



June 14, 2019

Wyoming Game & Fish Department
Wildlife Division
3030 Energy Lane
Casper, WY 82604

RE: Chapter 47 2019 Wolf Hunting Season Regulations
CC: Ken Mills, WGFD Large Carnivore Biologist

To the Wyoming Game and Fish Department and Commissioners:

Please accept these comments from the Sierra Club Wyoming Chapter and Wyoming Wildlife Advocates on the Chapter 47 Gray Wolf Hunting Seasons for 2019. Our members, board, and staff in Wyoming and throughout the United States value and appreciate healthy functioning ecosystems and especially wolves that should be integral to balancing deer and elk with the available habitat. Over 7.5 million people visited Yellowstone and Grand Teton National Parks in Wyoming in 2018 with many people travelling specifically to see bears and wolves (NPS, 2018). Wyoming's travel and tourism industry generates \$3.8 billion annually to Wyoming's economy. Wolves and other large carnivores are sought by millions of people coming to Wyoming to view wildlife.

Visitors to the national parks alone brought in over \$1 billion worth of economic value to Wyoming with over 12,000 jobs created. This value wouldn't exist without the unique presence of bears and wolves in and around these parks.

Introduction

With disease such as chronic wasting disease, brucellosis, and hoof rot affecting elk and deer herds in Wyoming, the presence of wolves on the landscape is more important than ever. Gone are the days where carnivores were considered pests to be eradicated. This 21st Century should be an era of progressive scientifically-based wildlife management that values all functional parts of the ecosystem including prey *and* predators (Fraser, 2011). The ecological and economic value of wolves to Wyoming cannot be overstated; instead of managing for the lowest numbers that will keep them from being relisted under the Endangered Species Act, we should be supporting the presence of wolves across the state and teaching ranchers how to coexist alongside them. Wolf populations should be optimized not managed down to an artificial minimum.

The regulations as they are recommended to the Wyoming Game and Fish Commissioners are inadequate to ensure robust wolf populations that could ensure the state would benefit from the ecosystem services provided by wolves.

We have several recommendations for the upcoming 2019 wolf hunting season.

1. Extending hunting in area 13 to March 31 is unnecessary to protect bighorn sheep and will leave wolf pups abandoned.

The reasoning given by Ken Mills during the public meeting in Jackson on June 6, 2019 for the extension in the hunting season dates was that the season would be extended to protect the Whiskey Mountain bighorn sheep herd. The Whiskey Mountain bighorn sheep herd are still hunted with a quota of four rams. Human disturbance to this herd on their winter range has been reduced by limiting motorized recreation, but is still allowed by people on foot and horseback which impacts the bighorn sheep in this area. Bighorn sheep are rarely prey for wolves and Wyoming's bighorn sheep herds declined precipitously over the past century in the absence of wolves (Dekker, 2009; Wyoming Game and Fish Department, 2019). If the status of this bighorn sheep herd is at risk, hunting for the herd should be suspended, with all human activity on their winter range ceased, and domestic sheep (which can transmit diseases to wild bighorns and are largely responsible for the regional decline of bighorns) should be removed from the area.

A research project (Peterson, 2019) is currently in its third year to determine what the cause of the decline of bighorn sheep are in the Whiskey Mountain area. On June 13, 2019, Kevin Monteith presented findings from the study to the Animal Damage Management Board in order to receive further funding for this project. Kevin stated that there were three known depredations on bighorn lambs which were caused by a coyote, an eagle, and a mountain lion.

Kevin's presentation did not include wolves as a known source of predation on lambs in the Whiskey Mountain herd.

The Whiskey Mountain Bighorn Sheep Management Plan (2019) states, "Fine-scale location data from ongoing bighorn sheep monitoring indicates increased wolf activity on preferred, low elevation bighorn sheep winter range near Dubois has impacted the WMBS herd over at least the past three years, primarily through distributional displacement. More recently, increased wolf activity on preferred, low elevation wintering areas has displaced sheep onto marginal, high elevation wintering sites apparently in search of better escape terrain." In an astonishing contradiction, wolves are to be removed from this area and the dates for hunting are to be extended in this hunt area, however people are still permitted to be on foot or horseback from December 1 to May 15. Further, wolf hunters who will be present from September 1 to March 31 is certain to provide an additional, and arguably, larger source of disturbance than the wolves. If the main purpose is to diminish the disturbance to the herd and they are in that much jeopardy, all human activity should be removed from this region before removing wolves.

