



PETITION FOR RULEMAKING
PURSUANT TO THE ADMINISTRATIVE PROCEDURE ACT,
5 U.S.C. § 553(e)

TO THE U.S. DEPARTMENT OF INTERIOR, BUREAU OF LAND MANAGEMENT

**PETITION REQUESTING A NATIONAL FRAMEWORK FOR
MANAGEMENT OF CONFLICTS BETWEEN LIVESTOCK AND NATIVE
CARNIVORES ON BUREAU-MANAGED LANDS**

Submitted by: WildEarth Guardians

The Honorable Deb Haaland
Secretary of Interior
Department of the Interior
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Washington, D.C. 20240
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The Honorable Tracy Stone-Manning
Director
Bureau of Land Management
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June 11, 2024

Submitted via certified mail and email

Re: Petition for rulemaking to create a national framework for managing conflicts between livestock and native carnivores on lands managed by the Bureau of Land Management

Dear Secretary Haaland and Director Stone-Manning,

Pursuant to the Administrative Procedure Act (APA), 5 U.S.C. § 553, 43 C.F.R. § 14.2, and the petition clause of the First Amendment of the Constitution, the undersigned hereby respectfully petitions¹ the U.S. Department of the Interior (DOI or Department), by and through the Bureau of Land Management (Bureau), for the issuance of a rule² and associated policy guidance to modify the Bureau's public land³ grazing regulations to require that the wildlife-livestock conflict avoidance

¹ In accordance with 5 U.S.C. § 553(e), “[e]ach agency shall give an interested person the right to petition for the issuance, amendment, or repeal of a rule.”

² 5 U.S.C. § 551(4) (“Rule” is defined as “the whole or part of an agency statement of general or particular applicability and future effect designed to implement, interpret, or prescribe law or policy”).

³ WildEarth Guardians recognizes that “public lands” managed today by the Bureau of Land Management are lands stewarded by and home to Indigenous peoples of North America since time immemorial.

measures included in this Petition be incorporated into Resource Management Plans during plan development, revision, and/or amendment processes.

Petitioners value native carnivores⁴ and work to protect native carnivores from livestock grazing on lands managed by the Bureau; thus, we are “interested person[s]” under the APA.⁵ For the reasons set forth in this Petition and as a matter of law, we ask that DOI and the Bureau promptly respond to this Petition.

Petitioners appreciate the Biden-Harris Administration’s commitment to protecting our climate, biodiversity, lands, and waters through evidence-based policy making and a coordinated government-wide approach. This includes the Administration’s America the Beautiful initiative and 30x30 campaign, as well as the Executive Orders on Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis ([Executive Order 13990](#)) and Tackling the Climate Crisis at Home and Abroad ([Executive Order 14008](#)).

Instituting a national framework that ensures coexistence between native carnivore species and livestock is an essential component of the Bureau’s contributions to the Administration’s 30x30 pledge. The report introducing the America the Beautiful initiative recognized that achieving the 30x30 ambition will require executive departments, including the U.S. Department of Interior, to safeguard the wildlife upon which we all depend.⁶

Additionally, the Department and Bureau have more recently strengthened their commitment to wildlife on America’s public lands. On April 18th, 2024, the Department announced the final ‘Public Lands Rule,’ complementing the America the Beautiful initiative. The purposes of the Public Lands Rule include: conserving and providing wildlife habitat, delivering “abundant wildlife,” and improving the health and resilience of Bureau-managed lands in the face of climate change.⁷ The rule “recognizes conservation as an essential component of public lands management, on equal footing with other multiple uses of these lands.”⁸ Implementing a carnivore-livestock coexistence framework across the millions of grazing acres the Bureau oversees is a major step toward achieving the balanced management of multiple uses described by the Public Lands Rule.

Accordingly, this Petition requests that the Bureau create a national proactive grazing management framework that mitigates conflicts between native wildlife and commercial livestock on Bureau lands. Because conflicts between carnivores and livestock—*i.e.*, actual or suspected livestock depredations largely attributed to apex and mesopredators like wolves, bears, cougar, and coyotes—have been the primary driver of government-sponsored wildlife killing efforts, we respectfully urge

⁴ We use the term “carnivore(s)” throughout this petition to refer to predatory species that experience conflicts with livestock on lands managed by the Forest Service, including bears.

⁵ Pursuant to 43 C.F.R. § 14.2 – 3, any person may file a petition under 5 U.S.C. § 553(e) “for the issuance, amendment or repeal of a rule” and that all such petitions “will be given prompt consideration and the petitioner will be notified promptly of action taken.”

⁶ Conserving and Restoring America the Beautiful (2021). Available at <https://www.doi.gov/sites/doi.gov/files/report-conserving-and-restoring-america-the-beautiful-2021.pdf>.

⁷ Bureau of Land Management, Biden-Harris Administration finalizes strategy to guide balanced management, conservation of public lands, April 18, 2024. Available at <https://www.blm.gov/public-lands-rule>.

⁸ Bureau of Land Management, Public Lands Rule. Available at <https://www.blm.gov/public-lands-rule>.

the Department to adopt grazing management regulations that incorporate science-backed measures to reduce the risk of such conflicts on federal grazing allotments. Such regulations are necessary to foster an ethic of coexistence, better protect ecologically valuable wildlife, and accomplish the Bureau’s mission of sustaining the health, diversity, and productivity of the public lands.⁹

This Petition demonstrates that the Bureau has the legal authority and responsibility to adopt a coexistence management framework that establishes a suite of conflict avoidance measures for Bureau-managed public lands where wildlife-livestock conflicts are a present or potential concern. Mitigating such conflicts falls squarely within the Bureau’s jurisdiction to manage its lands as well as the wildlife inhabiting those lands.

