

**Open Letter to U.S. Department of the Interior  
Conserve Alaska's Wildlife on our National Preserves  
August, 2018**

In 2015, the National Park Service (NPS) finalized a critical Rule that protects and conserves brown bears, black bears and wolves on National Preserves in Alaska and upholds congressional mandates to conserve species for future generations. As the 2015 Rule states, NPS is required by its Organic Act to “protect natural ecosystems and processes, including the natural abundances, diversities, distributions, densities, age-class distributions, populations, habitats, genetics, and behaviors of wildlife.”<sup>1</sup> Notably, the NPS's 2015 Rule did not alter federal subsistence hunting for rural Alaskans pursuant to the Alaska National Interest Lands Conservation Act (ANILCA); it simply banned some unpopular, inhumane and unsporting practices, as well as hunting for the purpose of upsetting the natural balance.<sup>2</sup>

In 2017, Ryan Zinke, Secretary of the Interior, issued two Secretarial Orders<sup>3</sup> to expand hunting, even as American big game hunters have declined by 21% since 2011.<sup>4</sup> In 2018, Mr. Zinke then ordered that the NPS propose a new rule to overturn the NPS's 2015 Rule, based upon his own Secretarial Orders.

**The 2018 proposed rule would allow “trophy hunters”<sup>5</sup> and trappers to kill wolves and coyotes, their pups and extended pack members at den sites; kill hibernating black bears (including cubs) with the aid of artificial lights; bait bears with junk food such as grease, pet food and pastries; hunt black bears with the aid of hounds; and allow hunters to kill swimming caribou (including with the aid of motorboats) on NPS's Preserve lands in Alaska.**

We, the 55 undersigned biologists and scientists, strongly oppose the proposed 2018 rulemaking change that would lift critical protections for America's iconic and vulnerable wild native carnivores on National Preserve lands in Alaska, as part of an attempt to grow ungulate herds on fragile Arctic habitats. We ask the NPS to ensure that these public lands are conserved and managed for all Americans using the best available science in accordance with congressional mandates to the NPS.

**Alaska's Board of Game's policies are unscientific and should not be applied to federal public lands in Alaska**

The Alaska Board of Game's (BOG's) framework for wildlife management in Alaska is based on what the state calls “Intensive Management,” that is, privileging the human use of ungulates such as moose, caribou and Dall's sheep over all other considerations—including maintaining sustainable wildlife populations for future generations.<sup>6</sup> Since 1994, the BOG has increasingly liberalized seasons, bag limits and unsporting killing methods for black and brown bears, wolves, and coyotes across Alaska, which harm wild native carnivores living on America's national preserve lands in Alaska.<sup>7</sup> The BOG's Intensive Management practices have resulted in widespread removals of native carnivores, including alarming reductions in Alaska's brown bear populations, even exceeding over 900 brown bears per year in recent years even as brown bears can be food-stressed as a result of climate change.<sup>8</sup> With the loss of top carnivores, ecosystem functions are disrupted, resulting in “trophic downgrading” as dozens of U.S. and international scientists have documented.<sup>9</sup>

**Predator-prey ecology: Predator-control programs in Alaska have failed**

The scientific consensus for the last several decades has generally concluded that carnivores modulate ungulate prey populations and make them more vigorous,<sup>10</sup> because predators remove the sick and weak animals which would die of other natural causes anyway, or because they reduce their competitors, including smaller wild carnivores such as coyotes, which prey on young ungulates.<sup>11</sup> Predator-control schemes, unpopular with both the Alaskan and American public<sup>12</sup> are an unreliable and ineffective way to increase the abundance of ungulates.<sup>13</sup> The best available science from Alaska itself indicates that widespread elimination of bears, coyotes and wolves is unlikely to make ungulate herds grow exponentially, despite BOG's goals.<sup>14</sup>

