the average number of Red Squirrels seen on the visual transects this year (2019) compared to last year (2018), which experienced a decrease from the previous year. This year, the Red Squirrel population was at just over 90% of the baseline figure from 2002, compared to the 77.2% in spring 2018 following the previous decrease from 96.6% in 2017. This indicates that population is remaining relatively stable.

This spring saw an increase in the average number of Red Squirrels at 7 of the transects (located within the Ainsdale NNR and Formby) compared to spring 2017. There has been a decrease in Red Squirrel numbers across 6 transects with none being seen south of Formby. Asparagus Fields at Formby National Trust still holds the highest density of Red Squirrels, with 33 seen on one transect walk an increase from 23 in 2017.

Red Squirrel populations do fluctuate naturally over time (with food availability being the biggest driving force) and this should be considered when accounting for the variation in Figure 1. The increase in the Red Squirrel population throughout the reserve woodlands, despite there being no Red Squirrels detected in the south of Formby, is likely due to there still being a high density in the north of Formby and also an increase in the number of squirrels seen on the transects throughout Ainsdale National Nature Reserve.

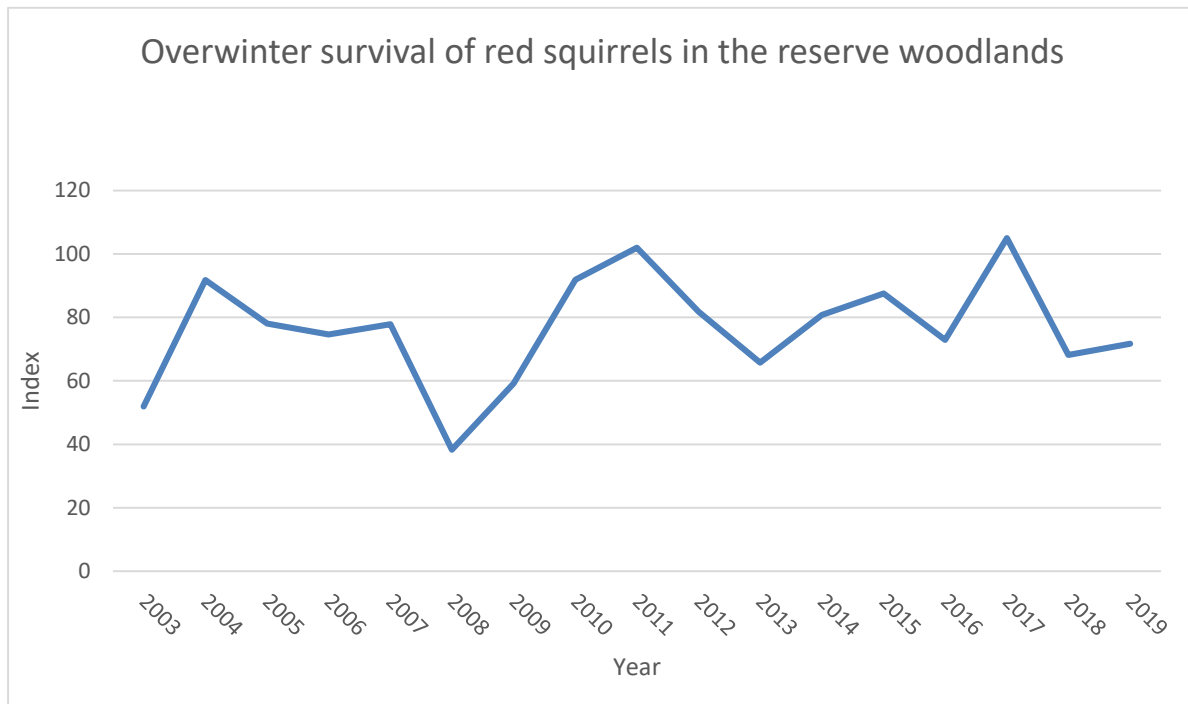


Figure 2: Line graph showing the changes in overwinter survival in the spring Red Squirrel reserve population between 2003 and 2019.

