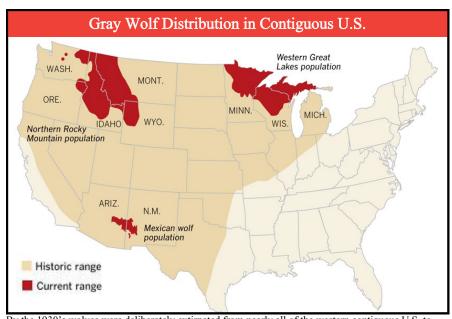
## Gray Wolf Management in the Contiguous U.S.

Gray wolves (*Canis lupus*) once inhabited much of North America, but today occupy a relatively small fraction of their historic range. As a **large carnivore** perceived by many as a threat to public safety and livelihoods, the gray wolf remains one of the most challenging species to manage and conserve in the U.S.<sup>2</sup>

Large carnivores tend to invoke broad public interest in wildlife management. While this attention often benefits wildlife resources, it also gives rise to **social pressures** between competing demands to protect wildlife from people, and people and property from wildlife.<sup>2</sup> For gray wolves, regional perceptions of unacceptable levels of **conflict with humans** means that wolf populations will likely never sustainably occupy the majority of their historic range.<sup>3</sup>



By the 1930's wolves were deliberately extirpated from nearly all of the western contiguous U.S. to address social objectives and public concerns<sup>6</sup> (Credit: Los Angeles Times).<sup>7</sup>



Gray wolves, as apex predators, play a critical role in maintaining the balance of an ecological community (Credit: USFWS).<sup>4</sup>

## **Human-Wolf Conflict**

In general, human attitudes towards large carnivores are inversely proportional to their abundance.<sup>2</sup> As a result, many wolf populations require active management to be tolerated by local residents—often referred to as the **social carrying capacity**.<sup>5</sup> This means that in today's multiple-use landscapes, wildlife professionals must carefully consider both ecological and social constraints when developing management plans for any wolf population.

Consideration of social constraints, however, does not mean abandonment of science. A scientific approach to management involving **adaptive components** is a pragmatic way to develop and justify wildlife management decisions in a socioecological system.<sup>2</sup>

## Limitations of the Endangered Species Act

In 1974, the gray wolf became an **endangered species** in the contiguous U.S. under the Endangered Species Act (ESA) of 1973. The ESA has played an essential role in restoring wolves to the Northern Rocky Mountains, Western Great Lakes, and Southwest; but is not the most effective tool for long-term management of biologically-recovered wolf populations. Further conservation and restoration of wolves beyond these three regions will depend upon the localized—and adaptive—efforts of states and tribes using scientific inquiry, stakeholder collaboration, and persistent public outreach.

Status of Gray Wolf Populations in the Contiguous United States			
Population	Western Great Lakes	Northern Rocky Mountain	Southwest (Mexican Wolf)
Location	Minnesota, Wisconsin, Michigan, and portions of adjacent states <sup>1</sup>	Montana, Wyoming, Idaho, Washington, Oregon <sup>1</sup>	Arizona, New Mexico, Texas, Oklahoma <sup>1</sup>
Pre-ESA (1973)	<ul> <li>Unregulated hunting <sup>9</sup></li> <li>Government sponsored predator control programs <sup>10</sup></li> <li>Decreased prey availability <sup>9</sup></li> </ul>	<ul> <li>Government sponsored predator control programs <sup>10</sup></li> <li>Wolves extirpated from region by 1930s <sup>6</sup></li> </ul>	<ul> <li>Habitat and prey loss <sup>9</sup></li> <li>Government sponsored predator control programs <sup>10</sup></li> <li>Effectively eliminated from U.S. by 1970 <sup>9</sup></li> </ul>
Present	<ul> <li>Population has rebounded and their range has expanded <sup>11</sup></li> <li>~3,600 individuals in 2015 <sup>12</sup></li> <li>Delisted in 2012, but due to a Federal court decision were relisted under ESA in 2014 <sup>13</sup></li> <li>Status: Endangered <sup>13</sup></li> </ul>	<ul> <li>Reintroduction efforts began in 1995<sup>6</sup></li> <li>At least 1,704 individuals in 282 packs by 2015<sup>6</sup></li> <li>Status: Delisted due to recovery <sup>6</sup></li> </ul>	<ul> <li>Captive-bred Mexican wolves reintroduced in 1998. 14</li> <li>Current population remains small ~97 individuals. 12</li> <li>Status: Endangered 14 (excluding nonessential experimental populations; see below)</li> </ul>

## Nonessential Experimental Populations

Captive-reared, reintroduced Mexican wolf populations in Arizona and New Mexico are designated as Nonessential Experimental Populations.

There are fewer regulations for animals designated as part of a Nonessential Experimental Population, which allows for flexibility while working to reintroduce a population. <sup>15</sup>

"Nonessential" designates a population as unnecessary for the survival of the species. 15

"Experimental" is used to designate a reintroduced population that exists outside of the species' current range, but within its historical range.<sup>15</sup>

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