This Petition is supported by the best available science. Large carnivores like wolves, grizzly bears, and mountain lions are critical determinants of biological diversity and ecological integrity. Minimizing the killing of these essential species on Bureau lands helps ensure that public lands realize their potential as reservoirs of biodiversity while avoiding the negative consequences caused by a lack of abundant native carnivore populations. And, a large and growing body of scientific research shows that certain nonlethal measures and animal husbandry techniques are effective tools for avoiding and reducing conflicts between carnivores and livestock. Conversely, scientific research has not definitively shown that lethal measures effectively resolve carnivore-livestock conflicts—in fact, lethal control may increase conflicts.

The need for uniform direction from the Bureau to address this long-standing and growing problem is clear. By utilizing its legal authority and applying the best available science, the Bureau can play a pivotal and proactive role in creating a livestock grazing system that is compatible with native carnivore conservation. We strongly urge the Bureau to take advantage of this opportunity.

Sincerely,



Lizzy Pennock
Carnivore Coexistence Attorney
WildEarth Guardians

⁹ Bureau of Land Management, Public Land Statistics 2022, p. 35 (explaining that it is the mission of BLM to sustain the “health, diversity, and productivity of the public lands,” and that “[p]ublic lands are healthy and productive *when the natural environmental processes that keep them functioning are maintained and self-sustaining.*”) (emphasis added). Available at https://www.blm.gov/sites/default/files/docs/2023-07/Public_Lands_Statistics_2022.pdf.

Introduction

Expanding populations of wolves, grizzly bears, and other native carnivores increasingly rely on America's public lands for their survival. After years of significant investments in recovering carnivores, these important species are expanding their range on public lands, including those managed by the Bureau. Little more than two decades ago wolves and grizzlies were relegated to a handful of public land units in three western states. These species existed almost entirely in the shadow of Yellowstone National Park and, relatedly, the leadership of the National Park Service and the U.S. Fish and Wildlife Service. Today wolves exist in nine western states covering millions of acres. Grizzlies, though less widespread, are likewise expanding their range into historic territory.

Yet nearly 63% of public land managed by the Bureau in the lower 48 states is available for livestock grazing on 21,000 allotments.¹⁰ These multi-use lands are a nexus for interactions—and potential conflicts—between the millions of livestock that the Bureau allows to graze on them and expanding native carnivore populations that rely on them for habitat. The Bureau's current domestic livestock grazing management scheme is negatively affecting native carnivores, and thus the biodiversity and resilience of ecosystems where domestic livestock and carnivores share space. And the problem is growing, as native carnivore numbers increase and they recolonize their historic ranges. The presence of domestic livestock on Bureau lands is a recipe for conflict, especially because Bureau land managers have been reluctant to assert the agency's legal authority to manage Bureau-authorized grazing to protect these wildlife populations by ensuring improved and meaningful coexistence between livestock grazing and native carnivores.

Because of the population growth of some carnivore species and their expansion into historic habitat, as well as the importance of Bureau lands to wildlife and biodiversity, the Bureau's leadership is more critical than ever. Rather than condoning and facilitating the situations that engender conflicts—with the predictable and largely inevitable result of the killing of native carnivores—the Bureau should make its livestock grazing program compatible with its duty to manage for and conserve native carnivores on Bureau lands.

Without the Bureau's leadership, conflicts will continue. The Bureau should lead in developing solutions because it authorizes the livestock grazing that creates a significant source of these conflicts. As further discussed below, the Bureau has the legal authority to modify its livestock grazing program to minimize or prevent conflicts. By using its authority and applying existing science, the Bureau can play a pivotal and proactive role in fostering coexistence between livestock and native carnivores—keeping both alive.

Through this Petition, we ask the Bureau to fulfill its legal duty to protect the iconic and wildly popular native carnivores that are held in trust for all American people. Our Petition asks the Bureau to adopt and implement grazing management reforms that place responsibilities on both the agency

¹⁰ Bureau of Land Management's Grazing Program Infographic. Available at <https://www.blm.gov/sites/default/files/documents/files/GrazingInfographic100516FINAL%20%281%29%20%282%29.pdf>.

and livestock operators to reduce the likelihood of conflicts, which will benefit livestock operators and wildlife on Bureau lands.

Background

Importance of Public Lands to Wildlife and Biodiversity

Federal public lands provide crucial refuges for fish and wildlife and are significant reservoirs of biodiversity.¹¹ The importance of public lands for wildlife protection will only continue to increase as more private land is developed.¹²

The 245 million acres of land that the Bureau manages provide essential habitat for fish and wildlife. With more than 3,000 species of wildlife inhabiting Bureau lands, the Bureau manages more fish, wildlife and plant habitat than any other federal or state agency. These ecologically diverse lands contain millions of acres of unique habitat for wildlife species, including native carnivores. Bureau lands host more than 300 species of federally listed threatened and endangered wildlife, fish, and plants, as well as many other rare and sensitive species.

These significant wildlife habitats provide the foundation for much of our nation's biodiversity. For example, as one federal court noted, wolves in the western United States reside largely on federal public lands.¹³ Biodiversity is critical for maintaining stable ecosystems and facilitating recovery from disturbances such as wildfires and human activities, but it is disappearing at unprecedented rates. Yet nearly 63% of Bureau land in the lower 48 states—approximately 155 million acres—is available for livestock grazing.¹⁴ These multi-use lands are a nexus for interactions, and potential conflicts, between the millions of livestock that graze on them and expanding native carnivore populations that rely on them for habitat, putting wildlife in unnecessary danger.

It follows, then, that the way the Bureau manages land, human uses, and wildlife, plays an enormous role in whether Bureau lands achieve their potential in sustaining healthy wildlife populations over the long term. Facing increasing pressures and persecution, native carnivores need public lands more than ever. The Bureau can and should take action, as outlined in this Petition, to facilitate science-based coexistence between native carnivores and commercial livestock.

