Forestry England



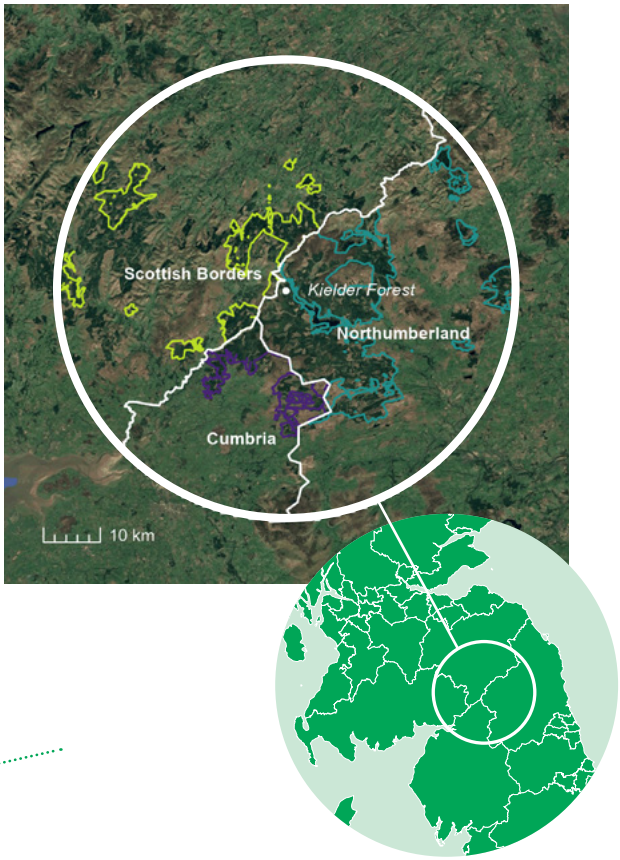
Could wildcats return to Kielder Forest?

Findings from a biological and ecological feasibility study

The European wildcat (*Felis silvestris*) disappeared from England in the 1850s, with Northumberland its last known stronghold. Kielder Forest, with its vast forest cover, low road density, and low feral cat presence, is a compelling candidate for its return.

Forestry England contracted The Australian National University's Coexistence Conservation Lab to assess the biological and ecological feasibility of returning European wildcats to the 'Kielder and the Borders' region (a 40-km radius from Kielder Village encompassing 5,027 km^2, including forest estate in Northumberland, Cumbria, and the Scottish Borders).

This work builds on an initial scoping study and complements a social feasibility study conducted by Forest Research.



Does the region offer enough suitable habitat to support a wildcat population?

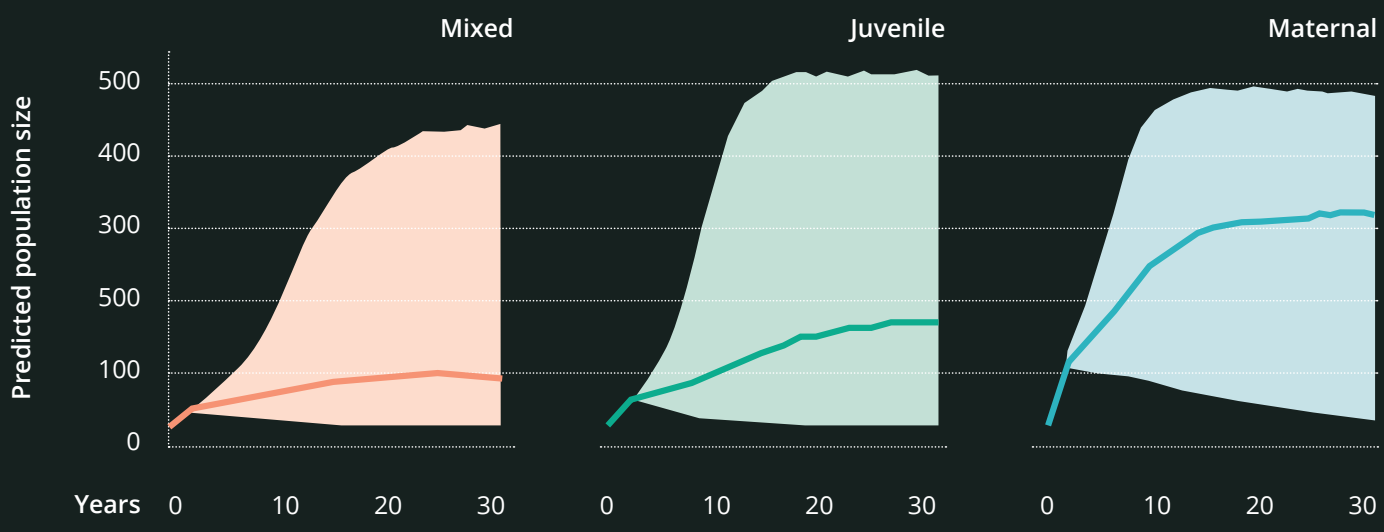
Using habitat suitability modelling, the team determined the key environmental factors driving wildcat habitat in Europe — namely elevation, land cover, and vegetation productivity.

