

Free-roaming dogs prevent giant pandas from thriving in the wild

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Before China declared giant pandas a protected species in 1962—hunters in pursuit of the black and white bear used dogs to track them. Since then measures have been put in place to protect the

vulnerable pandas, but more than half a century later, dogs are still jeopardizing their safety, according to a group of researchers that included Drexel's James Spotila, Ph.D.

Spotila, the L.D. Betz Chair Professor in the Department of Biodiversity, Earth and Environmental Science in Drexel's College of Arts and Sciences, and the group began to investigate the problem after two captive-born pandas, which had been released into Liziping Nature Reserve, were attacked by [dogs](#).

The group found that dogs are still menacing giant pandas in part because nature reserves in China are often closely connected to [human settlements](#) where dogs roam free. Dogs can roam over 10 km in a night and some feral dogs have even set up permanent residence in the reserves.

A GIS analysis of Liziping Nature Reserve revealed this to be the case, as much of that reserve was within the range of free roaming dogs from the nearby villages. The finding led researchers to expand their scope and suggest that reserves designated for the release of translocated pandas should receive priority consideration for dog-control efforts.

Pandas are vulnerable species in part because they require a minimum habitat size of 114 square-kilometers to thrive. While most nature reserves designated for giant pandas are large enough to sustain their population, encroachment by free-roaming dogs could significantly limit the bears' territory.

Because of this concern, the research team, working out of Chengdu Research Base, expanded its analysis to include all giant panda reserves in China, which revealed that across the entire range 40% of panda habitats are within range of roaming dogs. Therefore, the area safely available for giant pandas in nature reserves throughout China is only

60% of the official "protected" area.

"Dogs have to be removed from giant panda reserves if they are to survive in the wild," Spotila said. "Predation, harassment and disease transmission by dogs can have large-scale edge effects in both fragmented habitats and protected [nature reserves](#)."

The team recently published its findings in *Scientific Reports* under the title "Free-roaming Dogs Limit Habitat Use of Giant Pandas in Nature Reserves." In it, the team recommends a comprehensive approach to dog-control efforts by [local governments](#), implemented by village leaders, that includes licensing and collaring. It also suggests that education for residents, free neuter and vaccination clinics and procedures to ensure [ethical treatment](#) (through consultation with the Society for the Prevention of Cruelty to Animals or similar local groups) of feral dogs removed from reserves should be incorporated in a dog management plan.

Spotila believes that China has done a good job in its conservation efforts, but dog-control efforts need to be considered and implemented in order for [giant pandas](#) to thrive in the wild.

"Only by understanding and managing complex interactions between humans, domestic animals and wild animals can we sustain [natural](#) systems in a world increasingly dominated by humans," Spotila said.

More information: Ramana Callan et al. Free-roaming dogs limit habitat use of giant pandas in nature reserves, *Scientific Reports* (2020). [DOI: 10.1038/s41598-020-66755-7](https://doi.org/10.1038/s41598-020-66755-7)

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