Importance of Carnivores to Ecosystem Health

Healthy ecosystems and the well-being of large carnivores go hand in hand. Top-of-the-food-chain predators like wolves, mountain lions, and grizzly bears play an essential role in maintaining the

¹¹ Stein, B.A., Scott, C., Benton, N. 2008. Federal lands and endangered species: The role of military and other federal lands in sustaining biodiversity. *BioScience*. 58(4): 339–47. Available at <https://doi.org/10.1641/B580409>.

¹² See, e.g., *id.* at 346.

¹³ *Defenders of Wildlife v. U.S. Fish and Wildlife Serv.*, Nos. 21-cv-00344-JSW, 21-cv-00349-JSW, 21-cv-00561-JSW, 2022 WL 499838, at *14 (N.D. Cal. Feb. 10, 2022).

¹⁴ U.S. Congressional Research Service. 2017. Statistics on livestock grazing on federal lands: FY2002 to FY2016. Available at <https://crsreports.congress.gov/product/pdf/R/R44932/3>.

natural balance of ecosystems, and research confirms the positive influences that carnivores have on their surrounding habitat.

By controlling the distribution and abundance of their prey, top carnivores impact other carnivores and animal and plant species down the food chain, an effect known as “trophic cascades.” One of the clearest examples of trophic cascades occurs when carnivores prey on ungulates (*e.g.*, elk or deer). Predation controls ungulate numbers and influences their movement and distribution, in turn decreasing the effects of ungulate browsing on trees, bushes, and grasses. This natural predator-prey dynamic improves habitat conditions and benefits many other species. For example, scientists have found that wolves in Yellowstone and Grand Teton National Parks can benefit species including aspen and other streamside vegetation, songbirds, beavers, bison, fish, grizzly bears, and foxes.¹⁵

Top carnivores also influence other carnivores, with corresponding positive effects on other species. As the dominant of the two species, wolves tend to regulate the number and distribution of coyotes. With coyote populations kept naturally in check, animals lower on the coyote’s food chain, such as the pronghorn antelope, have been shown to have higher survival rates.¹⁶ Top carnivores thus support prey species at lower levels and contribute to healthy ecosystem functioning.

Wolf presence benefits grizzly bears in several ways. By increasing the availability of carrion from predation, wolves increase food sources for raptors and other scavengers, including grizzly bears.¹⁷ Numerous anecdotal accounts of winter-active grizzly bears have arisen in recent years in the Northern Rockies, as the bears take advantage of meat from wolf-kills.¹⁸ Likewise, wolf predation on elk can reduce elk browsing of berry-producing shrubs, giving grizzlies access to more fruit.¹⁹

Another example of trophic cascades involves coyotes and sage-grouse. Research suggests that coyotes may indirectly benefit sage-grouse (and possibly other grouse species) in three ways, by: 1) reducing the number of mammalian nest predators that eat sage-grouse eggs and young; 2) limiting

¹⁵ Beschta, R.L., Ripple, W.J. 2018. Can large carnivores change streams via a trophic cascade?. *Ecohydrology*. 12:e2048. Available at <https://doi.org/10.1002/eco.2048>; Ripple, W.J., Beschta, R.L. 2012. Trophic cascades in Yellowstone: The first 15 years after wolf reintroduction. *Biological Conservation*. 145(1):205–13. Available at <https://doi.org/10.1016/j.BIOCON.2011.11.005>.

¹⁶ Berger, K.M., Gese, E.M., Berger, J. 2008. Indirect effects and traditional trophic cascades: A test involving wolves, coyotes, and pronghorn. *Ecology*. 89(3): 818–28. Available at <https://trophiccascades.forestry.oregonstate.edu/sites/default/files/Murray%20et%20al%202008.pdf>; Berger, K.M., Conner, M.M. 2008. Recolonizing wolves and mesopredator suppression of coyotes: Impacts on pronghorn population dynamics. *Ecological Applications*. 18(3):599–612. Available at https://digitalcommons.usu.edu/cgi/viewcontent.cgi?article=3624&context=wild_facpub.

¹⁷ Wilmers, C.C., Crabtree, R.L., Smith, D.W., Murphy, K.M., Getz, W.M. 2003. Trophic facilitation by introduced top predators: Grey wolf subsidies to scavengers in Yellowstone National Park. *Journal of Animal Ecology*. 72(6):909–16. Available at <https://doi.org/10.1046/j.1365-2656.2003.00766.x>.

¹⁸ Sherer, J. (Feb. 8, 2021). Bears in Winter? Yellowstone biologist says to carry spay year-round. 7KBZK, Bozeman, Montana. Available at <https://www.kbzk.com/news/outdoors/bears-in-winter-yellowstone-biologist-says-to-carry-spray-year-round>.

¹⁹ Ripple, W.J., Beschta, R.L., Fortin, J.K., Robbins, C.T. 2014. Trophic cascades from wolves to grizzly bears in Yellowstone. *Journal of Animal Ecology*. 83(1):223–33. Available at <https://doi.org/10.1111/1365-2656.12123>.

the number of jackrabbits and thereby the presence of Golden Eagles that prey on sage-grouse; and 3) reducing the number of competitors that eat plants consumed by sage-grouse.²⁰

Given carnivores' significant role in ecosystem function and balance and the interdependent nature of the food chain, lethally removing carnivores can cause cascading effects and changes throughout all ecosystem trophic levels, reducing biological diversity, simplifying ecosystem structure and function, and interfering with ecological processes. Research examining the effect of reduced mountain lion populations showed decreased black oak recruitment in Yosemite National Park²¹ and a reduction in the number of cottonwood trees in Zion National Park.²² Resulting changes documented in Zion National Park included greater stream erosion and a decrease in several terrestrial and aquatic species including wildflowers, butterflies, reptiles, and amphibians. Similarly, in areas where wolves are absent, unchecked ungulate populations and overgrazing decrease the abundance of native plant species, leading to degraded forests and riparian habitat.²³

Lethal Wildlife Removal in Response to Wildlife-Livestock Conflicts

Human activity is a major source of mortality for large carnivores.²⁴ Along with habitat loss and fragmentation, human-caused mortality—including death due to livestock predation—has contributed to widespread carnivore population declines and has reduced carnivores' ability to provide essential ecosystem functions.²⁵ Lethal removal of carnivores—primarily to benefit private livestock operators in western states—often has significant local impacts and can cause complete removal of one or more carnivore species from local ecosystems.²⁶

U.S. Department of Agriculture (USDA) data shows that livestock losses in the U.S. are primarily related to health, old age, and the weather, not wolves or other native carnivores.²⁷ For example,

²⁰ Mezquida, E.T., Slater, S.J., Benkman, C.W. 2006. Sage-grouse and indirect interactions: Potential implications of coyote control on sage-grouse populations. *The Condor*. 108(4):747–59. Available at <https://doi.org/10.1093/condor/108.4.747>.

