

## Top Predators of the Keuka Lake Watershed – Then and Now

The landscape surrounding and including Keuka Lake was a vast, unbroken northern hardwood forest prior to European colonization in the 1600-1700s. Small openings in the forest were created by hurricanes, tropical storms, ice storms, and fires set by American natives for agriculture and concentration of game (deer, elk, and turkeys). This forested habitat was home to four top predators (the ones at the top of the food chain – they eat others, but are too powerful to be eaten): the mountain lion, the gray wolf, the black bear, and the wolverine. Today, only the black bear survives (and thrives!); the rest were extirpated by the early 1900s. The three were persecuted, hunted down and/or poisoned because of their peculiar habit of eating domestic livestock, the occasional human, and game animals hunted by settlers for food (deer and elk).

Today, there is much interest in these top predators, with many claimed sightings of mountain lions and wolves in New York, and occasionally around Keuka Lake. What are their status and the potential for recolonization of the Keuka Lake watershed by mountain lions, wolverines, and gray wolves?



**Mountain Lion:** Mountain lions need lots of space in little-roaded and intact forest environments to survive: home ranges for females are in excess of 20 square miles and males may range over 100-500 square miles. Mountain lions prey heavily on deer, but also take porcupines, beavers, sheep, calves, and the occasional hiker. Mountain lions hang out along riparian areas where deer travel and are easy to ambush. A recent two-year study in Oregon revealed that of 11 radio-collared mountain lions, one was killed by another lion, two were killed by logging trucks, one was illegally killed by a hunter, and two were legally harvested – a mortality rate of more than 50% in two years! Mountain lions cannot survive in areas with high population density: if population density is more than 100 people per square mile, the state has no proven mountain lion population (yes, there are mountain lions in California, but human density there is less than 100/square mile).



**Gray Wolf:** Like the mountain lion, gray wolves need lots of contiguous forested real estate – traveling in packs, wolves need 50 or more square miles to locate and kill their primary prey species – deer and moose. Also like mountain lions, gray wolves do not do well in areas with high human population density with high road density: a study in Wisconsin revealed that almost all of initial re-introductions of gray wolves resulted in them being killed crossing roads. Wolves were nearly hunted/poisoned to extinction in the West because of depredations on cattle and sheep: although wolves recently re-colonized the Yellowstone and other areas, pressure from the livestock industry was instrumental in the wolf being taken off the endangered species list and reclassified as a game animal that could be hunted.



**Wolverine:** The wolverine is basically a large weasel – about 40 pounds of fury that can fight off wolves, bears, and mountain lions for food if necessary. Like the wolf and mountain lion, wolverines were wiped out by human persecution and habitat alteration: they need large, undisturbed acreages (hundreds to thousands of acres) of little-roaded, contiguous forest (or tundra). Wolverines basically can kill and eat anything that moves, including deer, elk, and moose (and domestic livestock).



**Prognosis – recolonization/reintroduction:** The map at the left provides all the information that is needed for those interested in bringing the wolf, mountain lion, or wolverine back, and also debunks claims of sightings of wild wolves, mountain lions, or wolverines. The small patches of dark green surrounding parts of Keuka Lake represent forestlands, which are too small, too disparate, too well roaded, and too close to humans for wolves, mountain lions or wolverines to ever have a chance of surviving. The larger patch of forest west of the south end of Keuka Lake is the Keuka Highlands National Forest, but this area too is way too small and too heavily roaded and populated for wolves, mountain lions, or wolverines to survive. There are occasional claimed sightings of mountain lions in the Finger Lakes area, but none have been proven by tracks or animals in hand (road kills, accidental harvest, caught in traps, etc.). Some sightings may be escapes of captive animals.

**The rest of the pack:** There are other large predators that do exist in the Keuka Lake watershed. **Black bears** seem to be increasing in number recently (perhaps due in part to their ability to eat anything – a recent food habits study of black bears revealed that the number one food item found in stomachs was *plastic bag*). **Coyotes**, which migrated east from west of the Mississippi beginning around 1920, have replaced the wolf as predators of deer, although mostly they prey on fawns. Coyotes also do well on rabbits, mice, and ground-nesting birds but also scavenge road-kills, raid vegetable gardens, and like bears can eat just about anything. Like the bear, coyote numbers seem to be increasing, and on almost any night they can be heard yipping and howling around Keuka Lake. **Red and gray foxes** do well in the mixes of forest and farmland in the Keuka Lake watershed, as frequent road-kills attest. Coyote and fox diets overlap, so in some areas, coyotes suppress fox populations. **Bobcats**, which generally require larger patches of forest than foxes or coyotes, are infrequently spotted in the Finger Lakes area. Although bobcat, coyote, and fox diets overlap significantly, coyotes and foxes hunt by chasing prey in forest/farm mixes, while bobcats, like mountain lions, hunt from ambush in forested areas. Thus, partitioning of hunting habitat among coyotes, foxes, and bobcats results in little conflict for bobcats.