

Iberian lynx threatened by climate change

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Climate change could drive the Iberian lynx – the world's most threatened cat – to extinction within 50 years, despite substantial ongoing conservation efforts, a new international study has found.

Published today in *Nature Climate Change*, the research team says the impact of [climate change](#) must be incorporated in strategies to reintroduce the Iberian lynx to new habitats if the species is to be saved.

"We show that [climate change](#) could lead to a rapid and severe decrease in lynx abundance in coming decades, and probably lead to its extinction in the wild within 50 years," says lead author Dr Damien Fordham, from the University of Adelaide's Environment Institute. "Current management efforts could be futile if they don't take into account the combined effects of climate change, land use and prey abundance on [population dynamics](#) of the Iberian lynx."

The Iberian lynx is the world's most endangered [cat species](#), with only an estimated 250 individuals surviving in the wild. Recent declines have been associated with sharp regional reductions in the abundance of its main prey, the European rabbit. Only two Iberian lynx populations persist in the wild compared with nine in the 1990s.

Over €90 million has been spent since 1994 to try and save the species, mainly through habitat management, reduction of destructive human activity and, more recently, reintroducing the lynx into [suitable areas](#) where they have lived in recent history.

Although there is evidence that lynx numbers have increased in the last ten years in response to intensive management, this study warns that the ongoing conservation strategies could buy just a few decades before the species goes extinct. This study is the most comprehensive conservation-management model yet developed of the [effects of climate change](#) on a predator and its prey.

"Models used to investigate how climate change will affect biodiversity have so far been unable to capture the dynamic and complex feedbacks of [species interactions](#)," says Dr Miguel Araújo, senior author and Spanish Research Council (CSIC) Senior Researcher at the National Museum of Natural Sciences in Madrid. "By developing new forecasting methods, we have managed, for the first time, to simulate demographic responses of lynx to spatial patterns of rabbit abundance conditioned by disease, climate change, and land use modification."

CSIC researcher at the Doñana Biological Station in Seville, Dr Alejandro Rodríguez, says: "Habitat in the south-west of the Iberian Peninsula, where the two existing populations of lynx persist, is most likely to be inhospitable to lynx by the middle of this century." Current reintroduction plans are targeting the south of Spain and Portugal but survival of the species in the long term may require higher latitude and higher altitude regions on the Iberian Peninsula.

"That the numbers of Iberian [lynx](#) are currently increasing suggests that intensive management of habitat and rabbit populations have worked as effective short-term [conservation strategies](#), but small population size means that the species is still threatened and susceptible to future population declines," says Professor Barry Brook, Chair of Climate Science at the University of Adelaide. "This means that the species is extremely vulnerable to shifts in habitat quality or to changes in the abundance of their rabbit prey due to climate change."

Provided by University of Adelaide

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