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Article *in* Natural Areas Journal · July 2016

DOI: 10.3375/043.036.0314

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## **Compassionate Conservation for Yellowstone's Wolves**

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*Index terms: Wolves, Yellowstone, compassionate conservation, wolf management, animal welfare*

**ABSTRACT:** States in the Northern Rockies of the U.S. manage the gray wolf (*Canis lupus*) at low population levels through trophy hunting and lethal control. Although protected in Yellowstone National Park (YNP), wolves are subject to removal when they cross park boundaries. Thus, wolf management in the states adjacent to YNP is pitted against a large group of stakeholders interested in park wolves and their well-being. Federal and state decision makers should adopt “compassionate conservation” for Yellowstone wolves as a matter of equitable public policy and to improve biological and societal outcomes. Humane considerations should be paramount given the high value and level of public interest in park wolves. This paper addresses the need to make animal welfare an essential aspect of wolf management in the YNP area.

### **INTRODUCTION**

In recent times, gray wolves (*Canis lupus*) in the Northern Rockies of the United States went from being protected under the federal Endangered Species Act to being heavily managed by Idaho, Montana, and Wyoming in deference to ranching and hunting interests (Bruskotter 2013; Bruskotter et al. 2014). Local demands to control wolves restored by the federal government in the 1990s have been matched by equally vocal criticism of state wolf management, regarded as unscientific, excessive, and inhumane (Pacelle 2014; Millet 2015). A cutting edge of the conflict lies at the doorstep of Yellowstone National Park (YNP), one of the world's premier wolf viewing areas. While the species is protected in YNP, park wolves can be legally killed when they move beyond park boundaries. The result has been loss of popular park wolves, alteration of natural wolf behavior, and related consequences for the wolf-watching public (Povilitis 2015).

YNP covers 8,983 km<sup>2</sup> mainly in the northwest corner of the state of Wyoming in the Northern Rocky Mountain region of the U.S. (Wikipedia 2015). Noted for its wildlife and geothermal features, YNP receives nearly 3.5 million visitors annually. At the end of 2014, wolves that live primarily within YNP included 104 individuals, with another 79 wolves documented within 24 km of park boundaries (Jimenez and Becker 2015). YNP is surrounded largely by public land administered by the U.S. Forest Service, which strives collaboratively with the National Park Service to improve cross-boundary science,

management, and conservation in the Greater Yellowstone Area (Schullery 2004; YNP 2014).

This paper challenges the policy of permitting wolf hunting and trapping (collectively referred to as “hunting” in this paper) on public lands near YNP, considering their adverse effects on park wolves and people who value them. It proposes “compassionate conservation” of Yellowstone wolves as a matter of equitable public policy and to improve biological outcomes and other benefits related to wolves in YNP.

## **MANAGEMENT BY THE NUMBERS**

The loss of individual wolves to hunting, trapping, and control actions is not of concern in wildlife management if overall population objectives are met (Haber and Holleman 2003; Rutledge 2010 et al.). The recovery goal for wolves in the Northern Rockies is 300 wolves with 30 breeding pairs, equally divided among Idaho, Montana, and Wyoming (Jimenez and Becker 2015). In 2014, the minimum population estimate was 1,657 wolves and 85 breeding pairs, well above the requirement but below levels typical for management of other wildlife classified as game. The regional wolf population is expected over the long term to average around 1,000 wolves (Jimenez and Becker 2015) as state legislative and management policies aim to restrict it (Bruskotter et al. 2014).

Although state management may sustain wolf presence in the Northern Rockies, it appears likely to undermine the National Park Service goal of maintaining park wolves in a natural, unimpaired state (Ross 2013). Trophy hunting near YNP has seasonally reduced wolf presence in the park and has destabilized or eliminated family groups (Povilitis 2015). Between 2008-2014, at least 27 park wolves were removed (Bradley et al. 2015; Povilitis 2015), among them popular animals cherished by park visitors and the general public (Eisenberg 2015). Losses could have been greater because Wyoming, one of three states bordering the park, held wolf hunts only in 2012 and 2013 because of legal matters, which will likely be resolved.

Managed wolf hunts based solely on population size neglect important biological consequences. Hunting losses, especially of breeding individuals, can alter social stability and group size, reproduction, pup survival, recruitment, demography (Brainerd et al. 2008), and territorial behavior of wolves (Rich et al. 2012), and may increase inbreeding (VonHoldt et al. 2008). Borg et al. (2015) reported that loss of breeders heightened the likelihood of pack dissolution, more so with small packs and when hunting overlapped the breeding season (which has been the case in Idaho and Montana). Removal of wolves may also affect wolf-prey dynamics by altering the age structure of social groups (MacNulty et al. 2009). In YNP, reduction in pack size caused by nearby hunting could lower success of predation on bison particularly where less formidable prey is unavailable (MacNulty et al. 2014).