²¹ Ripple, W.J., Beschta, R.L. 2008. Trophic cascades involving cougar, mule deer, and black oaks in Yosemite National Park. *Biological Conservation*. 141(5):1249–46. Available at <https://www.sciencedirect.com/science/article/abs/pii/S0006320708000852>.

²² Ripple, W.J., Beschta, R.L. 2006. Linking a cougar decline, trophic cascade, and catastrophic regime shift in Zion National Park. *Biological Conservation*. 133(4):397–408. Available at <https://doi.org/10.1016/j.biocon.2006.07.002>.

²³ Ripple, W.J., Larsen, E.J. 2000. Historic aspen recruitment, elk and wolves in northern Yellowstone National Park, USA. *Biological Conservation*. 95(3):361–70. Available at [https://doi.org/10.1016/S0006-3207\(00\)00014-8](https://doi.org/10.1016/S0006-3207(00)00014-8); Beschta, R.L. 2003. Cottonwoods, elk and wolves in the Lamar Valley of Yellowstone National Park. *Ecological Applications*. 13(5):1295–1309. Available at <https://doi.org/10.1890/02-5175>.

²⁴ Ordiz, A., Aronsson, M., Persson, J., Støen, O.-G., Swenson, J.E., Kindberg, J. 2021. Effects of human disturbance on terrestrial apex predators. *Diversity*. 13(2), 68. Available at <https://doi.org/10.3390/d13020068>.

²⁵ Ripple, W.J., Estes J.A., Beschta, R.L., Wilmers, C.C., Ritchie, E.G., Hebblewhite, M., Berger, J., Elmhagen, B., Letnic, M., Nelson, M.P. 2014. Status and ecological effects of the world's largest carnivores. *Science*. 343(6167):1241484. Available at <https://www.sierraclub.org/sites/www.sierraclub.org/files/sce/rocky-mountain-chapter/Wolves-Resources/Status%20and%20Ecological%20Effects%20of%20the%20World's%20Largest%20Carnivores.pdf>.

²⁶ Bergstrom, B.J. 2017. Carnivore conservation: Shifting the paradigm from control to coexistence. *Journal of Mammalogy*. 98(1):1–6. Available at <https://doi.org/10.1093/jmammal/gyw185>.

²⁷ U.S. Department of Agriculture, Animal and Plant Health Inspection Service. 2015. Death loss in U.S. cattle and calves due to predator and nonpredator causes. Available at https://www.aphis.usda.gov/animal_health/nahms/general/downloads/cattle_calves_deathloss_2015.pdf; U.S. Department of Agriculture, Animal and Plant Health Inspection Service. 2015. Sheep and lamb predator and

these “nonpredator” causes accounted for approximately 98% of all deaths in adult cattle and 89% of all deaths in calves in 2015, similar to other years. Yet the government has sponsored and funded lethal removal of carnivores for alleged depredations on behalf of livestock producers since the early 20th century. Carnivores are still regularly killed on Bureau lands by the federal government, state wildlife agencies, and private entities, at the request of federal grazing operators—despite advances in our scientific understanding of the importance of native carnivores and how to deter them from livestock via non-lethal methods, as well as the lack of evidence-based support for the effectiveness of lethal removal.

For perspective on the scope of the federal government’s involvement in killing carnivores, we briefly summarize the actions of Wildlife Services, a program under the USDA. As part of its “predator damage management program,” Wildlife Services uses poisoned bait, strangulation neck snares, leghold traps, aerial gunning, and cyanide traps to lethally remove tens of thousands of native carnivores every year, including on Bureau-managed public lands, in response to reported attacks on livestock and even preemptively before any attack occurs. We applaud the recent ban the Bureau placed on Wildlife Services’ use of M-44 cyanide bombs on Bureau-managed lands, and we urge the Bureau to continue taking such actions in the long-term.²⁸

In 2020 alone, Wildlife Services reported that it killed 433,192 native animals and over 67,000 native carnivores.²⁹ Among the carnivores Wildlife Services killed in 2020 were 449 black bears, 703 bobcats, 62,701 adult coyotes, 2,752 foxes, 381 gray wolves, 5 Mexican gray wolves (a federally listed endangered species and subspecies of gray wolf), and 284 mountain lions. Additionally, Wildlife Services destroyed 252 coyote dens and 80 fox dens, killing an unknown number of pups. More recently, Wildlife Services reported that in 2023 it intentionally killed 305 gray wolves, 68,562 coyotes, 430 black bears, 235 mountain lions, 469 bobcats, and 2,122 red and gray foxes.³⁰ Wildlife Services’ use of nonselective, lethal predator control (*e.g.*, trapping and poison baits) has also caused the deaths of at least 12 taxa of mammals protected (or that were candidates for protection) under the Endangered Species Act since 1990.³¹

nonpredator death loss in the United States. Available at https://www.aphis.usda.gov/animal_health/nahms/sheep/downloads/sheepdeath/SheepDeathLoss2015.pdf.