Figure 2 shows overwinter survival of Red Squirrels in the reserve woodlands each year between 2003 and 2019. Overwinter survival is calculated by taking the average numbers seen on spring





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transects as a proportion of those seen in the autumn of the previous year. This year is more on par with previous years, unlike last spring (2017) which was unusually high due to the early start to the breeding season.

Buffer Zone: Surveys and Analysis

A further 11 sites were surveyed outside of the reserve woodland, 8 within the stronghold and 3 outside of the stronghold. 9 visual transects (7 with hair tubes) and 2 trail cameras.

Table 1. The number of sites outside of the reserve woodlands with Red Squirrel, Grey Squirrel or 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>	3	9	1	0`

Within the stronghold, Orrell Hill Wood, Southport Crematorium and New Covert were the only 3 sites to have a Red Squirrel only presence, detected through visual monitoring at Orrell Hill Wood and Southport Crematorium and a trail camera at New Covert. The number of Red Squirrel only sites have increased from spring 2018 when there were 2 sites in total. Both species were detected at one site in Great Altcar.

There were 8 sites within the stronghold where only Grey Squirrel presence was detected (Hesketh Park and Botanic Gardens in Southport, Moss Wood and Flea Moss Wood in Little Crosby, Jospice in Thornton, Ince Blundell Hall and Girl Guides in Scarisbrick). No grey squirrels were seen on the transect at Flea Moss Wood, but they were detected in the hair tubes here.

The number of sites with Grey Squirrel presence only has increased by 1 since last spring (2018) but has remained the same as autumn 2018. Hesketh Park remains the site with the highest number of Grey Squirrels sighted. We are still working towards implementing more consistent Grey Squirrel management in this area. The Red Squirrel population would benefit massively from residents in the surrounding area taking part in the urban trap loan scheme, which is used in most of the stronghold and has proved extremely effective in reducing the number of Grey Squirrels but it relies heavily on the support of the community.

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. Southport Crematorium has returned to a Red Squirrel only site after both species were detected in 2018, showing that management has been successful.

An additional 3 sites were monitored outside of the stronghold (2 at Knowsley Estate and at Mere Sands Wood) and only Grey Squirrel were detected on all of them. 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.



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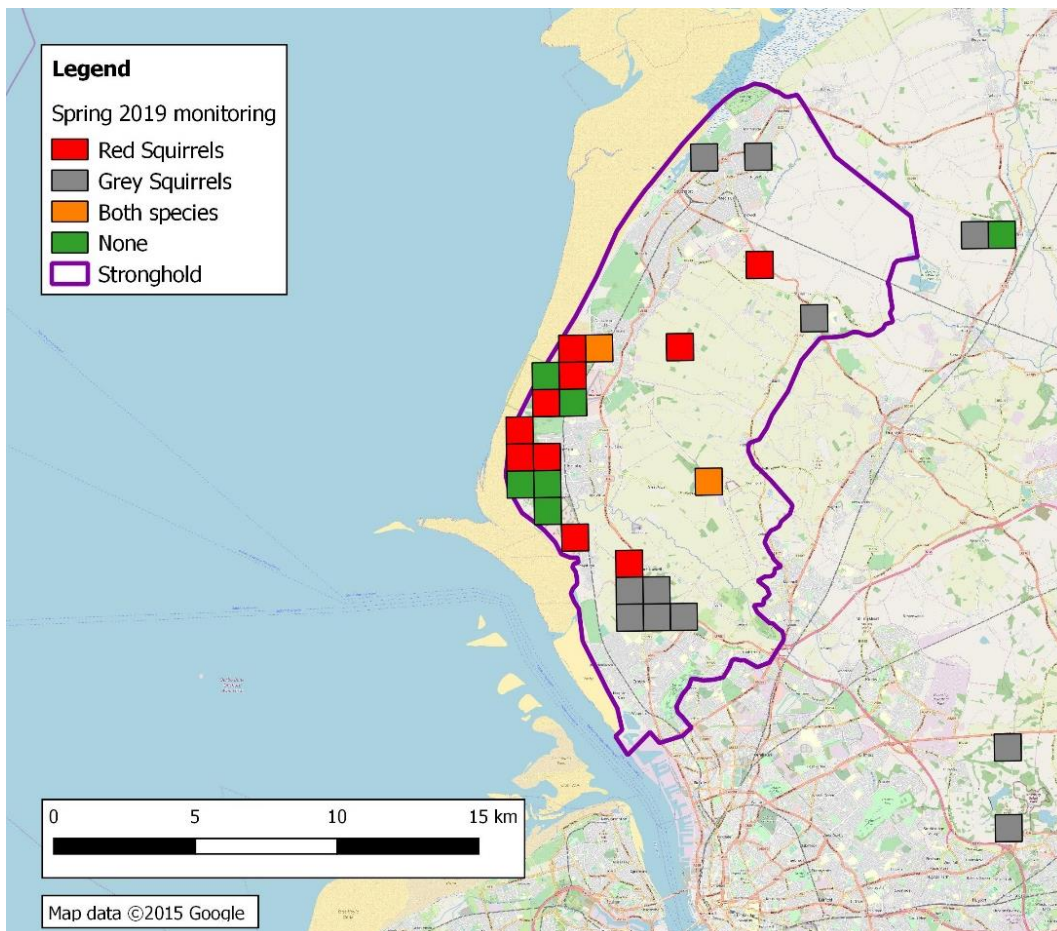


