

# The Science of Sound Wolf Management

A number of important scientific studies have dramatically improved efforts to restore wolves to the Northern Rockies, while others have proven very helpful in providing tools for the resolution of conflicts that sometimes arise between wolves and the people/ livestock that share the same habitat.

- **Ecology:** Over the past 15 years, scientists have made some surprising discoveries about the role of wolves in Western ecosystems. In Yellowstone National Park, for example, elk have responded to wolf presence by spending far less time in open areas near streams; this change in elk behavior has allowed streambed vegetation to regenerate after decades of over browsing, leading to the return of beavers and many songbirds to these areas. Similarly, wolves sometimes kill coyotes, leading to lowered coyote numbers, which, in turn, has dramatically reduced coyote depredation rates of pronghorn fawns. Scientists recently documented a four-fold increase in pronghorn fawn survival in the Yellowstone area since the return of wolves.

<http://www.sciencedaily.com/releases/2008/03/080303145300.htm>

- **Dispersal patterns and genetics:** At some point after reaching sexual maturity, wolves decide to leave their family pack and strike out on their own in search of mates. Understanding how far wolves are likely to move during that time, the obstacles that wolves face as they try to move across state boundaries, and how many wolves are needed to ensure good genetic interconnectedness between populations is critical to the recovery of this species.

- **Disease:** Wolves are susceptible to a number of diseases that affect other canid species, such as parvovirus, rabies, and distemper. By studying the effects of disease on wolf packs, managers can better understand which diseases are most devastating to wolf populations, and how much time is needed for a population to recover from a disease outbreak.



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- **Prey preferences of wolves:** Studies of wolf prey preferences can be used to better understand why wolf packs might switch from hunting their preferred prey (elk) to hunting other species of wildlife (such as bison) or even livestock. This kind of research allows scientists to identify the “tipping points” that might cause wolf packs to switch from one prey species to another.
- **Wolf hunting behavior:** By watching thousands of wolf hunts, researchers now have a far better understanding about the types of prey behavior that might allow a prey animal to escape a wolf pack. For example, animals that turn and face wolves head on are much less likely to be killed by a wolf pack than those that turn and run, and this information has led to suggestions that more aggressive breeds of cattle may fare better in wolf country.
- **Wolf behavior:** Studies of wolf behavior have revealed just how much wolf packs resemble human families. Usually just one pair reproduces, although all members of the family unit help take care of any offspring, and bonds between family members are very strong.
- **Wolf pack responses to hunting by humans:** Some wildlife species respond in surprising ways to hunting pressure by humans. Coyotes, for example, significantly increase their litter sizes when hunted intensely. In the case of wolves, packs are much more likely to break up if one of the alpha animals is killed, which could lead to an increased risk of younger, more inexperienced wolves attacking “easy” prey such as livestock as they wander on their own across unfamiliar territory without their family unit. Hence, aggressive hunting of wolves could actually result in *increased* conflict with ranchers, creating an urgent need for research into the effects of hunting on this species.