²⁸ Bureau of Land Management, Discontinuing the use of M-44 Devices that Deliver Sodium Cyanide from BLM-managed Public Lands. Information Bulletin IB2024-024 (Feb. 24, 2024). Available at <https://www.blm.gov/policy/ib2024-024>.

²⁹ U.S. Department of Agriculture, Animal and Plant Health Inspection Service, Wildlife Services. Program Data Report G - 2020 animals dispersed/killed or euthanized/removed or destroyed/freed or relocated.

³⁰ 375,000 Native Animals killed by Federal Program in 2023, Center for Biological Diversity Press Release (Apr. 3, 2024). Available at <https://biologicaldiversity.org/w/news/press-releases/375000-native-animals-killed-by-federal-program-in-2023-2024-04-03/>.

³¹ Bergstrom, B.J., Arias, L.C., Davidson, A.D., Ferguson, A.W., Randa, L.A., Sheffield, S.R. 2014. License to kill: Reforming federal wildlife control to restore biodiversity and ecosystem function. *Conservation Letters*. 7(2):131–42. Available at https://www.researchgate.net/publication/249007704_License_to_Kill_Reforming_Federal_Wildlife_Control_to_Restore_Biodiversity_and_Ecosystem_Function.

The program's predator damage management program costs taxpayers tens of millions of dollars every year.³² The public also shoulders the heavy financial burden of subsidizing federal grazing in the first place, meaning the real cost to the public is much higher. Private livestock operators graze federal public lands for well below market price, paying only \$1.35 per head per month or cow/half pair. The Government Accountability Office (GAO) reported in 2005 the federal government spends at least \$144 million each year managing private livestock grazing on federal public lands, but collects only \$21 million in grazing fees, amounting to an annual net loss of at least \$123 million.³³ Considering the additional direct and indirect costs not included in the GAO report, economists have estimated that the federal public lands grazing on Bureau and USFS lands may cost as much as \$500 million to \$1 billion annually.³⁴ Yet, grazing on all federal public lands contributes only 2-3% of national meat production, making minor contributions to regional economies.³⁵

Legal Authority

Under existing law, the Bureau has the authority and the responsibility to create a proactive, science-based, national grazing management framework that addresses conflicts between native carnivores and livestock by incorporating conflict mitigation measures into the livestock grazing permitting and land management planning processes.

Bureau of Land Management Authority to Manage Livestock Grazing

The Taylor Grazing Act of 1934 and the Federal Land Policy and Management Act of 1976 authorize the Bureau to permit livestock grazing on certain public lands it administers. The Bureau authorizes and manages grazing through grazing permits or leases and Allotment Management Plans (AMP).

- A grazing permit or grazing lease is the official written permission to graze livestock on Bureau lands and includes the number, kind, and class of livestock; the allotment to be grazed; the amount and period(s) of use; and terms and conditions “appropriate to achieve management and resource condition objectives . . .” 43 C.F.R. § 4130.3(a); *see also id.* at §§ 4130.2, 4130.3, 4130.3-1, and 4130.3-2; 43 U.S.C. §§ 1702(p), 1752(a).
- An AMP is a land management document containing instructions for livestock grazing on specified public lands. The AMP prescribes the manner in which livestock operations will be conducted in order to meet multiple-use objectives and “[c]ontains such other provisions

³² U.S. Department of Agriculture, Animal and Plant Health Inspection Service, Wildlife Services. Program Data Report A - 2020 Federal and cooperative funding.

³³ GAO. 2005. Livestock grazing: Federal expenditures and receipts vary, depending on the agency and the purpose of the fee charged. GAO-05-869. Government Accountability Office. Washington, D.C.

³⁴ Glaser, C., Romaniello, C., Moscovitz, K. 2015. Costs and consequences: The real price of livestock grazing on America's public lands. Center for Biological Diversity. Available at https://www.biologicaldiversity.org/programs/public_lands/grazing/pdfs/CostsAndConsequences_01-2015.pdf.

³⁵ Leshy, J.D., McUsic, M.S. 2008. Where's the beef? Facilitating voluntary retirement of federal lands from livestock grazing. 17 *N.Y.U. ENVTL L.J.* 368–69 (2008). Available at <https://nyuelj.org/wp-content/uploads/2013/03/Leshy.pdf>.

relating to livestock grazing and other objectives found by the Secretary concerned to be consistent with the provisions of this Act and other applicable law.” 43 U.S.C. §§ 1702(k)(1), (3), 1752; 43 C.F.R. § 4120.2.

The Bureau has broad authority to modify, cancel, or suspend grazing permits and update AMPs for the benefit of special resources occurring on federal allotments under its jurisdiction. The Bureau’s grazing regulations expressly recognize the agency’s authority to cancel, suspend, or modify grazing permits or leases in whole or in part for non-compliance with federal grazing regulations or any term or condition of a permit or lease. Additionally, the Bureau’s grazing regulations expressly recognize its authority to modify terms and conditions of permits or leases when livestock grazing does not meet management objectives specified in land management plans or AMPs, or does not comply with rangeland health standards and guidelines. *See* 43 C.F.R. §§ 4120.3-1(b), 4130.3-3; 43 U.S.C. §1752(a).

The Bureau’s Authority and Responsibility to Manage and Conserve Wildlife

Mitigating carnivore-livestock conflicts falls squarely within the Bureau’s jurisdiction to manage its lands and the wildlife inhabiting them. According to federal land policy experts, “federal land management agencies have an obligation, and not just the discretion, to manage and conserve fish and wildlife on federal lands.”³⁶ The Bureau’s multiple use mandate includes the responsibility to mitigate conflicts with Bureau permitted livestock grazing—a demonstrated threat to the conservation of native carnivores.