Kevin's presentation and the management plan both state that lamb survival is the main limiting factor of the bighorn sheep herd. If that is true and lambs are not being preyed upon by wolves, there is no reason to extend the season. If no evidence exists to show that wolves have been preying upon the Whiskey Mountain bighorn sheep herd, the wolf pack should be left intact with no further hunting of wolves in this area in order to minimize human disturbance. As Kevin stated, there are many variables that are a factor in this study.

In addition, hunting wolves into March will leave pups orphaned if pack adults or the lactating alpha female is killed. This would decimate the local wolf pack. We don't see this reflected in the number of wolves included in the take for area 13. Two wolves were illegally killed from this region in 2018 with the number of poached wolves likely higher (Treves, et al., 2017).

2. Wolves and coursing predators are the best defense against chronic wasting disease (CWD) in elk and mule deer.

The state of Wyoming is desperately trying to mitigate the effects of CWD and reduce the prevalence of the disease statewide. According to the presentation by the Department in recent public meetings concerning CWD, the Department has put together a group that is tasked with the objective "to explore CWD scientific information, cervid management, and public input to evaluate management options to minimize CWD in Wyoming's cervid populations." The Working Group will create recommendations to the Department for incorporation into a revised CWD management plan (version 3) based on meaningful public input and science.

There is strong evidence from research and modeling by wildlife scientists that predators can help mitigate the effects of CWD in free-ranging herds of cervids. We offer here excerpts from “The Role of Predation in Disease Control: A Comparison of Selective and Nonselective Removal on Prion Disease Dynamics in Deer,” by Margaret A. Wild, PhD., et al., 2011, in *Journal of Wildlife Diseases*:

“(T)he role of predators should be considered in devising strategies for control of emerging or reemerging pathogens in natural populations” (Wild et al, 2011, p.79).

“Nonselective predation could dampen epidemic dynamics by reducing host densities and contact rates or by lowering the total number of infected individuals in a host population (Heesterbeck and Roberts, 1995; Barlow, 1996; Packer et al., 2003). Similarly, selective predation on infected individuals could eliminate pathogens or prevent their establishment under some circumstances” (Heesterbeck and Roberts, 1995; Gross and Miller, 2001; Packer et al., 2003) (Wild et al., 2011, p. 78).

“(I)f predators prey selectively on diseased individuals, it is reasonable to expect that they might reduce disease prevalence much more rapidly than would occur if mortality were nonselective. **Evidence that predators have a greater selectivity for diseased prey has been widely observed**” (Wild et al., 2011, p. 79, emphasis added).

While reducing densities of vulnerable cervids is a recommended action to mitigate the effects of CWD and other diseases long-term (Alberta, 2008, p. 2, etc.; CCWHC, 2004, p. 21; Monello, et al., 2013, p. 277; Smith, 2012, p. 226), “Thus far, control strategies relying on hunting or culling by humans to lower deer numbers and subsequently CWD prevalence have not yielded demonstrable effects (Conner, et al., 2007)” (Wild, et al., 2011, p.80).

“What is most clear [in our model] is a consistent and robust trend toward decreasing CWD prevalence in populations subject to predation, particularly selective predation, over a range of parameter estimates...” (Wild, et al., 2011, p. 85 brackets added).

“Even in cervid herds and areas not yet endemic for CWD, “Simulation results suggested that selective predation could also dampen or eliminate the emergence of CWD in new locations...adding support to speculation that the absence of large predators presents an amplification risk factor for establishment of CWD (Samuel, et al., 2003). (O)ur simulations suggest that had selective predation by wolves been present during that period [of initial CWD eruption in cervids in Colorado], CWD may never have been established or detected” (Wild, et al., 2011, p. 85 brackets added). “(T)he absence of large predators, particularly wolves, over much of their native range in the United States...has likely played a significant role in the current unnatural distribution and prevalence of this [CWD] disease” (Wild, et al., 2011, p. 86 brackets added).

“The prolonged clinical course and type of clinical abnormalities associated with CWD make it the prototypic disease for selection by predators. Chronic wasting disease produces subtle changes in behavior and body condition that progress over weeks or months to overt signs of end-stage disease typified by loss of attentiveness or response to external stimuli, emaciation, and weakness (Williams and Young, 1980, 1992; Wild et al., 2002)” (Wild, et al., 2011, p. 86). “(W)e believe that selective predation modeled at a rate four times higher than that of healthy deer is a reasonable, if not conservative, estimate” (Id.).

