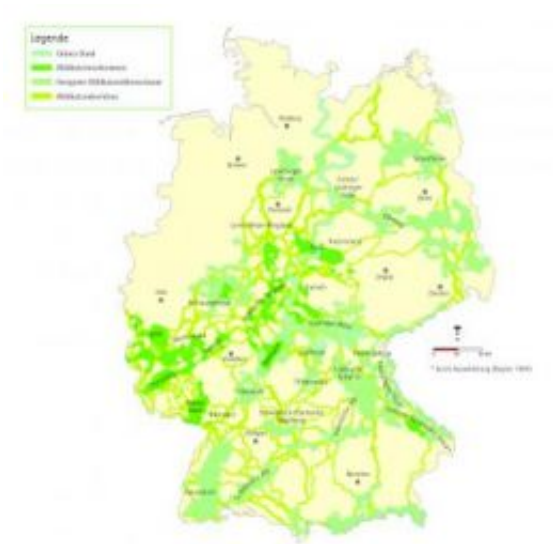


Let the cat keep chasing the mouse

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Corridors for the European wildcat. Plans for a nationwide net of migration corridors in Germany. Credit: BUND.net

For the first time an international researcher team has developed a model, which identifies potential habitats and corridors for the European wildcat (*Felis silvestris silvestris*). Using Rheinland-Pfalz as an example, it was demonstrated that almost half of this German federal state could be suitable for wildcats, enabling a maximum population of 1600 females.

The model can also be adapted for other regions and could therefore prove to be of significant value in protecting this highly endangered species, researchers write in the scientific journal *Biological Conservation*.

The research forms the scientific basis for a network of forest corridors that BUND, the League for the Environment and Nature Conservation Germany (the German Branch of Friends of the Earth), intends to establish over the following years with the help of the German States. According to estimates there are currently between 3000 and 5000 wildcats scattered throughout Germany. The nationwide corridors are an attempt to reconnect isolated populations once again and therefore open up new areas for the wildcat in the East of Germany. In Switzerland too, data on populations of wildcats is being collected and modelled, in order to be able to protect this species better in the future.

They have been strolling through the forests of Europe since ancient times on their soft velvety paws and certainly long before mankind started to fragment the forest with his axe or before the Romans brought their domestic cats with them from North Africa. Indeed, the wildcat looks very similar to our domesticated cat, but is however only very distantly related to it. Their tails can most easily differentiate the two species: the stockier wildcat has got bushier hair there and more clearly defined dark rings. Mice serve as their main source of food. The European wildcat has managed to survive mainly in the forests of the Carpathian Mountains, the Balkans, Spain, and France and in the Central German Uplands. Owing to strict conservation measures they have been able to start spreading again slowly over recent decades in Central Europe. Nevertheless, the species is still threatened by the destruction and fragmentation of its habitat as well as through interbreeding with the domestic cat. Furthermore, their long nocturnal wanderings often mean that they become victims of increased road traffic.

German and Spanish researchers from the Helmholtz Center for Environmental Research, the Freie Universität Berlin, the Doñana Biological Station of the Spanish Council for Scientific Research, OEKO-LOG field research and the Biological Station in Euskirchen have now been the first ones to develop an ecological model to find

suitable habitats for wildcats. In doing so they fitted six tomcats and six feline cats with radio-transmitters to track their home ranges. Over the space of four years a database was developed with over 13,000 entries on the home ranges of wildcats. A 150 square kilometre area in the southern Eifel region near Wittlich served as the investigation area . Three quarters of the sparsely populated area is covered by forest. Subsequently, the researchers extrapolated their data for the whole of the German Federal State Rhineland-Palatinate (Rheinland-Pfalz), home to approximately half of the entire German wildcat population. A hilly landscape and many forests that make up almost half of the state shape this German Federal state with almost 20,000 square kilometres. The biologist Nina Klar from the UFZ analysed such geographical information for her PhD in order to determine potential suitable habitat for wildcats in Rhineland-Palatinate (Rheinland-Pfalz).

The model was tested in two areas: the Bienwald on the border to France and in the northern Eifel region on the border to Belgium. A decisive factor for wildcat habitat proved to be the distance to human settlements: "The shy forest-dwellers making a large loop around settlements. Within a radius of one kilometre from settlements they occur more rarely and even with individual houses or roads they still keep a distance of 200 meters", reports Nina Klar. "Interestingly, this 'safety distance' overlaps with observations made on the lynx ", her Spanish colleague Dr. Néstor Fernández adds, who has worked on models of both species. "In this way, the wildcats protect themselves not only against humans and dogs, but also come into less contact with domestic cats, which could explain the low rate of interbreeding between the two species." Apart from the distance they keep from humans, the density of the forest and the proximity to forest edges and meadows also plays a significant role. From their investigations, researchers observed that at night the wildcats often hunted mice on meadows at the edge of the forest and rested during the day in forest thickets: "Areas near water also provide good habitat for wildcats, as water voles (*Arvicola terrestris*) can occur there,

which are a particularly valuable item of prey for wildcats." Almost half of the area of the Rhineland-Palatinate (Rheinland-Pfalz) fulfils the minimum habitat requirements as determined by the researchers. In this German Federal State there would therefore theoretically be room for 1600 wildcats.

In spite of good habitat conditions in two forest areas in the Rhine Valley and northeast of the Rhine no wildcats have been sighted for decades. These areas have obviously been cut off from the population. Suitable corridors are lacking through which the animals could enter these territories. The example is symptomatic: The recluse species could become a resident of many forests once it has made it there. The Black Forest, the Oberpfälzer Wald, the Erzgebirge, the Thüringer Wald, the Lüneburger Heide and even the extensive forest areas of Brandenburg are currently unmarked spots on the wildcat's distribution map. The populations in Hessen and in the Harz Mountains are also isolated from the population in Rhineland-Palatinate, which prevents genetic exchange and causes inbreeding depression, threatening numbers of wildcats in the long run.

On behalf of the League for the Environment and Nature Conservation Germany (BUND), Nina Klar has therefore provided results on potential corridors, with which these forest areas could be connected. Therewith the 2004 started project "rescue network wildcat" of the BUND got a nationwide planning basis for nature conservation on the example of the wild cat. The BUND want to develop with the support of the German states a network comprising of some 20,000 kilometres corridors over the coming years, that would be the equivalent of half of the German Federal highway network. A milestone was last autumn the planting of 20000 trees and shrubs for a corridor between the National Park Hainich and the Thueringer Wald. "Nationwide or international planning of nature conservation is the basis for migration corridors of wild animals. The example Hainich shows this is possible." says Thomas Mölich,

BUND coordinator of the "rescue network wildcat". This "cat leap" was financed through compensation measures from shifting a section of the A4 motorway. However, where new wildcat corridors cannot be integrated into road construction activities, BUND is still dependent on donations. These donations are to help one of the most original dwellers of our forests to return and at some point in time also reside in the forests of Sachsen, Brandenburg or Mecklenburg-Vorpommern.

Source: Helmholtz Association of German Research Centres

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