Figure 3: Spring 2019 standardised monitoring results in the North Merseyside and West Lancashire red squirrel stronghold. Map shows presence of red squirrels (red), grey squirrels (grey), both species (orange) and no squirrels (green) in 1km x 1km squares. The Knowsley Estate and Mere Sands Wood transects (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 Officer 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.





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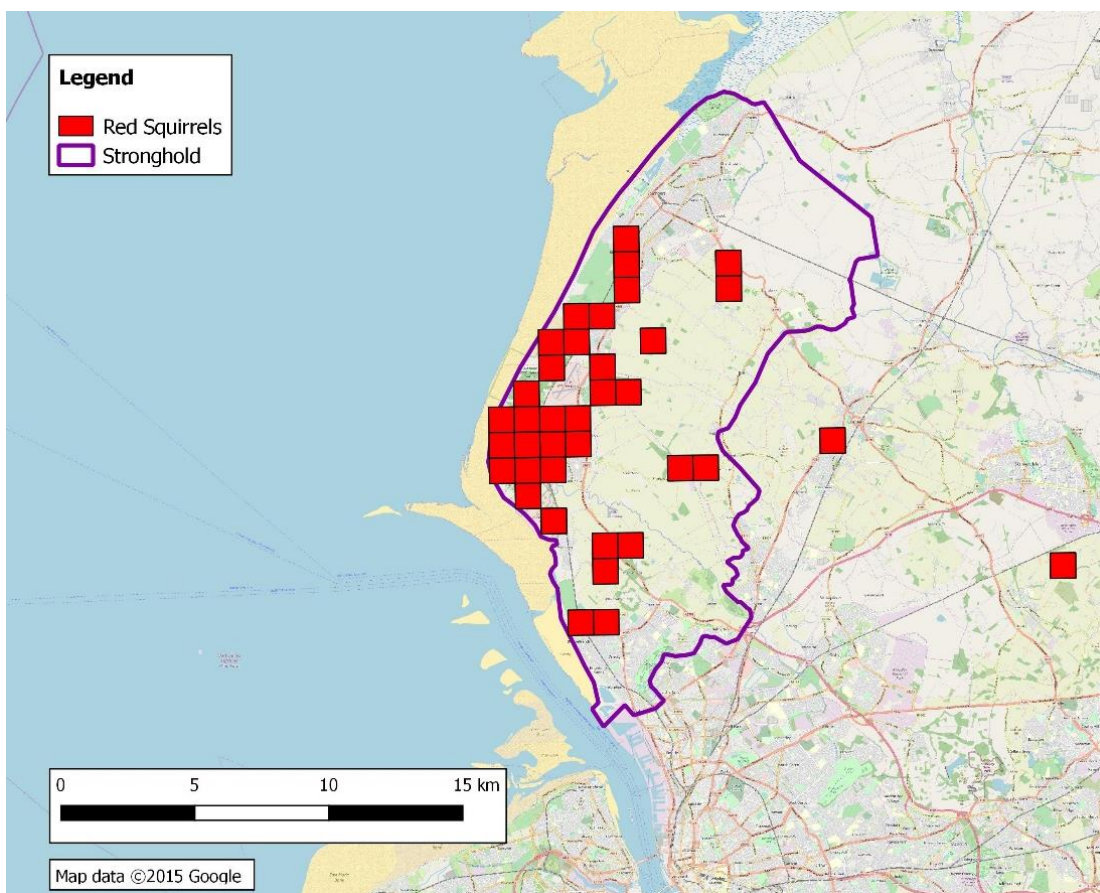


