New tools and methods

iDeer: An integrated decision-support tool for managing deer alongside woodland creation

Gresham, Amy[1,2*]; Grainger, Matthew[3]; St John, Freya[4]; Cini, Elena[4,5]; Eigenbrod, Felix[2]; Bellamy, Chloe C.[6]; Guy, Matt[7]; Rattey, Andrew[6]; Ward, Alastair[8]; Shannon, Graeme[3,4]; Spake, Becks[1,2]

[1] University of Reading, School of Biological Sciences, Reading, UK
[2] University of Southampton, Institute for Life Sciences, Southampton, UK
[3] Norwegian Institute for Nature Research, Trondheim, Norway
[4] Bangor University, School of Environmental and Natural Sciences, Bangor, UK
[5] Anglia Ruskin University, Global Sustainability Institute, Cambridge, UK
[6] Forest Research, Northern Research Station, Roslin, UK
[7] Forest Research, Alice Holt Lodge, Farnham, UK
[8] University of Leeds, Faculty of Biological Sciences, Leeds, UK
* amygresham48@gmail.com

DOI: 10.20315/evmc.2025.073

Major land use transitions associated with Britain's woodland creation schemes are set to accelerate further increases in wild deer densities and distributions, threatening treescape expansion, resilience, and Net Zero targets. Managing deer populations and designing planting schemes to mitigate their impacts constitutes one of the most complex wildlife management challenges across the temperate zone. The iDeer project, funded by the UKRI Future of UK Treescapes programme, is delivering a co-designed, web-based decision support tool that will quantify and map the risk of deer impacts to new and existing woodlands at the landscape scale as a function of alternate planting scenarios. To map predicted risk of deer impacts to individual woodland parcels across England and Wales, we have worked with deer experts to develop predictive Bayesian Belief Network models that incorporate complex interactions among landscape-level factors including forage quality, connectivity, climatic harshness, and human disturbance. The model underpins an interactive, web-based 'iDeer Tool' to predict risk as a function of different woodland planting scenarios inputted by users.