

Bridging two wolverine populations in Fennoscandia is necessary for conservation

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In the wolverine study in Finland, hair collection sites are used to collect hair samples for genetic research, as in the image. Credit: Natural Resources Institute Finland / Tapio Visuri

A new study from the University of Oulu as part of an international joint collaboration has detected a clear population subdivision in Fennoscandian wolverines through genetic research. These two populations, the Karelian wolverine population and the Scandinavian

wolverine population, should be more connected for conserving the species throughout their range.

The [wolverine](#) (*Gulo gulo*) is a transboundary animal that can travel for hundreds of kilometers, so the expectation is that the populations would mix. But, according to researchers, this is not the case. The Scandinavian population has lower genomic diversity compared to the Karelian population and the hope is that wolverines from the Karelian population can cross into the territory of the Scandinavian population, i.e., Northern Finland, to create more gene flow.

With low [genomic diversity](#) there is less evolutionary potential, and as the animals lose genetic material, they may be, for example, less able to cope with stress and climate change.

In Finland, there are roughly 230 wolverines south of the reindeer husbandry zone and according to the researchers, this population has been growing quite well since 2010. In the reindeer zone there are around 160 animals. According to this study, this population continues into Sweden and Norway. In those countries as well as in the whole Fennoscandia wolverines were low in abundance only 50 years ago due to, for example, state-paid cullings. The population has recovered because of protective legislation, and has been fluctuating around 1000 individuals in the last decade. In Finland, the wolverine is an endangered species.

As the Scandinavian population that spans three Nordic countries actually forms one transboundary population, a joint Fennoscandian wolverine conservation plan is coming together. The researchers urge discretion when harvesting wolverines and suggest that [genetic information](#) can help in determining which individual animals to hunt so as not to impede the conservation of the species. The findings in this study support the continuation of close collaboration between Norway,

Sweden and Finland.

The wolverine goes by two names

In Finnish vernacular the two distinct populations of wolverines have been taken for granted for a long time, and now it has been established through research.

"Our prior study already pointed to this and now our second paper makes it very clear. We don't have just wolverines in Northern Europe, but we have two different, let's say 'cultures,' or 'clans' of wolverines. In a sense this is not so surprising in Finland, because the Finns have traditionally spoken of tunturiahma (fell wolverine), which has been seen in the very North of the country, and metsäahma (forest wolverine) in Eastern Finland," says doctoral researcher Gerhardus Lansink from the University of Oulu.

"These two types of wolverine have been accepted in language, and now [genetic research](#) is reinforcing this, at least within Finland. The next question is are there ecological differences, such as in their habitat, choice of nest, choice of food, or morphological differences, variations in fur or bone structure and so on. These could be starting points for more research, which is challenging as wolverines are very rare," Lansink continues.

The study was first published in *Biological Conservation* in August, 2022.

More information: G.M.J. Lansink et al, Potential for increased connectivity between differentiated wolverine populations, *Biological Conservation* (2022). [DOI: 10.1016/j.biocon.2022.109601](https://doi.org/10.1016/j.biocon.2022.109601)

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