“Although here we modeled wolf predation on deer, similar outcomes would be expected for wolf predation on other species susceptible to CWD...We considered the wolf, a large coursing predator, to be most effective in selective removal of deer vulnerable from CWD infection; however, opportunistic mountain lions (Krum et al. 2009), and potentially coyote...packs, would likely benefit from lack of vigilance by CWD-affected deer as well” (Wild, et al., 2011, p. 87). **“We suggest that predation, particularly wolf predation, may be a useful tool for management of CWD”** (Id. emphasis added).

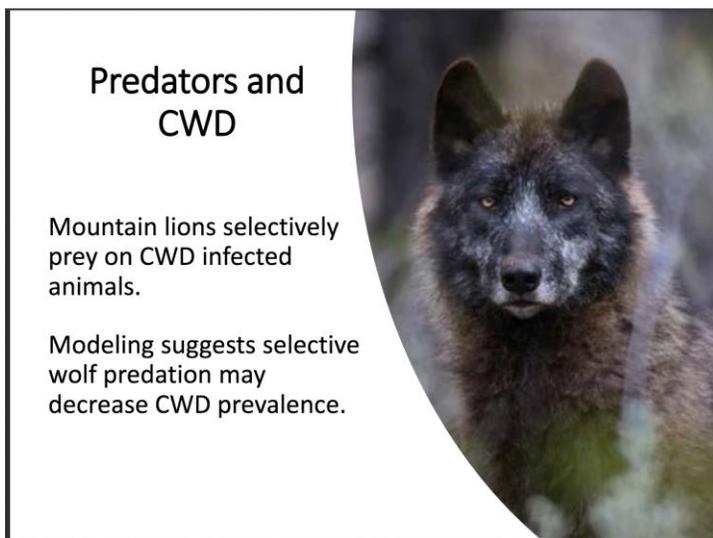
Dr. Doug Smith, Dr. Gary J. Wolfe (Former MFWP Commissioner), Kevin van Tighem (Former superintendent of Banff National Park), Dr. David Mech, Dr. Valerius Geist, Princeton University biologist Andrew Dobson, Dr. Paul Paquet, P.J. White & Troy Davis (Yellowstone Science), Bill Geer (Montana Wildlife Federation), and Mike Miller (CWD expert and research veterinarian for Colorado Division of Wildlife) all say that wolves are most likely one of the best defenses against chronic wasting disease. Dr. Doug Smith says, “Wolves pick up on stuff we can’t see. They are most efficient at exploiting weaknesses in prey because their survival depends on it.” Dr. Gary J. Wolfe, former Montana Fish, Wildlife and Parks Commissioner, former project leader of the CWD Alliance, and former Rocky Mountain Elk Foundation president and CEO for 15 years states, “While I don’t think any of us large carnivore proponents are saying that wolf predation will prevent CWD, or totally eliminate it from infected herds, **it is ecologically irresponsible to not consider the very real possibility that wolves can slow the spread of CWD and reduce its prevalence in infected herds...We should consider wolves to be ‘CWD border guards,’ adjust wolf hunting seasons accordingly, and let wolves do their job of helping to cull infirm animals from the herds.**” Dr. David Mech, one of the most experienced wolf biologists in the world states, “Based on everything I’ve seen over the course of my career, I generally stand behind the assertion that wolves make prey populations healthier...The evidence to support it is overwhelming” (Wilkinson, 2018).

Mike Miller, a CWD expert and research veterinarian for the Colorado Division of Wildlife, thinks wolves are “probably the single best way to stop the spread of CWD. Chronic wasting disease causes animals to act weird. Wolves kill animals like that” (Chronic Wasting Disease Alliance, n.d.).

University of Calgary professor Dr. Valerius Geist, an expert on deer and elk, is also convinced. “Wolves will certainly bring the disease to a halt. They will remove infected individuals and clean up carcasses that could transmit the disease” (Chronic Wasting Disease Alliance, n.d.). With Wyoming having a high prevalence of CWD and the potential to have wolves statewide, if wolves are not managed down to an artificial minimum population as proposed by the Wyoming Game and Fish Department, the perfect conditions are created for the research of predators and their effects on reducing CWD and improving the health of our herds. Wyoming can be a true pioneer in CWD research and chart a new path forward for healthy elk and deer management.