When applied at fine resolution, the models predicted approximately 567 km² of suitable habitat throughout Kielder and the Borders (11% of the region), with an estimated carrying capacity of ~385 wildcats; enough wildcats to create a sustainable population. Three priority release sites were identified within young plantation forest, where small prey is likely to be most abundant.

How many wildcats would represent a sustainable population for this area?

To simulate how a reintroduced population might grow over 30 years, the study compared three potential founder cohort types: a **mixed** cohort (equal numbers of adult males and females), a **juvenile** cohort (equal numbers of young males and females under one year old), and a **maternal** cohort (adult females, each with up to four young). A cohort in this instance is a group of wildcats in the same habitat at the same time. Each was tested under conservative (40% adult mortality; shading below thick line), median (30%; thick line), and optimistic (20%; shading above thick line) scenarios.





Graph to show potential population growth of three potential founder cohort types.

Which release cohort type has greatest likelihood of success?

All three cohorts performed comparably under optimistic conditions but diverged under more realistic assumptions. Founder groups led by maternal females with young offered the best prospects for long-term survival, reaching capacity faster and proving most resilient. However, all scenarios predicted population decline if adult mortality exceeded 40%, making close monitoring and rapid intervention (e.g., supplementary feeding) not just beneficial, but essential.

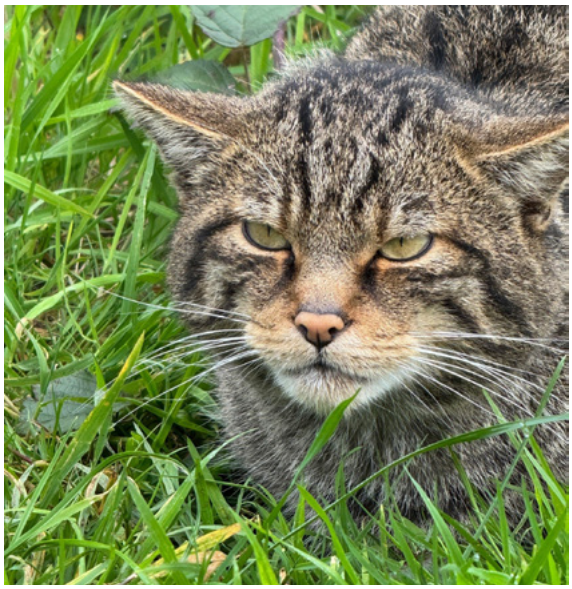
What comes next?

The results of this study suggest that returning wildcats to Kielder Forest is biologically and ecologically feasible — a significant milestone for one of England's most ambitious nature recovery projects. But models are only as good as the real-world conditions they represent, and the next phase of work is about testing those predictions on the ground.

That means visiting candidate release sites in person, deploying remote cameras to build a clearer picture of prey availability and predator activity, and, if the evidence continues to stack up; the first year of release would allow testing of approaches to allow modification and learning for subsequent years, thereby developing best practices.

Detailed monitoring of this first release cohort through camera monitoring, genetic sampling, and environmental DNA analyses, will be essential to validating the models, safeguarding genetic integrity, and adapting the program as it evolves.

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Research study by the Coexistence Conservation Lab at the Australian National University.

Australian National University

COEXISTENCE CONSERVATION LABORATORY