According to **Boertje et al. (2017)**, Alaska Department of Fish and Game's (ADFG's) own biologists, the migratory Fortymile caribou herd in Alaska reached a low of 6,000 members by 1975.<sup>15</sup> Also according to other ADFG biologists, the final decline of the herd was precipitated by excessive hunting during 1970-1973, when reported harvests ranged from 10 to 20 percent of the estimated caribou population.<sup>16</sup> To compensate, from 1973 to 2013, hunting was curbed, and ADFG began to manage wolves. From 1998 to 2004, ADFG used non-lethal, wolf-control methods (sterilizations and translocations), and from 2005 to 2013, state agents, hunters and trappers killed wolves from aircraft and other means. As the caribou herd soared to over 52,000 members, the number of breeding females declined and calves' fall weights decreased. The herd began to migrate earlier, indicating that it had exceeded the land's carrying capacity. Boertje et al. (2017) write: “[W]hen ungulates overshoot

carrying capacity, the effects of high density, adverse weather, and increased predation can have synergistic negative effects on prey numbers and long-lasting negative effects on sustainable yields, contrary to the intended purpose of the wolf control programs.”<sup>17</sup> In short, despite the State’s very expensive wolf control program, the BOG’s goal of creating a “game farm”<sup>18</sup> for hunters in Alaska had utterly failed.

Simultaneously with the State’s study, the NPS, conducted a 22-year analysis of the wolves in the Yukon-Charley Rivers National Preserve in interior Alaska to determine if the State’s wolf-control program on the Preserve’s border would affect wolves (**Schmidt et al. 2017**). During the State’s lethal wolf-control period, wolf survival inside the Preserve declined, showing that the lethal control outside the Preserve created additional (“additive”) mortalities. When wolves ventured beyond the Preserve’s invisible boundary, they were frequently killed. Because of this high mortality rate, wolves within the Preserve sharply increased their reproduction; but when no wolf control was in progress, wolves lowered their reproduction.<sup>19</sup> Despite wolves’ reproduction increases, lethal wolf-controls outside the Preserve harmed them inside the Preserve. The loss of wolves contributed to pack dissolution, resulting in additional mortalities. Areas within the Preserve adjacent to the ADFG’s lethal-control areas became wolf “sinks” reliant on surrounding populations’ migrants in order to persist.<sup>20</sup> In short, the NPS could not protect the wolves within its own boundaries because ADFG’s policies were so draconian.

**Prugh and Arthur (2015)** found that wolf control in their Alaska study area led to the decline of Dall’s sheep. With the loss of wolves, coyote numbers increased and consequently coyotes preyed increasingly upon Dall’s sheep lambs. Top carnivores limit the population size of smaller carnivores, which reduces overall predation pressures, and this natural regulation is especially important for survival of neonate ungulates such as moose and caribou.<sup>21</sup>

**Mitchell et al. (2015)** in their Alaskan study found that heavy persecution of both wolves and coyotes initially increased the number of Dall’s sheep in their study area, but when the sheep population approached or exceeded the carrying capacity (“K”), which is a maximum population size set by the amount of forage available, a severe winter with deep snows and heavy crusting caused the population to decline as a result of bottom-up limitations. Meanwhile in the reference area (the zone where no predator control measures were implemented), the Dall’s sheep population remained constant.<sup>22</sup>

### **Conclusion**

The scientific literature, from studies conducted in Alaska (and elsewhere), show that ungulates are ultimately limited more by their food resources and other habitat factors (“bottom-up” limitations), rather than by their predators (“top down” regulators).<sup>23</sup> However, when herds lose their predators, they suffer poorer health and body condition, as well as more degraded habitats. With a healthy assemblage of native carnivores, ecosystems enjoy the benefits from top-down regulation, which increases the health of ungulate herds with which they are integrally coevolved.

Alaska’s decades-long “Intensive Management” program has failed to yield more ungulates for human hunters, and has even proved to be counterproductive, leading to unintended perverse outcomes, because the BOG’s policies degrade ecosystems from either overbrowsing and or mass starvation of herd members. In short, the BOG’s politically motivated “Intensive Management” policies are not based on the best available science nor based upon sound congressional mandates, including the NPS’s Organic Act, which require that these federal lands allow for conservation of species and protections for natural processes. The BOG’s draconian policies should not now become the template for how federal public lands in Alaska are managed. For those reasons, we support the NPS’s 2015 Rule and oppose the proposed 2018 rule.

