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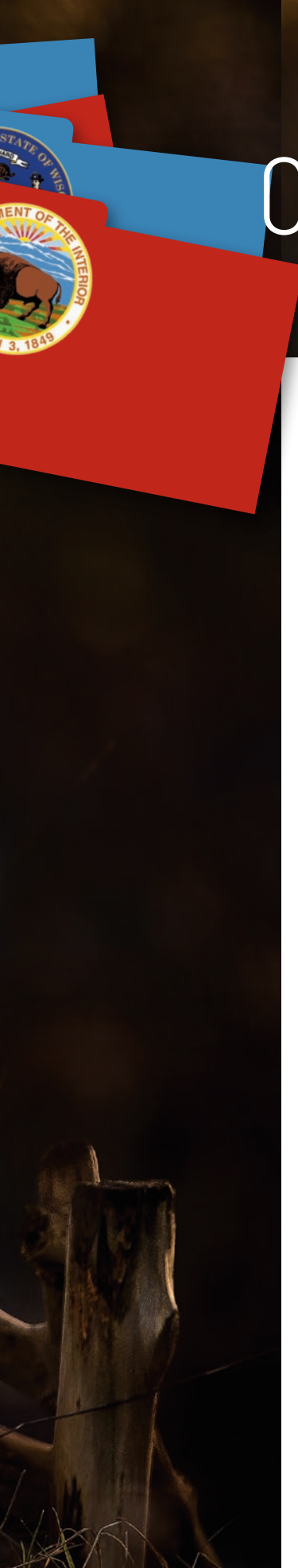
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Swings in Management Challenge Wolf Conservation in Wisconsin

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On December 19, 2014 wolves in the Great Lakes region reverted to federal protection under the Endangered Species Act (ESA)—threatened in Minnesota, and endangered in Wisconsin, Michigan and rest of the region, after being delisted early in 2012. This was the fourth time wolves had gone from federal to state authority and back again since they were listed under the ESA in 1974.

While some cheered this decision, those of us long involved in the conservation of wolf populations across the region cringed. We recognized that this action would likely lead to more intolerance for wolves and possibly an increase in illegal killing, ultimately making wolf conservation an even greater challenge.

To many this may sound counter-intuitive. The ESA is a powerful law for protecting endangered wildlife. The listing of gray wolves in the Great Lakes Region was undoubtedly a critical step to the recovery of wolves in the region. Under the ESA, the wolf population in the region grew from around 750-950 wolves only found in the arrowhead of Minnesota to a regional population of roughly 3,800 wolves in midwinter of 2014 found throughout northern Minnesota, central and northern Wisconsin and the upper peninsula of Michigan.

Early on, wolves established packs on large blocks of forest land with low road densities, but as the wolf population grew, wolves began establishing in areas with greater potential for wolf-human conflict. Unfortunately, the ESA does not provide much flexibility for state wildlife managers to manage conflicts, especially when wolves are listed as endangered. For example, since 2003 wolves in Wisconsin were reclassified or delisted four times: in 2003, 2007, 2009 and 2012, and relisted four times: in 2005, 2008, 2009 and 2014 (see page 7, History of Western Great Lakes Wolf Management Authority).

Additionally, court cases have caused other important changes in wolf management during this time. For example, in both 2005 and 2006 Wisconsin and Michigan received permits from the federal government to kill wolves that attacked livestock or pets near homes, and court cases in 2005 and 2006, respectively, revoked those permits. This back and forth in wolf regulative authority from protective to management-oriented has been likened to a game of ping-pong by some wildlife biologists—where the *game* of wolf management turns into a win-lose political competition between stakeholder groups. These swings in management authority have fostered

negative attitudes and intolerance toward wolves and the ESA.

The Wisconsin Case study

In Wisconsin we have observed an increase in illegal killing associated with increased frustrations over inconsistent wolf management. In the 1990s only about 24 percent of radio-collared wolves were dying from illegal killing, but in the early 2000s that number rose to 37 percent, and by 2010 and 2011 it was up to 43 percent.