Under the Federal Land Policy and Management Act (FLPMA) of 1976, 43 U.S.C. §§ 1701-1784, the Bureau manages its lands for a variety of uses and purposes, including the conservation of public land and wildlife. Importantly, Congress expressly recognized “wildlife and fish,” and not simply wildlife and fish *habitat*, as among the multiple uses the Bureau is responsible for when managing the public lands under its jurisdiction:

The term “multiple use” means the management of the public lands and their various resource values so that they are utilized in the combination that will best meet the present and future needs of the American people; making the most judicious use of the land for some or all of these resources or related services over areas large enough to provide sufficient latitude for periodic adjustments in use to conform to changing needs and conditions; the use of some land for less than all of the resources; a combination of balanced and diverse resource uses that takes into account the long-term needs of future generations for renewable and nonrenewable resources, including, but not limited to, recreation, range, timber, minerals, watershed, *wildlife and fish*, and natural scenic, scientific and historical values; and harmonious and coordinated management of the various resources without

³⁶ For a comprehensive and thoughtful analysis of the constitutional and statutory bases of the federal government’s authority over wildlife on federal lands, *see* Nie, M., Barns, C., Haber, J., Joly, J., Pitt, K., Zellmer, S. 2017. Fish and wildlife management on federal lands: Debunking state supremacy. *Environmental Law*. 47(4):797–932. Available at <http://www.jstor.org/stable/44466736>.

permanent impairment of the productivity of the land and the quality of the environment with consideration being given to the relative values of the resources and not necessarily to the combination of uses that will give the greatest economic return or the greatest unit output.

id. at § 1702(c) (emphasis added). Congress likewise declared in FLPMA that fish and wildlife values were to be balanced with other resources and uses of the public lands, and expressed a policy that:

[T]he public lands be managed in a manner that will protect the quality of scientific, scenic, historical, ecological, environmental, air and atmospheric, water resource, and archeological values; that, where appropriate, will preserve and protect certain public lands in their natural condition; that will provide food and habitat for fish and wildlife and domestic animals; and that will provide for outdoor recreation and human occupancy and use.

id. at § 1701(a)(8).

While the Bureau's multiple use mandate provides discretion, federal law limits this discretion in several ways in the service of environmental protection. For example, the Bureau must avoid "permanent impairment . . . to the quality of the environment," *id.* at § 1702(c), and "take any action necessary to prevent unnecessary or undue degradation of the lands." *Id.* at § 1732(b).

Several provisions in FLPMA indicate the Bureau's affirmative responsibility toward native wildlife species on Bureau lands. For example, FLPMA requires the preparation of comprehensive resource management plans (RMPs) for the districts under the Bureau's control, *id.* at § 1712. In this planning process, the Bureau must "give priority to the designation and protection of areas of critical environmental concern," which comprise areas "where special management attention is required . . . to protect and prevent irreparable damage" to important values on Bureau lands, including "fish and wildlife resources" and "natural systems or processes." *Id.* at §§ 1712(c)(3), 1702(a).

The agency's "fundamentals of rangeland health" regulation also illustrates the Bureau's role in wildlife management on public lands; it requires that the Bureau develop certain standards and guidelines, including those concerning ecological integrity and wildlife habitat. These standards and guidelines are designed to ensure that "[e]cological processes . . . are maintained, or there is significant progress toward their attainment, in order to support healthy biotic populations and communities" and that "[h]abitats are, or are making significant progress toward being, restored or maintained for Federal threatened and endangered species, Federal proposed or candidate threatened and endangered species, and other special status species." 43 C.F.R. §§ 4180.1(b) and (d). More, "[n]ative species are emphasized in the support of ecological function." *Id.* at §§ 4180.2(e)(11), 4180.2(f)(2)(ix). Livestock grazing permits and leases shall ensure conformance with these standards and guidelines. *Id.* at § 4130.3(a).

The Bureau has likewise committed itself to undertaking proactive conservation measures that, among other things, "reduce or eliminate threats to Bureau sensitive species to minimize the

likelihood of and need for listing of these species under the [Endangered Species Act].” BLM Manual, Special Status Species Mgmt., § 6840.02 (2008).³⁷

The Bureau may have latitude in managing for multiple uses, but it may not do so in a manner that altogether ignores carnivore-livestock conflicts and the nearly inevitable lethal removal of carnivores that follows. Indeed, with respect to gray wolves, one federal court recently observed that federal public land management regimes do not provide adequate regulatory mechanisms to ensure sustainable wolf populations.³⁸

The Bureau’s failure to proactively address carnivore-livestock conflicts in the course of managing livestock grazing on Bureau lands is harming native carnivores and interfering with carnivore conservation and natural ecosystem function. The problem is growing as carnivore numbers continue to increase and as they recolonize habitat. Fortunately, as shown in this Petition, the Bureau has the legal authority to act and mitigate these conflicts in a uniform, coordinated, and science-based manner.

Public Support for Nonlethal Conflict Reduction Measures

The Bureau is responsible for managing and conserving public lands and resources—including wildlife—for the benefit of present and future generations of the American people. *See, e.g.*, 43 U.S.C. §§ 1701(a), 1702(c). Therefore, the Bureau needs to understand the American public’s views on wildlife and the actions of other government agencies to “control” native predators. Because the Bureau has a duty to manage and conserve public lands and wildlife in furtherance of, among other things, the national interest, public values should inform the national strategy the Bureau develops to facilitate coexistence between public land livestock grazing and native carnivore conservation.

Public values toward wildlife are shifting, according to a recent study assessing how people across all 50 states think about wildlife.³⁹ Today, a majority of the American public view wildlife as part of an extended social network, deserving of protection, consideration, and care, and as having an intrinsic right to exist (the “mutualist” view). People holding a mutualist value orientation have less tolerance for lethal control of predators. On the other hand, a minority of the American public view wildlife as subordinate to humans, measuring their value in relation to their use and benefit to humans (the “traditionalist” view). People holding a traditionalist value orientation have a higher tolerance for lethal control of predators. The researchers found that Western states had a 5.7 percent decline in traditionalists and a 4.7% increase in mutualists between 2004 and 2018.

³⁷ Available at <https://www.blm.gov/sites/blm.gov/files/6840.pdf>.

