

Changing distributions, management and disease; the impact of alien grey squirrels on native red squirrels in Britain, 1990 – 2010

Peter LURZ¹, John GURNELL² and Walter BERTOLDI³

¹Lurzengasse 3, D-97236 Randersacker, Germany

(lurzpww@gmail.com) ²School of Biological and Chemical Sciences, University of London, UK (j.gurnell@qmul.ac.uk)

³Department of Civil and Environmental Engineering, University of Trento, Trento, Italy (w.bertoldi@qmul.ac.uk)

Many invasive, non-native species cause environmental and/or economic damage. One such species is the North American grey squirrel *Sciurus carolinensis* in the British Isles, first introduced 140 years ago. As it has spread throughout the countryside, it has replaced the native red squirrel *Sciurus vulgaris* and caused economic damage to timber crops. For many years there have been concerns that the red squirrel may disappear completely from the British mainland, perhaps within the next 20–30 years. Using presence-only data collected by volunteers, we focus on the changing distributions of red and grey squirrels within different landscapes in the north of England and Scotland between 1990 and 2010.

We consider the rate of spread of grey squirrels over this period, attempt to understand whether grey squirrel control and a virus infection, fatal only to red squirrels but carried by grey squirrels, are influencing the changing distributions, and what the future may bring.

[MEMO]