DEPARTMENT OF NATURAL RESOURCES

Balancing Minnesota's wolves, deer and moose

Many Minnesotans believe the Department of Natural Resources should manage wolves, deer and moose in a balanced way.

But what does "balanced" look like?

The term has different connotations among hunters, livestock producers, wolf conservation advocates, tribal governments and others.

Wolves and prey have complex interrelationship

In Minnesota, white-tailed deer are the primary prey for most wolves, though in some areas moose are the main prey where they occur.

Wolves are not habitat specialists and generally can live anywhere that prey are sufficiently abundant. At times of the year, wolves may supplement their diet with smaller animals, such as beavers and snowshoe hares. However, wolf populations depend on large hoofed mammals (ungulates) to be viable.

The wolf population in Minnesota is linked closely to the populations of deer and moose. In the last several decades, since the wolf population has become relatively stable, changes in wolf numbers have fluctuated primarily in response to the abundance of white-tailed deer. In the very simplest explanation, fewer deer equates to fewer wolves and more deer equates to more wolves.

Wolves, other factors impact deer numbers

Although local deer populations vary due to habitat conditions and other factors, deer are relatively abundant throughout wolf range. Wolves have a direct impact on white-tailed deer populations as a primary cause of natural mortality in wolf range, which includes all or parts of 31 counties in central and northern Minnesota. The most vulnerable deer are newborn fawns, and generally fawns and older adults during winter.

Research and experience in Minnesota strongly suggest that, at the population level, wolves do not suppress deer numbers. Over the last couple of decades, the deer population in Minnesota's wolf range has experienced significant declines following severe winters and intense hunter harvest; however deer numbers can and have rebounded fairly quickly, despite relatively high wolf numbers, in response to mild winters and harvest management strategies that reduce deer hunting pressure.

Wolves are not the sole contributor to deer population declines. However, their impact in combination with other factors can contribute to local declines. The impact of wolf predation on deer varies with circumstances such as winter conditions and forest habitat conditions as well as hunter harvest. A deer population capable of sustaining a hunting season also provides a healthy prey base for wolves.

Moose numbers down

Moose numbers have been declining since the mid-1800s due to a variety of human-related factors. However, their decline—first in the northwest and now in the northeast—has been exceptionally steep in recent years. In 2005, for example, Minnesota's northeastern moose population was estimated to exceed 8,000 animals. Today the populations is estimated to be about 3,150.

The steep decline is primarily due to lower moose survival rates and a decreasing number of breeding-age females whose offspring contribute to the population. Health-related causes account for two-thirds of the adult mortality, and brain worm is the leading cause of health-related fatalities. Studies indicate that deer, particularly at higher densities, sharing foraging habitat with moose play a role in the latter being infected with brain worm. The second major moose mortality factor is wolf predation. The strongest negative impact on moose production is wolf predation on adults and on calves in their first 30 to 50 days of life. Wolf predation is limiting the recruitment of new moose into the population.

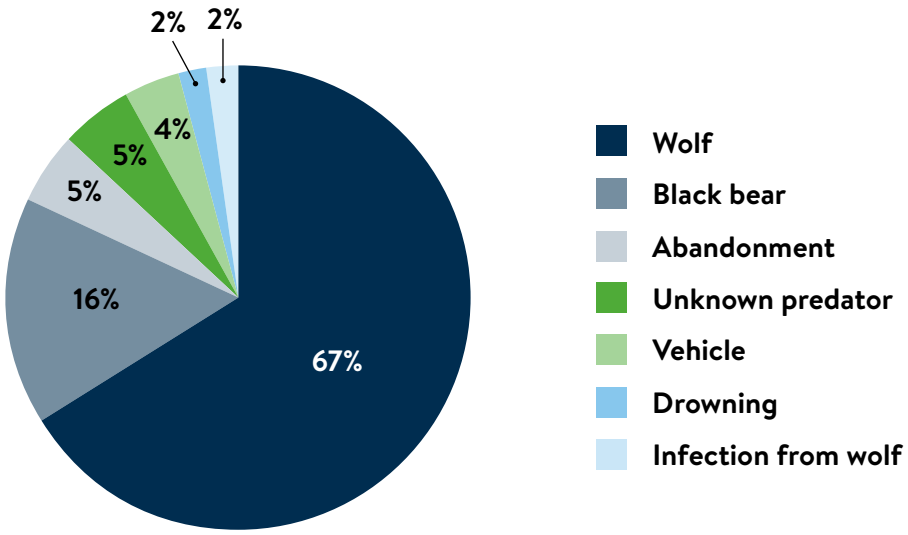
Finding a balance

One of the goals of the DNR is to maintain healthy populations of these species by improving deer and moose habitat, estimating population numbers and evaluating trends, and regulating deer and moose harvests by hunters. Recent management plans for these species include identifying population declines and making adjustments to meet population goals and objectives.

Management strategies for wolves, moose, and deer must include consideration of the impacts they are having on one another's population dynamics. The DNR has developed strategies for reducing deer densities in primary moose range, as well as for making habitat improvements for moose. Although these alone may not be sufficient to change the overall long-term population trend, managing wolf populations effectively where there is a clear negative impact on moose numbers may very well contribute to their recovery.

The wolf, as always, is viewed as both a loathed predator and a beloved symbol of the wild. The difference today is that biologists better understand how wolves interrelate with deer and moose. The Minnesota Wolf Management Plan, which is in the process of being updated, should consider strategies for wolf management that aim to balance the interests of all three animals as well as the interests of Minnesota citizens.

Causes of moose calf mortality—2013-2016



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