³⁸ *Defenders of Wildlife v. U.S. Fish and Wildlife Serv.*, Nos. 21-cv-00344-JSW, 21-cv-00349-JSW, 21-cv-00561-JSW, 2022 WL 499838, at *14 (N.D. Cal. Feb. 10, 2022).

³⁹ Manfredo, M.J., Sullivan, L., Don Carlos, A.W., Dietsch, A.M., Teel, T.L., Bright, A.D., Bruskotter, J. 2018. America’s wildlife values: The social context of wildlife management in the U.S. national report from the research project entitled “America’s Wildlife Values.” Fort Collins, CO: Colorado State University, Department of Human Dimensions of Wildlife. Available at https://cpw.state.co.us/Documents/Research/SocialScience/AmericasWildlifeValues_Colorado_Report.pdf.

Similarly, research shows that the American public strongly prefers nonlethal methods to address wildlife-livestock conflicts over lethal control and views nonlethal measures as more humane than lethal techniques.⁴⁰ Specifically, lethal predator control methods such as shooting animals from aircraft, neck snares, gassing pups in dens, leg-hold traps, and poisons are becoming less popular with the American public.⁴¹

Evolving state and federal policies reflect this attitude shift to more strongly favor wildlife protection and oppose cruel wildlife killing practices. In state legislatures and in Congress, the number of laws and new legislation that ban or would ban cruel wildlife killing practices including poisoning and trapping is increasing. For example, at least six states have passed laws banning the use of M-44 “cyanide bombs.” Similarly, H.R. 4951 (“Canyon’s Law”), recently reintroduced in the U.S. Congress, would ban the use of M-44s on all federal public lands. And in April 2020, Colorado became the 6th state to ban killing contests—the 4th state to do so within the preceding year.

Indeed, the Departments of Interior and Agriculture are also beginning to shift their policies, specifically regarding the use of highly controversial M-44 sodium cyanide bombs. In 2024, the Bureau prohibited the use of M-44 sodium cyanide bombs on Bureau-managed lands in a Memorandum of Understanding with Wildlife Services.⁴² In the information bulletin provided with this announcement, the Bureau cited M-44 public lands bans in other states, pending legislation to ban M-44s on public lands nationwide, and tragedies caused by M-44s. We applaud the Bureau’s leadership in this context, and we urge the Bureau to make the M-44 ban policy into a regulation—ensuring its survival long-term—and to follow suit with banning or minimizing to the greatest extent the use of other lethal measures discussed in this Petition.

The Forest Service and Congress have taken similar measures. Wildlife Services has not deployed M-44 devices on National Forest System lands since 2021, per a Memorandum of Understanding between the two entities. And most recently, the appropriations bill for fiscal year 2024 prohibits the Secretary of Agriculture, and therefore Wildlife Services, from “purchasing, deploying, or training third parties on use” of M-44s and Compound 1080, “except for activities directly related to the removal of M-44s that have been placed on Federal, Tribal, State, and Private Land.”⁴³

⁴⁰ Slagle, K., Bruskotter, J.T., Singh, A.S., Schmidt, R.H. 2017. Attitudes toward predator control in the United States: 1995 and 2014. *Journal of Mammalogy*. 98(1):7–16. Available at <https://doi.org/10.1093/jmammal/gyw144>; see also Reiter, D.K., Brunson, M.W., Schmidt, R.H. 1999. Public attitudes toward wildlife damage management and policy. *Wildlife Society Bulletin*. 27(3):746–58. Available at https://www.researchgate.net/publication/234114464_Public_attitudes_toward_wildlife_damagemanagement_and_policy; Arthur, L.M. 1981. Coyote control: The public response. *Journal of Range Management*. 34(1):14–15. Available at <https://journals.uair.arizona.edu/index.php/jrm/article/viewFile/7118/6730>; Way, J., Bruskotter, J.T. 2012. Additional considerations for gray wolf management after their removal from Endangered Species Act protections. *Journal of Wildlife Management*. 76(3):457–61. Available at <https://doi.org/10.1002/jwmg.262>.

⁴¹ Slagle, K., Bruskotter, J.T., Singh, A.S., Schmidt, R.H. 2017. Attitudes toward predator control in the United States: 1995 and 2014. *Journal of Mammalogy*. 98(1):7–16. Available at <https://doi.org/10.1093/jmammal/gyw144>.

⁴² Bureau of Land Management, Discontinuing the use of M-44 devices that deliver sodium cyanide from BLM-managed public lands. *Information Bulletin* (Feb. 24, 2024). Available at <https://www.blm.gov/policy/ib2024-024>.

⁴³ Joint Statement, Division — Agriculture, Rural Development, Food and Drug Administration, and Related Agencies Appropriations Act, 2024 Congressional Directives. Available at [https://docs.house.gov/bills/thisweek/20240304/FY24%20Ag%20Conference%20JES%20scan%203.2.24%20\(1\).pdf](https://docs.house.gov/bills/thisweek/20240304/FY24%20Ag%20Conference%20JES%20scan%203.2.24%20(1).pdf).

These shifting social values, and similarly shifting policies, toward wildlife strengthen the case for bold Bureau leadership to mitigate and prevent carnivore-livestock conflict, which would help satisfy the agency's stewardship obligations to present and future generations of Americans and its duty to manage and conserve wildlife on Bureau lands.

Case Study: Bureau Administered Wilderness in Nevada

The Bureau administers over six million acres of designated Wilderness and Wilderness Study Areas in Nevada. These federal lands support significant and diverse fish and wildlife populations. Although the Wilderness Act of 1964 allows preexisting livestock grazing to continue, this exception to the general rule—that federal agencies manage congressionally designated Wilderness to preserve its natural condition and protect its wilderness character—is subject to conditions, including for lethal control of native wildlife. For example, the Bureau's policies allow for lethal wildlife control in Wilderness areas only where necessary to prevent serious losses of domestic livestock. Likewise, Bureau policy specifies that animal damage control in Wilderness must be approved by the agency on a case-by-case basis and must involve only the minimum amount of control necessary to solve the problem.