3. WGFD wildlife managers need to consult with WGFD and other agency disease professionals

On Tuesday, June 4, 2019 the Wyoming Game and Fish Department gave a public presentation about Chronic Wasting Disease in Pinedale, Wyoming. Among several PowerPoint presentations given by Department personnel, the following slide was included in a presentation by Dr. Mary Wood, the wildlife veterinarian for the Department:



Two days later, on June 6, 2019, WGFD biologist Ken Mills gave a PowerPoint and question and answer presentation in Jackson about the alleged need for killing approximately 70 wolves in northwest Wyoming to mitigate conflicts with livestock, reduce or eliminate natural predation on cervid herds, and manage wolves down to a minimum, ostensibly barely enough to avoid litigation from wildlife enthusiasts. When questioned by members of the audience, and in contrast with the presentation given by Department scientists and biologists two days previously in Pinedale, biologist Mills refused to acknowledge the value of wolves in helping ensure the long term health of elk and deer herds. This is a complete denial of the extensive

and prevailing body of science supporting the ecological values of large carnivores. It is in the public's interest for the Wyoming Game and Fish Department personnel to familiarize themselves with the current science and speak with one voice to inform the public about the long term ecological and economic value of wolves and other large carnivores and manage the public's wildlife accordingly.

4. The number of wolves killed because of livestock conflicts could be reduced greatly by encouraging ranchers who are successfully using non-lethal methods to train Wyoming ranchers. The WGFD should also be educating ranchers on these methods in order to reduce conflicts between livestock and carnivores.

A majority of wolf deaths in 2018 (61.6%) were from conflict control and predatory take (Wyoming Game and Fish Department, et al., 2019). The WGFD could be helping ranchers to use non-lethal methods to deter wolf attacks on livestock such as intensive herding, not running unprotected calves or sheep, fladry, and guard animals. Non-lethal co-existence measures have been proven time and time again to be more effective at preventing livestock losses than an archaic policy of automatic lethal removal of wolves or any carnivore (Western Landowners Alliance, 2018). Wolves are critically needed ecological stewards and the public's valued wildlife and should not be needlessly sacrificed.

Ranchers like Hilary and Andrew Anderson, Malou-Anderson Ramirez, Melissa Dinino, Mike Phillips, and John Hansen in Montana, Ted Birdseye in Oregon, Tom, John, and Diane Peavey in Idaho, Greg Hertel in Wyoming, and Joe Englehart in Alberta are all successfully raising full-weight cattle and sheep with little to no losses to their livestock using non-lethal methods to reduce conflicts. Instead of reimbursing livestock producers for the cost of lost livestock and still killing wolves anyway, which sets up a vacuum that will be filled by more wolves in the future, the WGFD should educate ranchers on non-lethal methods that will keep livestock safe and wolves alive. Training a wolf pack not to eat livestock is more effective than lethally removing wolves each year or every couple of years. As Matt Barnes, rangeland consultant says, "It is more effective to manage the prey species (livestock) than try to manage the freeroaming predator" (Western Landowners Alliance, 2018).

"Nonlethal and lethal deterrents can be complementary; the possibility of lethal consequences can prolong and accentuate the effectiveness of nonlethal deterrents (Walters et al. 2010). At the same time, contributors agree that lethal control is only effective in the long term if it is used in conjunction with nonlethal deterrents and conflict reduction practices. Without proactive, nonlethal deterrents, lethal control of coyotes and wolves is at best a temporary reprieve because reproduction rates are high and eliminated pack members will soon be replaced. Contributors recommend keeping non-depredating resident wolf packs intact. As one contributor explains, "If a pack is not killing, leave them be. The worst thing you can do is remove a breeding pair, particularly the alpha female, from a resident pack that is

preying on native ungulates rather than livestock”” (Western Landowners Alliance, 2018, pp. 51). By randomly allowing the killing of wolves in areas where they are not depredating, wolf hunters are inadvertently causing increases in livestock depredations. The case for decreasing the number of wolves taken and increasing proactive, preventative measures is strong as demonstrated above.

5. Quotas are not low enough to encourage wolves to repopulate their historic range.

While the lower quotas for wolves in the recommended hunting seasons are a step in the right direction, they do not go far enough in light of the fact that almost half of the wolf population was removed in 2018 (Wyoming Game and Fish Department, 2019) with the total population at the end of the year 18% lower than at the end of 2017. Wolves should be allowed to meet carrying capacity in the northwestern part of the state and spread outward to be a barrier and potential defense against CWD and repopulate their historic range (Chambers, et al., 2012).