After more careful examination it became apparent that illegal kill rates have fluctuated with wolf management authority since 2003 when wolves were first reclassified to threatened in Wisconsin. In the four years when wolves were mostly reclassified as threatened or delisted, and active state management was in place, an estimated average of 5 percent of wolves one year old or older died each year from illegal killing. However, during the five years when wolves were mostly listed as federally endangered, the average illegal kill was about 10 percent of the adult population.

In the journal “Conservation Letters” Olson et al. (2014) carefully examined trends in illegal killing relative to management authority. The study found that during 2003-2011, a total of 222 wolves were killed legally in Wisconsin for attacking domestic animals or for human safety concerns. During this same period a conservative estimate of 390 wolves were killed illegally. In another analysis, this study found that radio-collared wolves were twice as likely to be killed illegally in winters following summers where legal lethal controls were not available.

There was also a strong relationship between rates of illegal killing and the percentage of year with state management authority. With less state management authority, higher rates of illegal killing were observed. There was also an inverse relationship between legal lethal controls and illegal kills. As lethal controls increased with more depredating wolves being removed, rates of illegal kills declined. If lethal controls were possible for more than half of the year, rates of illegal killing would likely be less than those for



While poaching of wildlife should never be condoned, growing rates of illegal killing also signal frustrations with wolf management policies.

orators conducted three attitude surveys across wolf range in Wisconsin (Treves et al. 2013). During that time, residents of wolf range indicating they would shoot a wolf if seen while deer hunting increased from 12.8 percent to 16.5 percent. Attitudes toward wolves seemed to generally decline during the period.

Christine Browne-Nunez and collaborators conducted focus groups with various stakeholders while wolves were federally listed in 2011 and after delisting and state management was begun in 2012 (Brown-Nunez et al. 2015). During the period attitudes did not change much, and many of the stakeholders remained negative toward wolves. But it was also clear that negative attitudes were as much due to frustrations concerning how wolves were being managed, especially by the federal government. Although most participants did not indicate changes in likeliness to kill wolves illegally, 40 percent indicated the implementation of lethal controls improved their attitudes toward wolves. Changes in attitudes are not likely to occur over short periods, though wolf conflicts such as depredations on pets or livestock can create negative attitudes very quickly. However, changes to positive or more tolerant attitudes are more likely to occur over much longer periods. While attitudes may take time to change, based on our assessment, actual actions (illegal killing of wolves) may change much more quickly with changes in policy.

In winter and spring 2014, Bob Holsman with Wisconsin DNR Bureau of Science Services conducted one of the most comprehensive attitude surveys on wolves ever done (Holsman et al 2014). Responses were received from 59 percent of 8,750 surveys sent out throughout the state. Despite the growing rates of negative attitudes seen in the state in the 2000s, overall state residents remained fairly positive toward wolves. Even in

counties in wolf range, 44 percent of residents were favorable toward wolves and 24 percent were neutral. On an overall index of attitudes with 12 being extremely positive, 0 being neutral and -12 being extremely negative, wolf range residents averaged 2.5. When asked about desired wolf population for the state, residents in wolf range included: 19 percent wanting more wolves, 26 percent wanting the same as currently existed, 27 percent wanting fewer wolves, and 11 percent wanting no wolves. The wolf population at the time of the survey was estimated 660-687 wolves in mid-winter. A total of 62 percent of residents in wolf range supported wolf hunting and trapping seasons, while 21 percent opposed it. Most residents in wolf range supported use of lethal controls for wolf threats to human safety and attacks on pets or livestock, but they did not support the use of lethal controls to reduce wolf predation on elk or deer, or for wolf attacks on hunting dogs. In general, it appeared that most Wisconsin residents were willing to live with wolf numbers occurring on the landscape as long as adequate controls and flexible management were in place.

The ESA has been critical to wolf recovery in Wisconsin and the Great Lakes region. Keeping wolves protected when the wolf population was critically low was essential for recovery to occur. But conservation decision-making is complex, and the difficulties for transitioning from protection under the ESA to state authority extend beyond just wolves—although wolves definitely highlight this issue. With increasing wolf-human conflicts and inconsistency in management authority and ability to implement lethal control, negative attitudes toward wolves began to grow. As members of the public became frustrated, a backlash developed against wolves, and people took matters into their own hands. While poaching

wolves removed in wolf-human conflict situations.

