

II. Background and current conditions

Minnesota's wolf population

Wolf population size and distribution

Based on what we know of the relationship between wolves and wild ungulate (hoofed mammal) populations, it is reasonable to conclude that Minnesota may have had more than 4,000 wolves prior to European colonization. Historically, wolves ranged throughout Minnesota but by 1900 were rare in the south and west of the state. By 1930, the state's wolf range was restricted to northern counties, and primarily forested areas bordering Canada.

Early estimates indicate that the wolf population likely never dropped below 300-400 and may have been closer to 400-800 during a period of limited protection from the 1930s to 1960s. By 1970, the population was rebounding, estimated at 700-1,000. However, these earlier population point estimates prior to the late 1970s derive from different methods than those used currently and the margin of error is not known.

From the late 1970s until the late 1990s, the wolf population expanded in number and distribution. The highest population estimate of 3,020 wolves occurred in the winter of 2003-2004, which coincided with high deer populations. With federal Endangered Species Act protections and a growing

deer population, wolves in Minnesota increased from the 1970s to late 1990s. Since the late 1990s, the population of wolves in Minnesota has stabilized with relatively little change in number or distribution.

Since the late 1970s, Minnesota has conducted standardized monitoring to delineate wolf distribution and estimate average territory and winter pack size. To define the wolf range, delineation surveys were conducted at approximately 10-year intervals (1978, 1988, 1997) before transitioning to approximately 5-year intervals (2003, 2007, 2012, 2017). Results indicate range and population expansion from 1978 until the 1997-1998 survey, no range expansion from 1998-2007, and then some range expansion in both 2012 and 2017 (Erb et al. 2018; Figure 1). Current occupied wolf range (the area within total range occupied by wolf packs) is estimated to be 28,561 square miles, approximately one third of the state. From 1978-2008, winter population size increased from around 1,200-3,000, an average rate of 3% per year. Although not statistically different, population point estimates have been lower in the last decade, with the winter population remaining stable the last five years at around 2,700 wolves (Figure 2, also Appendix 7 has a description of population estimation methods).

Figure 1. Wolf range

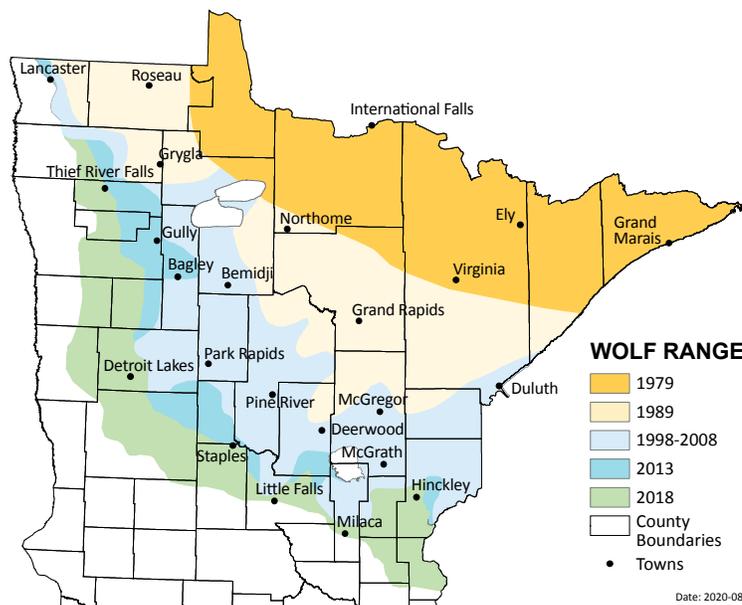


Figure 2. Wolf population estimates



Historical protection status and future outlook

Soon after the establishment of the Minnesota territory in 1849, the Minnesota Legislature authorized counties to pay individuals for any wolf they killed. This wolf bounty system remained in place until 1965. From 1946-1964, residents could also obtain permits to shoot wolves from airplanes. In addition to the bounty program, state personnel were involved in wolf removal from the late 1940s through the mid-1950s, including via aerial shooting. Aerial shooting over the Boundary Waters Canoe Area Wilderness was eliminated in 1950, but continued elsewhere until 1954, and other forms of wolf control (shooting and trapping) by state personnel ended in 1956. In 1969, the Legislature authorized a predator control program that permitted private, state-certified trappers to locally remove wolves based on evidence of livestock depredation. After wolves received federal Endangered Species Act protection in 1974, management of wolf depredation on livestock and other domestic animals shifted to the USFWS.

Prior to Endangered Species Act listing, the wolf population in the lower 48 states declined from historical levels because of habitat loss, low wild ungulate populations, and widespread federal and

state sponsored killing (e.g., through unlimited or subsidized trapping, shooting, aerial gunning, and poisoning). The first federal protection for gray wolves (referred to as “eastern timber wolf” in the Great Lakes region at the time) occurred with the passage of the Endangered Species Preservation Act of 1966, a precursor to the Endangered Species Act of 1973. In 1970, some federal protections began for the eastern timber wolf, and taking of wolves was prohibited on most of the Superior National Forest. Wolves in all of Minnesota received complete Endangered Species Act protection in 1974 under a subspecies designation for the eastern timber wolf. In 1978, USFWS issued a final rule reclassifying “the gray wolf in the United States and Mexico” to threatened in Minnesota and endangered in the remainder of the lower 48 states.

Despite historical eradication efforts, wolves that persisted in northern Minnesota facilitated wolf recovery following passage of the Endangered Species Act. Given the simultaneous increase in deer numbers, the Minnesota wolf population responded quickly with an increase in wolf numbers through range expansion, approaching its current distribution by 1998.