

Scientists discover half of Asia's protected areas too small for snow leopard survival

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A new scientific report has confirmed that the snow leopard is running out of room to survive, with nearly 40% of all protected areas across the species' range too small to support even a pair of breeding snow leopards.

Published by scientists from Swedish University of Agricultural Sciences, Snow Leopard Trust, Panthera and Snow Leopard Conservation Foundation in Biological Conservation, the study has shown that less than 15%, and likely as few as 3-4%, of all protected areas in [snow leopard](#) habitat are large enough to host a small population of 15 breeding females. Perhaps even more telling, across 170 protected areas in Asia, only eight are estimated to maintain the space required to support 50 or more breeding females.

The findings underscore the importance of community-based, conflict mitigation-focused conservation approaches extending beyond protected areas.

Analyzing satellite based GPS-tracking data from an unprecedented sixteen snow leopards collared in the first ever, long-term comprehensive study of the species in Mongolia's South Gobi, researchers determined that the average home range from the study area is 220 km² (85 sq. miles) for males and 130 km² for females (50 sq. miles). Putting these numbers in perspective, a male snow leopard's home range is comparable to 3.5 times the size of Manhattan.

To frame these findings in the context of conservation actions, the research team compared average snow leopard home ranges to all 170 official state-sanctioned protected areas within the cat's habitat.

"Our results show that snow leopards have a substantially larger spatial need than previously thought," said Örjan Johansson, the study's lead scientist. "These home ranges are between 6 and

44 times larger than what earlier studies had reported. The largest home range we've seen was more than 1,000 km²."

Dr. Tom McCarthy, Executive Director of Panthera's Snow Leopard Program, and report co-author added, "Our decision to use only cutting-edge technologies in this study is validated by the quantity and quality of the data gained, which in turn provides us the knowledge needed to adequately protect snow leopards."

The study also found very little overlap in home ranges of adult cats of the same sex, suggesting that snow leopards are largely territorial.

These findings are in contrast to previous studies indicating vastly smaller home ranges and greater overlap between individuals. Prior studies were conducted using older, less accurate scientific research methods, including ground-based, hand held VHF tracking.

"Forty percent of these protected areas are smaller than an average male home range – so they're too small to host even one breeding pair of snow leopards," Örjan Johansson stated. "This means that any cats living in these areas will also regularly use surrounding areas that are unprotected. We can't simply assume they're safe and sound just because their habitat falls within a protected area."

"One breeding pair alone doesn't help much, and even a population with 15 breeding females might still be too small for long-term survival. We really need large, secure populations of 50 or more breeding females for this cat to survive. The protected area system, while important, cannot provide enough connected habitats to allow for this. Even under the most generous model of how many cats can fit into an area, there are only eight existing protected areas that could fit 50 or more breeding females right now," Johansson added.

Community-based conservation over large landscapes has been a cornerstone of the efforts by the Snow Leopard Trust, Panthera and the Snow Leopard Conservation Foundation to protect this cat. This involves partnering with local communities to mitigate conflict over livestock and foster coexistence, and working with governments to limit the negative impacts of development projects such as mining, and other human influences on wild habitats.

Panthera's Snow Leopard Program currently leads or supports conservation activities in seven of the 12 snow leopard range states.

Provided by Snow Leopard Trust

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