6. The start date of the hunting season should be returned to October 1.

The start date of September 1 for the wolf hunting season should be returned to October 1. In 2018, the date was moved to September 1 to provide greater opportunity for hunting in order to lower the wolf population in 2018. With quotas lower in 2019 and fewer wolves targeted by the Department, the date should be returned to October 1. Mostly pups were killed in September of 2018 in the Trophy Game Management hunt areas (Wyoming Game and Fish Department, 2019). Ken Mills in his presentation in Jackson on June 6, stated that the date would remain the same solely for consistency for hunters. Fewer wolves are slated to be killed in 2019 therefore the hunting season should be returned to October 1.

7. Wolf-viewing is a big economic driver for communities surrounding the national parks and will be impacted by decimation of wolves.

The Gros Ventre valley east of Grand Teton National Park lost nearly all of its wolves in 2018. At the end of the 2018 hunting season, Aly Courtemanch, biologist with the Wyoming Game and Fish Department, stated that there were “five, maybe six wolves at the most in the Gros Ventre” (Koshmrl, 2019). Wildlife tour operators who reported seeing wolves on a regular basis in 2016 and 2017 have seen few if any wolves in 2018 or 2019. The decimation of Wyoming’s wolf populations by sport hunting and agency removals has resulted in diminished experiences for wildlife enthusiasts and reduced revenue for the community and wildlife-based businesses. With wolf watching being a huge economic force in Northwestern Wyoming, wildlife watchers- who far outnumber hunters and ranchers- shouldn’t be expected to make do with small token numbers of the most popular species of wildlife.

8. Manage for healthy wildlife

The current model of wildlife management as implemented by the Wyoming Game and Fish Department focuses on maximum numbers of deer and elk throughout the state regardless of the health of the deer and elk or their habitat. Wyoming has approximately 30% more elk than the statewide objective, and many are sick. The Department also defers entirely to livestock and hunting outfitter interests and summarily dismisses the views and requests of non-consumptive wildlife enthusiasts on the management of wildlife including wolves. This biased approach which ignores contemporary wildlife science by the Wyoming Game and Fish Department results in unhealthy elk and deer herds, unhealthy ecosystems, and harms the public's wildlife and is not in the public interest. In order to combat CWD and other cervid diseases the Department must manage for a healthy ecosystem, as natural as possible. Rather than focus on maximum numbers of deer and elk, the Game and Fish Department and other agencies (e.g., U.S. Fish and Wildlife Service, US Forest Service, Bureau of Land Management, National Park Service, and tribal wildlife professionals) should lead the effort to educate the public and shift the emphasis to achieving healthier herds that are managed according to the carrying capacity of healthy habitat, especially native winter range. The important role of wolves and other carnivores in keeping elk and deer healthy should be emphasized and applied in all wildlife management plans.

Conclusion

The proposed 2019 hunting regulations cater primarily to hunters, outfitters, and livestock interests with little left over for millions of wildlife-watchers who support Wyoming's economy by visiting our state to enjoy wolves in their natural habitat. Wolves are a valued ecological and economic resource and should be managed to fulfill their ecological niches. To manage wolves down to an artificial minimum number is irresponsible and unscientific and doesn't account for the intricacies of their social structures. Wolf/livestock conflicts are being exacerbated by random hunting of individuals with quotas still much too high in most hunting units. The season should be adjusted to begin on October 1 and end on December 31 for all units. Wolves could be our greatest ally in the fight against CWD. The WGFD should not discredit the value wolves hold in this respect.

Sincerely,

Kristin Combs
Executive Director
Wyoming Wildlife Advocates
PO Box 1772, Wilson WY 83014
307-413-4116
kristin@wyowild.org

Lloyd Dorsey
Conservation Program Manager

Sierra Club Wyoming Chapter
PO Box 12047, Jackson WY 83002
307-690-1967
Lloyd.dorsey@sierraclub.org

References:

- Chambers, S.M., Fain, S.R., Fazio, B., Amaral, M. (2012). An account of the taxonomy of North American wolves from morphological and genetic analyses. *North American Fauna: (77)*: 1 – 67.
- Chronic Wasting Disease Alliance. (2019). Officials fighting CWD ponder a natural partner: Wolves. Retrieved from <http://cwd-info.org/officials-fighting-cwd-ponder-a-natural-partner-wolves/>
- Dekker, D. (2009). Declines of bighorn sheep, *Ovis canadensis*, on deteriorating winter range in Jasper National Park, Alberta, 1981–2010. *Canadian Field-Naturalist*, 123(2): 157–164. Retrieved from <http://journals.sfu.ca/cfn/index.php/cfn/article/viewFile/931/932>
- Estes, J.A. Terborgh, J., Brashares, J.S., Power, M.E., Berger, J., Bond, W.J...Wardle, D.A. (2011). Trophic downgrading of planet earth. *Science*, 333(6040), 301-306. doi: 10.1126/science.1205106
- Francisco J. Santiago-Avila, F.J., Cornman, A.M., Treves, A. (2018). Killing wolves to prevent predation on livestock may protect one farm but harm neighbors. s. *PLoS ONE* 13(1): e0189729. <https://doi.org/10.1371/journal.pone.0189729>
- Fraser, C. (2011). The crucial role of predators: A new perspective on ecology. *Yale Environment* 360. Retrieved from <https://e360.yale.edu/features/the-crucial-role-of-predators-a-new-perspective-on-ecology>
- Koshmrl, M. (2019). Did killing wolves make elk stay put? *Jackson Hole News and Guide*. Retrieved from https://www.jhnewsandguide.com/news/environmental/did-killing-wolves-make-elk-stay-put/article_28608fb3-4377-5546-aeef-6d7f8500c9d5.html#comments
- National Park Service (NPS). (2018). National park visitor spending effects: Economic contributions to local communities, states, and the nation. Retrieved from: <https://www.nps.gov/subjects/socialscience/vse.htm>.

- Peterson, C. (2019). A first-of-its-kind bighorn sheep study hopes to offer answers to an iconic Wyoming herd's slow demise. *Casper Star-Tribune*. Retrieved from https://trib.com/outdoors/a-first-of-its-kind-bighorn-sheep-study-hopes-to/article_91203097-f895-5022-99ac-c842b9982280.html
- Treves, A., Artelle, K.A., Darimont, C.T., Parsons, D.R. (2017). Mismeasured mortality: Correcting estimates of wolf poaching in the United States. *Journal of Mammalogy*, xx(x):1–9. doi: 10.1093/jmammal/gyx052
- Western Landowners Alliance. (2018). Reducing conflicts with grizzly bears, wolves and elk: A western landowner's guide. Santa Fe, NM: Western Landowners Alliance. Retrieved from https://westernlandowners.org/lp/reducing-conflict-with-grizzly-bears-wolves-elk/?fbclid=IwAR3UvISgvS2iZvzaB9pLLi_8U5ljhTXsSIJOLHOAPSeCyo2Lp85t55-Vn1M
- Wild, M.A., Hobbs, N.T., Graham, M.S., & Miller, M.W. (2011). The role of predation in disease control: A comparison of selective and nonselective removal on prion disease dynamics in deer. *Journal of Wildlife Disease*, 47(1), 78-93.
- Wilkinson, T. (2017). The undeniable value of wolves, bears, lions and coyotes in battling disease. *Mountain Journal*. Retrieved from: <https://mountainjournal.org/predators-and-chronic-wasting-disease>
- Wyoming Game and Fish Department. (2019). *Whiskey Mountain bighorn sheep plan*. Cheyenne, WY: Wyoming Game and Fish Department. Retrieved from https://wgfd.wyo.gov/WGFD/media/content/PDF/Regional%20Offices/Lander/Big%20Horn%20Sheep%20WM/WMBHS_v052819_DRAFT-Plan.pdf
- Wyoming Game and Fish Department. (2019). *Whiskey Mountain bighorn sheep: Draft plan presentation and discussion* [PowerPoint slides]. Retrieved from <https://wgfd.wyo.gov/WGFD/media/content/PDF/Regional%20Offices/Lander/Big%20Horn%20Sheep%20WM/WMBHS-Plan-Presentation-pptx.pdf>
- Wyoming Game and Fish Department. (2019). *Wyoming Game and Fish Commission Chapter 47 gray wolf hunting seasons: Proposed 2019 season* [PowerPoint slides].
- Wyoming Game and Fish Department, U.S. Fish and Wildlife Service, National Park Service, USDA-APHIS-Wildlife Services, and Eastern Shoshone and Northern Arapahoe Tribal Fish and Game Department. (2019). Wyoming gray wolf monitoring and management 2018 annual report. Mills, K.J. & Gregory, Z. Cheyenne, WY: Wyoming Game and Fish Department.