Why Wolves Matter to Michigan

Wolves Increase Biological Diversity and Ecosystem Function:
Top carnivores are important to biological diversity and ecosystem function.\(^1\) The presence of wolves, for example, can lead to “trophic cascades” in which apex carnivores change the abundance and behavior of prey species in a manner that reverberates through the biological community:

- In Yellowstone National Park, with the return of wolves, changes were immediate: first elk browsing decreased, willows and aspens communities began to recover, beaver lodge density increased, facilitating stream restoration (including reduced flooding, channeling, and bank erosion); this in turn increased songbird diversity.\(^2\)
- Wolves also increase biological diversity by checking the effects of medium-sized predators, especially coyotes. When wolves limit coyote populations, they indirectly benefit other species such as pronghorn, foxes, and lynx.\(^3\)
- Wolves leave carcasses, which decompose and enrich soil nutrients and microbes, enhancing plant quality.\(^4\)

Wolves Prevent Deer and Moose Herds from Unsustainable, Rapid Population Increases:
Without carnivores in natural systems, herbivores such as deer and moose can abruptly increase their population sizes. If too many herbivores are in a system, they can over-browse and over-graze, which degrades habitat both for themselves and other species.\(^5\) Wolves help reduce the deer overpopulation in some areas of the Upper Peninsula (UP), according to Dr. Rolf Peterson a Michigan-based wolf researcher, which has three benefits:

1. With less deer, vehicle and wildlife collisions decrease;
2. Wolves indirectly benefit the timber industry by keeping deer on the move in some areas of the UP; and
3. Wolves indirectly benefit moose by suppressing the deer that carry fatal brainworm in some regions.\(^6\)

Wolf Predation Improves Herd Health and Provides Food for Others:
In order to capture prey animals wolf packs must give prolonged chase to swift-moving prey employing a technique called “coursing.” The healthiest herd members can shake off pursuing wolves, resulting in the predominant removal of disadvantaged prey animals – the diseased, sick, old, and weak – from the population.\(^7\) Peterson stated that: “Wolves provide a firewall against new disease.” He added that wherever wolves exist, there is no chronic wasting disease in ungulate populations.\(^8\)

According to Michigan’s wolf biologists, John Vucetich and Rolf Peterson, and their colleagues, wolf predation also reduces food competition for remaining herd members, which mediates starvation events in the advent of poor climate conditions such as drought or too much snow.\(^9\) Wolves yield significant portions of their kills to scavengers such as ravens, magpies, bald and golden eagles, coyotes, and grizzly bears, which helps those populations.\(^10\)
References:


8 Peterson (2012).