Illegal killing of wolves has been an ongoing mortality factor in Wisconsin since wolves recolonized the state in the mid-1970s. The Wisconsin wolf population declined to only 14 in the mid 1980s, probably due to a combination of canine parvovirus and high rates of illegal kills. By the 1990s attitudes toward wolves seemed to have improved and illegal kills declined, allowing for rapid growth of the Wisconsin wolf population growing from 34 wolves in 1990 to 205 in 1999.

Research by Stenglein et al. (2014) found that undetected mortality, likely cryptic poaching, was the highest during the 2003-2011 period when the swings in wolf management authority were the most frequent and extreme, relative to the 1980-1995 (second highest) and 1996-2002 (lowest) time periods.

Between 2001 and 2009, Adrian Treves, Lisa Naughton-Treves and collab-

of wildlife should never be condoned, growing rates of illegal killing also signal frustrations with wolf management policies. When a population of wildlife is no longer in need of endangered species protection, especially for those in need of active management, keeping such protections in place can become counterproductive. Law enforcement of illegal killing is difficult when attitudes regarding wolves and wolf management are so negative. It is also difficult to investigate and prosecute illegal killing because that is often done secretly. Most illegal wolf kills occur in remote areas and wolf carcasses are rarely found unless radio-collared at the time of the shooting.

Across the United States all large wildlife exists as a consequence of attitudes toward the species, and the decisions to actively manage or provide conservation for them. Thus, ultimately all large wildlife is under some level of human control. Few wild or wilderness areas exist to allow large wildlife species to undergo natural population fluctuations without any human intervention. This is especially true for gray wolves living in places like Wisconsin. Wolves can co-exist on this landscape with humans, but active management is necessary to reduce conflicts. Ultimately humans will control generally where and how many wolves exist on the landscape. If we manage the wolf population through a highly regulated system of sustainable harvest and focused depredation controls, the wolf population is less likely to be controlled by poaching and illegal killing. For long-term wolf population viability, this will prove to be better conservation of wolves than having them overprotected through regulations that can't be defended or enforced. ■

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Adrian Wydeven retired as a wildlife biologist from the Wisconsin DNR in January 2015 after 33 years working for the agency, and between 1990 and 2013 headed up the state wolf recovery and management program.

History of Western Great Lakes Wolf Management Authority

After their initial protection in 1974, wolves in Minnesota were reclassified as threatened in 1978, a classification status which allows more management authority for the state, while wolves in Wisconsin and Michigan remained listed as endangered. On June 29, 1998, Bruce Babbitt of the Clinton Administration announced the start of a reclassification process for the Western Great Lakes, with the intent to delist wolves in the region from the federal list of endangered species, because it appeared the wolf population in the region would achieve recovery levels in the near future. The wolf population was estimated at about 2,800 wolves for the region, but nearly 90 percent existed in Minnesota. The reclassification process officially began in 2000, but when completed in 2003 it was modified to all wolves in the region being reclassified as threatened as part of a large Eastern Wolf Distinct Population Segment (EWDPs). The DPS ran from the Dakotas to New England on the Atlantic Coast, but only Wisconsin, Minnesota and Michigan had breeding populations of gray wolves.

Court challenges to the reclassification resulted in wolves in the region returning to endangered status in 2005, except in Minnesota where they remained listed as threatened.






The next reclassification attempt in the region began in 2006 and was completed in 2007. This time the DPS was reduced to the Great Lakes region, similar to the proposal by Babbitt in 1998. This process was also reversed in 2008 by a court decision. Wolves were again delisted in spring 2009, but were relisted two months later.

A revised delisting rule was developed in 2011 and completed on January 27, 2012. By the time of this delisting under the Obama Administration there were an estimated 3,700 wolves in the region, with 40 percent of those wolves occurring in Michigan and Wisconsin. Because of a new court challenge, wolves were relisted on December 19, 2014. Thus, this wolf population that was ready for delisting and reverting back to state management back in the late 1990s, in 2015 continues to be federally listed as endangered and threatened.



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