

TALKS

From invasion to eradication: success story of removing grey squirrels from an urban area in Central Italy

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The LIFE U-SAVEREDS project managed an isolated population of the invasive grey squirrel *Sciurus carolinensis* in the city of Perugia (Central Italy) and surrounding areas, intending to protect the native European red squirrel (*Sciurus vulgaris*) and safeguard biodiversity in Apennines ecosystems.

The invasive species settled in Perugia around yr 2000, and the project's specific aim was to eradicate the population or remove at least 80% of the grey squirrels. During the project, grey squirrels were live-trapped with Tomahawk traps, and then euthanised using carbon dioxide (CO₂). A fraction of the animals was surgically sterilized and released in urban parks.

Overall, between February 2016 and September 2018 (32 months), we removed 1070 animals. Comparing this number with the abundance estimated in 2015 through distance sampling (1510 animals SD 211, 95% confidence interval 1096-1924), and combining the removal data with the results obtained through monitoring, the percentage of removed animals is likely to be 82-98%. Indeed, grey squirrel density was reduced from 3.37 individuals/ha in 2015 to 0.31 individuals/ha in 2017, and in 2018, it was even closer to zero. In 2015, the grey squirrel occurred over 36.9 km²; at the end of the project, its range was reduced to 3 km². Over time, we also detected an increase in the area occupied by red squirrels, from 19 km² to 57 km².

To date, there is no evidence of the persistence of a grey squirrel population in the area of Perugia. The removal of grey squirrels through trapping was thus successful and facilitated the recovery of the native squirrel.