

# The redomestication of wolves

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Gray wolf near Wraith Falls in Yellowstone National Park. Credit: Doug McLaughlin

On landscapes around the world, environmental change is bringing people and large carnivores together—but the union is not without its

problems. Human-wildlife conflict is on the rise as development continues unabated and apex predators begin to reoccupy their former ranges. Further complicating matters, many of these species are now reliant on anthropogenic, or human, foods, including livestock, livestock and other ungulate carcasses, and garbage.

Writing in *BioScience*, Thomas Newsome, of Deakin University and the University of Sydney, and his colleagues use gray wolves and other large predators as case studies to explore the effects of anthropogenic foods. They find numerous instances of species' changing their social structures, movements, and behavior to acquire human-provisioned resources. For instance, in central Iran, [gray wolves](#)' diets consist almost entirely of farmed chickens, domestic goats, and trash.

Other instances of these phenomena abound. In a similar case in Australia, dingoes gained access to anthropogenic foods from a waste facility. The result, according to the authors, was "decreased home-range areas and movements, larger group sizes, and altered dietary preferences to the extent that they filled a similar dietary niche to domestic dogs." Moreover, wrote the authors, "the population of subsidized dingoes was a genetically distinct cluster," which may portend future speciation events. Hybridization among similar predator species may also contribute to evolutionary divergence: "Anthropogenic resources in human-modified environments could increase the probability of non-aggressive contact" between species. According to the authors, "If extant wolves continue to increase their reliance on anthropogenic foods, we should expect to observe evidence of dietary niche differentiation and, over time, the development of genetic structure that could signal incipient speciation."

Wolves' use of anthropogenic [food](#) could have serious implications for wider conservation efforts, as well. In particular, Newsome and his colleagues raise concerns about whether wolf reintroduction and

recolonisation programs will meet ecosystem-restoration goals in human-modified systems. Managers will need to consider "how broadly insights into the role played by wolves gleaned from protected areas such as Yellowstone can be applied in areas that have been greatly modified by humans," say the authors.

Newsome and his colleagues call for further research—in particular, "studies showing the niche characteristics and population structure of wolves in areas where human influence is pervasive and heavy reliance on human foods has been documented." Through such studies, they argue that "we might be able to ask whether heavy reliance of anthropogenic subsidies can act as a driver of evolutionary divergence and, potentially, provide the makings of a new dog."

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