

Coyote

RESOURCE BRIEF

Importance

Intelligent and adaptable, the coyote (*Canis latrans*) can be found throughout North and Central America, thriving in major urban areas as well as in remote wilderness. This adaptability helped coyotes resist widespread efforts early in the 20th century to eliminate them in the West, including Yellowstone National Park, where other mid-size and large carnivores such as cougars (*Puma concolor*) and wolves (*Canis lupus*) were eradicated. The coyote is a common predator in Greater Yellowstone, often seen traveling through open meadows and valleys, alone or in packs.



Status

Wolf extirpation in the early 1900s left coyotes with little competition, and the Yellowstone coyote population thrived in the absence of wolves. Researchers began to investigate the ecological role of coyotes in 1989 on Yellowstone’s northern range by radio-collaring and observing them directly. Along with obtaining basic information about coyote behavior, disease ecology, pack structure, population dynamics, predatory habits, and movements, this research has documented changes in coyote populations in response to the 1988 fires and to the restoration of wolves beginning in 1995.

No negative effects of the fires on coyote birth and death rates were identified. However, the northern range coyote population declined as much as 50% as a result of competition with wolves for food, attacks by wolves, and loss of territory to them. More recent trends in the Lamar

Valley, however, indicate that the coyote population has increased (fig. 1). Coyotes are abundant throughout the park, and pup survival has increased. Coyotes may be killed by disease and vehicle-collisions as well as by other carnivores. Analysis of blood samples from 109 coyotes on the northern range during three periods from 1991 to 2005 found high, constant exposure to canine parvovirus (94% seroprevalence), canine adenovirus (juveniles, 18%; adults 83%), and canine herpesvirus (juveniles, 23%; young adults, 51%; old adults, 87%), suggesting that these pathogens are enzootic within the coyote population and are unlikely to be causing acute mortality. Park staff

monitor coyotes along roadsides and use adverse conditioning (e.g., pepper spray or crackershells) to deter them from frequenting developed areas or becoming habituated to humans.

Discussion

Comparisons of coyote population and behavioral data from before and after wolf restoration provide evidence of how the presence of wolves is changing ecological relationships on the northern range. A reduced coyote population could mean that smaller predators such as the native red fox, whose numbers were previously kept low by coyotes, will have less competition for small prey and their populations may increase.

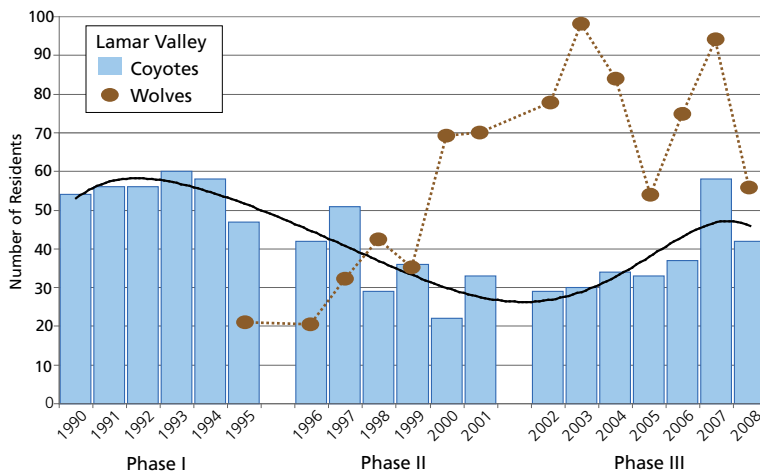


Figure 1. Mid-winter coyote counts from the Yellowstone Ecological Research Center; year-end wolf counts from Yellowstone National Park.