

JSPCA Red Squirrel (*Sciurus vulgaris*) Disease Surveillance Scheme

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"Determination of the prevalence and incidence of disease in the red squirrel population of Jersey"

The JSPCA Animals' Shelter began this important initiative in 2007 with the ultimate aim of striving to improve the health, care and welfare, and hence conservation, of the Jersey red squirrel population, an important red squirrel island stronghold.

The Jersey Red Squirrel Disease Surveillance programme studies the broad causes of squirrel mortality, researches into the prevalence and significance of diseases and infectious disease agents that are identified in the red squirrel population and examines how these may impact upon the long-term health, viability and survival of the Jersey red squirrels.

The JSPCA Animals' Shelter liaises with the States of Jersey Environment Division on this important project which endeavours to implement a number of the proposed actions and recommendations outlined in the States of Jersey's Red Squirrel Biodiversity Action Plan.

Project rationale:

- To identify disease prevalence and thereby enable targeted veterinary treatment for sick and injured red squirrels and overall improvement of red squirrel welfare.
- To undertake on-going surveillance and monitoring for the presence of disease and any new emerging infectious diseases, which is essential to protect and maintain the long-term health of the Jersey red squirrel population.
- To determine the long-term viability and stability of the Jersey red squirrel population through the identification and assessment of threats to the Jersey red squirrels and their impact on the local squirrel populations.
- To increase scientific knowledge and understanding of the health, disease and genetic issues faced by this species, thereby ultimately improving their

welfare and also contributing to the long-term survival and conservation of this important island population of red squirrels.

- To assist in the development of future strategic conservation management plans in association with the States of Jersey's Red Squirrel Biodiversity Action Plan.

Background:

The squirrel species' are within the family *Sciuridae*. The red squirrel (*Sciurus vulgaris*) is the only squirrel that is native to Britain and their British populations are vulnerable due to habitat loss and fragmentation, competition with the grey squirrel (*Sciurus carolinensis*) for habitat and food, in addition to threats from squirrelpox virus.

Local naturalists first introduced the red squirrel to the island of Jersey in the mid 1880's and they have continued to survive in the small woodland pockets across Jersey. In mainland Britain the red squirrel has competition from the alien grey squirrel, which was introduced into Britain in the late 19th century and early 20th century. However, grey squirrels were never introduced to Jersey. Grey squirrels can act in competition with red squirrels for habitat and food, but more importantly, the grey squirrels can carry squirrelpox virus (SQPV) without any clinical signs, yet red squirrels are very susceptible to infection with SQPV which often results in their death.

Continued monitoring for the presence of endemic disease in the Jersey red squirrels is essential to help protect and maintain the health of the population and to facilitate the implementation of local biodiversity action plans with the ultimate aim of conserving local red squirrels and helping to safeguard their future survival on the island.

Key steps:

The findings from this surveillance programme are obtained from the interpretation and analyses of samples obtained through the opportunistic post-mortem examinations of red squirrel carcasses that have been found across the island. Therefore, Islanders are asked to please report all sightings of dead red squirrels to the JSPCA Animals' Shelter reception, to enable the bodies of the squirrels to be collected and the important post-mortem examinations performed.

Partner Organisations:

- JSPCA Animals' Shelter
- States of Jersey Environment Department

Funding and benefactors:

The following is a list of funders from which grants have been obtained and donations kindly received that have helped support and contribute towards the funding for this on-going Jersey Red Squirrel Disease Surveillance Scheme:

- JSPCA Animals' Shelter
- Jersey Ecology Trust Fund - grant
- Jersey Countryside Enhancement Scheme - grant
- States of Jersey International Year of Biodiversity - grant
- Howard Davis Farm Trust - grant
- The Channel Islands Co-operative Society Limited
- Moore Stephens
- Private benefactors (i.e. donations given specifically to the JSPCA Animals' Shelter Red Squirrel Disease Surveillance Scheme from members of the public)

Results so far:

The findings have highlighted a wide variety of causes of ill health and death of Jersey red squirrels:

- General ill health/disease - no cases of squirrelpox virus have been detected on the island (probably due to the absence of grey squirrels), but continued vigilance and surveillance is critical. An important cause of red squirrel mortality on Jersey is a condition called Fatal Exudative Dermatitis. Red squirrels affected by this condition may be weak and typically have scabby lesions on their faces and feet which are associated with a specific bacterial skin infection.
- Predation/trauma (other than traffic related) – cat attacks account for approximately 5% of squirrel deaths on Jersey.
- Road traffic mortalities – vehicles are a major danger to the island's red squirrels with the majority of all casualty squirrels being killed on roads.

By looking at the individual roads on which casualty squirrels were found, there were some roads, that have been termed 'black spots', on which particularly high numbers of casualty squirrels were found. From this study apparent 'black spots' for red squirrel deaths on Jersey roads are, in no particular order,:

- Trinity Hill and la Route de la Trinite
- St Saviours Hill
- La Vallee de Vaux
- Top of Bellozanne Valley
- Les Charrieres de Malorey, St Lawrence
- Le Chemin des Moulin (Waterworks Valley), St Lawrence
- Les Chenoles, St John
- Les Chanolles de Six Rues, St Lawrence

- La Rue de Pont Marquet (near the Lavender Farm), St Brelade
- St Peters Valley
- La Route de St Aubin at West Park
- La Route de St Aubin at Coronation Park
- Westmount Road at Westmount Park
- La Rue es Picots, Trinity,
- La Route Orange, St Brelade, (west end)
- La Rue de Catieaux, Trinity
- La Route des Genets, St Brelade
- La Route de la Hougue Bie, St Saviour

Other issues faced by Jersey red squirrels:

- Habitat loss and woodland fragmentation – the outbreak of Dutch Elm Disease effected the connectivity of the island’s woodlands and the 1987 storm also devastated the woodlands and further contributed to habitat loss and woodland fragmentation.

Since 1998, a tree and hedgerow planting scheme has sought to re-create and reinforce the connecting links between the existing woodland fragments on the island.

How you can help:

- If you see a sick or injured red squirrel, please contact the JSPCA Animals’ Shelter.
- Two important causes of red squirrel deaths on Jersey are road deaths and attacks by cats:
 - Please take care when driving, especially on the country roads and green lanes.
 - When providing food for squirrels in your garden it is important to place feeders so that visiting squirrels are not at risk from vehicles, cats or dogs on their journey to visit your feeder. Also, to help keep squirrels fit and healthy, try to remember to clean your squirrel feeding station regularly.
- Please report any sightings of dead squirrels to the JSPCA Animals’ Shelter.
- Continued monitoring for the presence of disease in the Jersey red squirrels is essential to protect and maintain the health of the population and to help safeguard their future survival on the island. Further funding to support this vital and necessary surveillance work and to enable it to continue is crucially needed. For more information, please contact the JSPCA Animals’ Shelter.