Hunting may selectively remove skilled and well-adapted individuals (Darimont et al. 2009; Haber and Holleman 2013) or those apt to migrate and contribute to population connectivity. It can eliminate family lineages and hinder transfer of important genetic and cultural information between wolf generations (Haber 1996). Rutledge et al. (2010)

found that hunting near Canada's Algonquin National Park threatened kin-based social structure of wolves by prompting adoption of unrelated wolves into the pack. They concluded that nearby hunting could disrupt evolutionarily important social patterns of wolves.

With wolf hunting nearby, even wolves living mainly within YNP are not insulated from such outcomes. Hunting effects on wolf society and a potential loss of adaptive traits that would normally characterize unexploited wolves should be of concern. Nonetheless, the National Park Service has assumed that a "modest harvest" of park wolves will not undermine wolf conservation (YNP 2013). Moreover, the U.S. Forest Service, which administers most land surrounding YNP where wolves are hunted, defers entirely to state management decisions (M. Erickson, Custer Gallatin National Forest, personal communication). While downplaying the effects of hunting, these positions suggest an indifference to public interest in the protection and humane treatment of park wolves.

### **A DISENFRANCHISED PUBLIC**

Animal welfare is a prominent theme in the U.S. and worldwide (Goodall and Bekoff 2002; Appleby et al. 2011). The belief that wildlife has value apart from "conservation" is widely held and not limited to animal-rights advocates (Parquet and Darimont 2010). Adequate justification is needed for killing animals, including wolves. Trophy hunting, generally unpopular with Americans (Kellert and Smith 2000), has been challenged on these grounds (Pacelle 2014; Vucetich and Nelson 2014). Yet state game agencies have insisted on it for virtually all public lands (except those within state and national park systems where it is prohibited by law). It is not surprising that disenchantment about treatment of wildlife is a common public sentiment and that disdain for traditional wildlife management has been growing ([Jickling and Paquet 2005](#)).

Although wildlife is to be managed for the benefit of all citizens, hunting and ranching interests drive wildlife policy in North America (Musiani and Paquet 2004). The opinions and interests of nonconsumptive users of wildlife are typically ignored ([Bergstrom et al. 2014](#)). Women are especially under-represented as wildlife stakeholders because they participate in hunting less often than men ([Dubois and Fraser 2013](#)), are more inclined to oppose it, and tend to have greater affection and emotional attachment to animals (Kellert and Smith 2000).

Wolf management near YNP reflects and reinforces this institutional bias against a large portion of society that favors animal welfare and protection. State authorities have been unwilling to end wolf hunting and trapping near YNP despite manifest public interest and concern for park wolves.

High public interest in Yellowstone's wolves is evident from the popularity of wolf watching in YNP ([Montag et al 2005](#); [Duffield et al. 2006](#)) and by the number of people documenting the activities of park wolves and speaking out in their defense. At least seven Facebook pages have been devoted entirely or primarily to YNP wolves with a combined total of over 235,000 "friends" (as of 14 May 2015), and petitions to protect park wolves have garnered over 200,000 signatures (CYW 2015). Many "wolf watchers"

have formed emotional and spiritual bonds with park wolves, especially those that are readily observed and have grown accustomed to the presence of park visitors. Through literature, film, and the social media, people monitor and script the lives of park wolves, in some cases following them from one generation to the next (Lamplugh 2014; Webb 2015).

Individual wolves and wolf families have become part of Yellowstone Park lore (Askins 2002). For example, the story of a famous park wolf known as “06” and her Lamar Valley pack has been featured in the documentary *She Wolf* (National Geographic 2015), and will be dramatized in a book and Hollywood movie (Kit 2014). Her death due to trophy hunting continues to be widely reported (Schweber 2012; Eisenberg 2015).

The routine radio-collaring and numbering of YNP wolves has allowed more intimate access to their daily lives, informing biologists and the lay public alike, and drawing people closer to wolves as individual animals and making them more invested in their well-being (Anthes 2013). Wolf harvests near YNP have caused the death of at least 14 collared animals, undermining studies of naturally occurring park wolves ([Povilitis 2015](#)).

People wanting to view Yellowstone wolves comprise a large stakeholder group that should have considerable influence on wolf management near YNP. [Duffield et al. \(2006\)](#) found that a large share of YNP visitors (49-59%, depending on season) were interested in viewing wolves in 2005, when recreational visitation to the park totaled over 2.8 million visits. The authors reported that 44% of visitors favored wolves as the wildlife species they would most like to see, and conservatively estimated that 326,000 visitors actually saw them. By comparison, wolf hunting near YNP benefits a comparatively small number of recreational hunters and the businesses that they support. For example, during the 2012 wolf-hunting season only 7% (41 of 621) of wolves harvested in Idaho, Montana, and Wyoming came from areas near YNP ([Povilitis 2015](#)). Clearly, those who want to hunt wolves have, under state management, ample opportunity to do so elsewhere in these states. In any case, the number of people who may have benefited recreationally from hunting wolves near YNP in 2012 can be roughly estimated at 4,059, considering that 41 wolves were taken near YNP and there were approximately 99 hunters for every wolf harvested, based on license sales data from Montana and Wyoming (MFWP 2013; WGFD 2013).