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**References**

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<sup>1</sup> National Park Service, "Final Rule: Alaska: Hunting and Trapping on National Preserves," ed. Interior National Park Service (<https://www.gpo.gov/fdsys/pkg/FR-2015-10-23/pdf/2015-26813.pdf> 2015); *ibid.*

<sup>2</sup> For studies/polls on Alaskans' and Americans' values concerning predator control and treatment of wildlife, Remington Research Group, "Alaska Public Opinion," [http://www.humanesociety.org/news/press\\_releases/2016/03/alaska-nwr-cruel-practices-030116.html](http://www.humanesociety.org/news/press_releases/2016/03/alaska-nwr-cruel-practices-030116.html) (2016); "Alaskan Voters Strongly Oppose Cruel Methods of Killing Iconic Wildlife on National Preserves in Alaska," [http://www.humanesociety.org/news/press\\_releases/2018/06/the-humane-society-of-the.html](http://www.humanesociety.org/news/press_releases/2018/06/the-humane-society-of-the.html) (2018); Kelly A. George et al., "Changes in Attitudes toward Animals in the United States from 1978 to 2014," *Biological Conservation* 201 (2016); K. Slagle et al., "Attitudes toward Predator Control in the United States: 1995 and 2014," *Journal of Mammalogy* 98, no. 1 (2017).

<sup>3</sup> Ryan Zinke, "Secretarial Orders 3347 (Dated 3/2/17) and 3356 (Dated 9/15/17)," ed. U.S. Department of the Interior (2017).

<sup>4</sup> U.S. Fish and Wildlife Service, "2016 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation," [https://wsfrprograms.fws.gov/Subpages/NationalSurvey/nat\\_survey2016.pdf](https://wsfrprograms.fws.gov/Subpages/NationalSurvey/nat_survey2016.pdf) (2017); "2011 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation, Alaska," <https://digitalmedia.fws.gov/digital/collection/document/id/1538/> (2011).

<sup>5</sup> For definitions concerning "trophy hunting," see e.g., Chelsea Batavia et al., "The Elephant (Head) in the Room: A Critical Look at Trophy Hunting," *Conservation Letters* 0, no. 0 (2018); Chris T. Darimont, Brian F. Coddling, and Kristen Hawkes, "Why Men Trophy Hunt," *Biology Letters* 13, no. 3 (2017).

<sup>6</sup> National Park Service.

<sup>7</sup> J. H. Schmidt, J. W. Burch, and M. C. MacCluskie, "Effects of Control on the Dynamics of an Adjacent Protected Wolf Population in Interior Alaska," *Wildlife Monographs* 198, no. 1 (2017); S. D. Miller, J. W. Schoen, and C. C. Schwartz, "Trends in Brown Bear Reduction Efforts in Alaska, 1980-2017," *Ursus* 28, no. 2 (2017).

<sup>8</sup> W. W. Deacy et al., "Phenological Synchronization Disrupts Trophic Interactions between Kodiak Brown Bears and Salmon," *Proceedings of the National Academy of Sciences of the United States of America* 114, no. 39 (2017); K. Bojarska and N. Selva, "Spatial Patterns in Brown Bear *Ursus Arctos* Diet: The Role of Geographical and Environmental Factors," *Mammal Review* 42, no. 2 (2012); Miller, Schoen, and Schwartz.

<sup>9</sup> William J. Ripple et al., "Saving the World's Terrestrial Megafauna," *BioScience* (2016); J. A. Estes et al., "Trophic Downgrading of Planet Earth," *Science* 333, no. 6040 (2011); W. J. Ripple et al., "Status and Ecological Effects of the World's Largest Carnivores," *ibid.* 343, no. 6167 (2014); William J. Ripple et al., "Extinction Risk Is Most Acute for the World's Largest and Smallest Vertebrates," *Proceedings of the National Academy of Sciences* 114, no. 40 (2017).