Figure 5: Red squirrel distribution in the North Merseyside and West Lancashire area. Map shows presence of red squirrels in 1km x 1km squares. Results compiled from public sightings, control records and standardised monitoring throughout January - June 2019.





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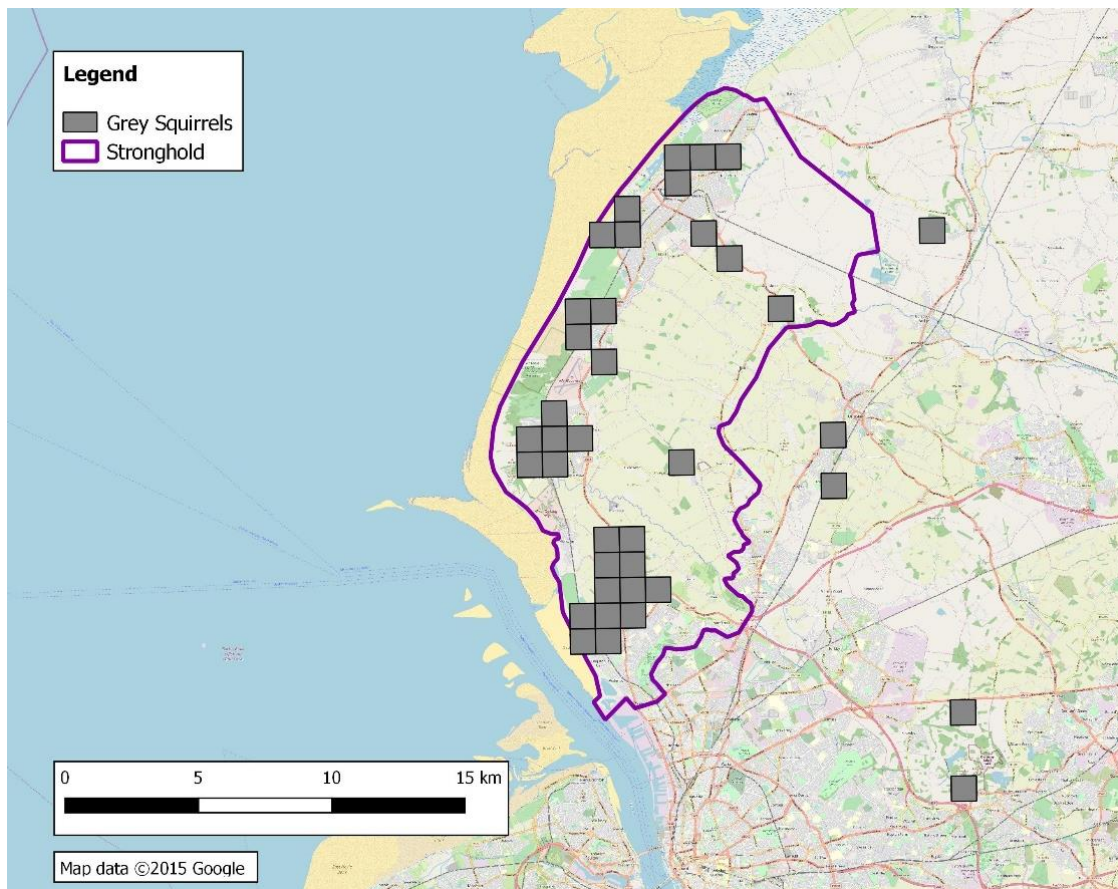


Figure 6. Grey squirrel distribution in the North Merseyside and West Lancashire area. Map shows presence of grey squirrels in 1km x 1km squares. Results compiled from public sightings, control records and standardised monitoring throughout January – June 2019.

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 2019