### **COMPASSIONATE CONSERVATION**

Compassionate conservation is proposed for wolves where substantial public interest and concern for the animals make paramount their protection and humane treatment. The term is used to describe an emerging discipline that promotes animal welfare in a conservation context, including topics such as wildlife rehabilitation, habitat protection, and humane predator deterrence (Bekoff 2013). Focused on respect and well-being of animals as well as species, it aims to improve both humane and conservation outcomes (BFF 2015).

The policy would apply where benefits of protecting wolves outweigh those of trophy hunting and trapping. In cases of wolf-livestock conflict, preventive and non-lethal management practices would be given highest priority (Stone et al. 2008). Compassionate conservation is appropriate for national forest lands near YNP considering social, conservation, scientific, institutional, and other benefits of preserving an unexploited population of wolves (Table 1).

Compassionate conservation is also relevant to wolf management within YNP itself. Managers might reconsider the practice of using rubber bullets and other pain inflicting devices in attempts to condition wolves to avoid humans (YNP 2003). Such “negative conditioning” is poorly justified for park wolves that typically are not attracted to people nor especially wary of them ([Povilitis 2015](#)). Park staff could also be encouraged to undertake humane actions such as aiding a wolf injured by a vehicle or providing carrion to a one struggling to raise pups after human-caused loss of a mate.

Seen by thousands of people annually, YNP wolves are “ambassadors” for wild nature, science, and large carnivore conservation. But quality wolf viewing depends in large measure on wolf tolerance of human presence. Unexploited wolves generally regard people as a benign feature of the environment (Haber and Holleman 2003). Conversely, like other wildlife, wolves subjected to modern hunting or harassment tend to avoid people and alter patterns of natural behavior in their presence.

Protecting wolves near YNP may help safeguard wolf population connectivity (VonHoldt et al. 2010) and improve wolf dispersal to areas where the species has yet to recover, such as the Southern Rockies. It may also reduce, rather than increase, wolf-livestock conflict ([Wielgus and Peebles 2014](#)), and possibly help shield YNP deer, elk, and moose from chronic wasting disease (CWD) to the extent that protected wolves along the park’s perimeter would more effectively limit ungulate densities and cull a greater number of diseased individuals. CWD has spread westward through Wyoming to within 40 miles of YNP (McQuillin 2015).

Adopting compassionate conservation for wolves may be challenging for many professionals schooled in wildlife management. Animal welfare considerations appear Disneyesque, and out of touch with the utilitarian view of wildlife as a “resource.” However, institutional inertia could be a greater impediment given that management agencies tend to use their ability to allow wolf hunting as a justification for doing so ([Vucetich and Nelson 2014](#)) while maintaining the status quo at the expense of democratic principles (Clark and Rutherford 2000).

Nonetheless, public agencies should address broad priorities, including those of citizens concerned with animal welfare as well as conservation (Dubois and Fraser 2013). As [Kellert et al. \(1996\)](#) have urged, large carnivore policy should encompass a full range of values, including those that embody the many emotional, intellectual, aesthetic, ethical, and spiritual aspects of human experience.

Out of fairness to the American public and its park wolves, policymakers should end wolf “harvests” near national parks. Serving the national interest, the U.S. Forest Service could adopt rules to restrict wolf hunting and trapping in the vicinity of YNP ([Way and Bruskotter 2012](#)). Conversely, on their own accord, state authorities might curtail these practices to help mitigate public conflict while retaining control over wolf management.

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Table 1. Reasons to adopt compassionate conservation for wolves on public lands near Yellowstone National Park, USA.

Equitable Public Policy	<ul style="list-style-type: none"> <li>• Acknowledge legitimacy of animal welfare in the public interest</li> <li>• Help remedy institutional bias against wolf protection</li> <li>• Improve democratic process for public land use</li> </ul>
Enhanced Wolf Viewing	<ul style="list-style-type: none"> <li>• Unexploited wolves as a recreational, educational, aesthetic, emotional, and spiritual asset</li> <li>• Relevance to citizen science/naturalist opportunities &amp; careers in biology</li> <li>• Related economic value (Duffield et al. 2006)</li> </ul>
Wolf Conservation & Science	<ul style="list-style-type: none"> <li>• Unimpaired presence, demography, social organization, and behavior of park wolves</li> <li>• A more robust population for sustaining connectivity, species viability, and ecosystem health</li> <li>• Research value of a population of unexploited wolves</li> </ul>
Institutional Benefits	<ul style="list-style-type: none"> <li>• Meets a high standard for protecting national park wildlife (Povilitis 2015)</li> <li>• Improved trust and respect for wildlife management by people concerned with animal welfare</li> <li>• Potentially less hostility on the part of wolf advocates and many park visitors toward hunting interests.</li> </ul>