<sup>10</sup> Adolph Murie, "Ecology of the Coyote in the Yellowstone," in *Fauna of the National Parks of the United States*, ed. U.S. Department of Interior (U.S. Government Printing Office, 1940); Barbara L. Peckarsky et al., "Revisiting the Classics: Considering Nonconsumptive Effects in Textbook Examples of Predator-Prey Reactions," *Ecological Society of America* 89, no. 9 (2008); C. D. Mitchell et al., "Population Density of Dall's Sheep in Alaska: Effects of Predator Harvest?," *Mammal Research* 60, no. 1 (2015).

<sup>11</sup> K. L. Monteith et al., "Life-History Characteristics of Mule Deer: Effects of Nutrition in a Variable Environment," *Wildlife Monographs* 186, no. 1 (2014); B. M. Pierce et al., "Top-Down Versus Bottom-up Forcing: Evidence from Mountain Lions and Mule Deer," *Journal of Mammalogy* 93, no. 4 (2012); B. J.

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Bergstrom, "Carnivore Conservation: Shifting the Paradigm from Control to Coexistence," *ibid.* 98, no. 1 (2017); Robert J. Lennox et al., "Evaluating the Efficacy of Predator Removal in a Conflict-Prone World," *Biological Conservation* 224 (2018).

<sup>12</sup> Slagle et al; Remington Research Group, "Alaska Public Opinion."

<sup>13</sup> National Research Council, *Wolves, Bears, and Their Prey in Alaska* (Washington, D.C.: National Academy Press, 1997); M. A. Hurley et al., "Demographic Response of Mule Deer to Experimental Reduction of Coyotes and Mountain Lions in Southeastern Idaho," *Wildlife Monographs*, no. 178 (2011); C. J. Bishop et al., "Effect of Enhanced Nutrition on Mule Deer Population Rate of Change," *ibid.*, no. 172 (2009); Bergstrom.

<sup>14</sup> National Research Council; Mitchell et al; L. R. Prugh and S. M. Arthur, "Optimal Predator Management for Mountain Sheep Conservation Depends on the Strength of Mesopredator Release," *Oikos* 124, no. 9 (2015); Hurley et al; R. D. Boertje et al., "Demography of an Increasing Caribou Herd with Restricted Wolf Control," *Journal of Wildlife Management* 81, no. 3 (2017).

<sup>15</sup> R. D. Boertje et al., "Demography of an Increasing Caribou Herd with Restricted Wolf Control," *Journal of Wildlife Management* 81, no. 3 (Apr 2017), <http://dx.doi.org/10.1002/jwmg.21209>

<sup>16</sup> Patrick Valkenburg et al., "Case History of the Fortymile Caribou Herd, 1920-1990," *Rangifer* <https://septentrio.uit.no/index.php/rangifer/article/view/1128> (1994).

<sup>17</sup> Boertje et al.

<sup>18</sup> Francis Mauer, "Wolf Control Doesn't Work," *Daily News-Miner*, July 20, 2017 2017; Francis Mauer, "It's Time for Alaska to End Extreme Predator-Control Measures " *Anchorage Daily News* <https://www.adn.com/commentary/article/its-time-alaska-end-extreme-predator-control-measures/2016/02/26/> (2016); Vic Van Ballenberghe, "Killing Predators Isn't Always Wise Game Management," *Alaska Dispatch News*, July 16, 2017 2017.

<sup>19</sup> Heather M. Bryan et al., "Heavily Hunted Wolves Have Higher Stress and Reproductive Steroids Than Wolves with Lower Hunting Pressure," *Functional Ecology* (2014); Schmidt, Burch, and MacCluskie.

<sup>20</sup> S. Creel et al., "Questionable Policy for Large Carnivore Hunting," *Science* 350, no. 6267 (2015); Scott Creel and Jay Rotella, "Meta-Analysis of Relationships between Human Offtake, Total Mortality and Population Dynamics of Gray Wolves (*Canis Lupus*)," *PLoS ONE* 5, no. 9 (2010).

<sup>21</sup> Bridget L. Borg et al., "Implications of Harvest on the Boundaries of Protected Areas for Large Carnivore Viewing Opportunities," *PLOS ONE* 11, no. 4 (2016).

<sup>22</sup> Mitchell et al.

<sup>23</sup> See: e.g., Bergstrom; Lennox et al.