Every year, thousands of coyotes, badgers, bobcats, mountain lions, foxes, and black bears are lethally removed in the State of Nevada, including on Bureau-managed public lands, on behalf of private livestock operators for alleged depredations. For example, between 2015 and 2020, Wildlife Services killed almost 15,000 coyotes on Bureau lands in Nevada.⁴⁴ The Bureau has even proposed to expand its approval of lethal removal activities to designated Wilderness and Wilderness Study Areas it manages in the state.⁴⁵

The Bureau's proposed authorization to allow lethal control of native predators in Wilderness and Wilderness Study Areas contradicts the agency's policies. The proposal does not require the agency to review the circumstances surrounding individual requests for lethal action against predators to determine whether it is "necessary" to prevent serious losses of domestic livestock. The Bureau simply requires email notification before and after the lethal action.

As well, many lethal predator control actions on Bureau-managed lands occur in areas with a history of recurring carnivore-livestock conflicts, and often during high-risk time periods, such as when newly born lambs and calves are grazing in remote areas on public lands and native carnivores are rearing their offspring. Despite recognizing that these spatial-temporal factors greatly increase the risk of predation, the Bureau does not require grazing permit holders to adjust their grazing practices to proactively reduce this risk, including on Bureau-managed Wilderness and Wilderness Study

⁴⁴ Petitioners calculated this figure from data released to petitioners through the Freedom of Information Act.

⁴⁵ In Wilderness Areas, predator control methods include trapping, snaring, and ground shooting (including with the use of calling, tracking dogs, or decoy dogs). In Wilderness Study Areas, predator control methods include distress sounds and alarm calls, visual scaring techniques, and aerial hazing, harassment, and dispersal; M-44 devices (large gas cartridges for killing target species in their dens and burrows); poisons, including chemically treated eggs; traps, foot and neck/body snares, calling to lure in target species and tracking with dogs/use of decoy dogs followed by ground shooting, including with lead ammunition; and aerial shooting, overflights, and landings.

Areas. Nor does the Bureau require grazing permit holders to employ other nonlethal strategies to reduce the risk of wildlife-livestock conflicts (*e.g.*, maintaining a regular human presence with livestock herds, keeping sheep and cattle bunched up in open, defensible spaces) before authorizing lethal predator control. The Bureau does not document which, if any, nonlethal methods livestock operators unsuccessfully attempted, or require that livestock operators themselves document which strategies they used, if any, or the apparent effectiveness of any such strategies.

The Bureau is failing both native wildlife and livestock producers in Nevada and also undermining Wilderness protection, all in violation of its own policies. Bureau leadership at the national level is urgently needed to reconcile livestock-carnivore conflicts and protect native species on public lands.

Case Study: Grazing Allotments in Grizzly Bear Habitat and Connectivity Pathways

The Bureau permits livestock grazing on dozens of allotments in and around grizzly bear habitat in Idaho, Wyoming, and Montana, requiring few, if any, coexistence measures to protect bears from conflicts and the predictable wildlife death that often follows. The U.S. Fish & Wildlife Service 2022 Species Status Assessment for grizzly bears determined that the primary threat or stressor to grizzly bears and their recovery in the lower-48 states is human-caused mortality, and the main impact to grizzly bears is human-caused mortality resulting from management removals in response to livestock depredation.⁴⁶ In addition to directly leading to the death of bears, livestock allotments are known stressors that can reduce and fragment grizzly bear habitats and connectivity pathways.⁴⁷

Many areas where the Bureau permits livestock grazing in and around grizzly bear habitat are key connectivity areas between Ecosystems.⁴⁸ Currently, the two population cores for grizzly bears in the lower-48 states are in and around the Northern Continental Divide Ecosystem in northwest Montana, and the Greater Yellowstone Ecosystem in northwest Wyoming, eastern Idaho, and southwest Montana. In order for the grizzly bear population in the lower-48 states to fully recover, these population cores must be connected instead of isolated; and, grizzlies must be able to disperse across the landscape to establish new population cores, like in the Bitterroot Ecosystem.⁴⁹ Figure 1, from Sells et al. 2023,⁵⁰ shows connectivity pathways.

⁴⁶ U.S. Fish & Wildlife Service, Species Status Assessment for the Grizzly Bear (*Ursus arctos horribilis*) in the Lower-48 States, v. 1.2. (Jan. 21, 2022). Available at <https://ecos.fws.gov/ServCat/DownloadFile/213247>.

⁴⁷ *Id.* at 140.

⁴⁸ Sells, S., Costello, C., Lukacs, P., Roberts, L., Vinks, M. 2023. Predicted connectivity pathways between grizzly bear ecosystems in Western Montana. 2023. *Biological Conservation*, 284:110199 Available at <https://www.sciencedirect.com/science/article/pii/S0006320723003002?via%3Dihub> (showing connectivity pathways). See also supra note 45 at 4-5, The grizzly bear recovery plan refers to grizzly bear “ecosystems,” of which the USFWS designated 6 as “recovery areas,” being the Northern Continental Divide (NCDE), the Greater Yellowstone (GYE), the Cabinet-Yaak (CYE), the Selkirk (SE), the Bitterroot (BE), and the North Cascades Ecosystems (NCE). Currently, grizzly bears primarily exist in the NCDE, GYE, CYE, and SE, with no established populations in the NCE or BE.

⁴⁹ University of Montana Cooperative Wildlife Research Unit, Grizzly Bears: Predicted Space Use & Connectivity Pathways. (“Connectivity between populations is a conservation goal, as is establishment of populations in currently unoccupied recovery areas.”). Available at <https://www.umt.edu/coop-unit/sellslab/sells-research/grizzly-bears.php>.

⁵⁰ *Supra* note 47.

Figure 1:

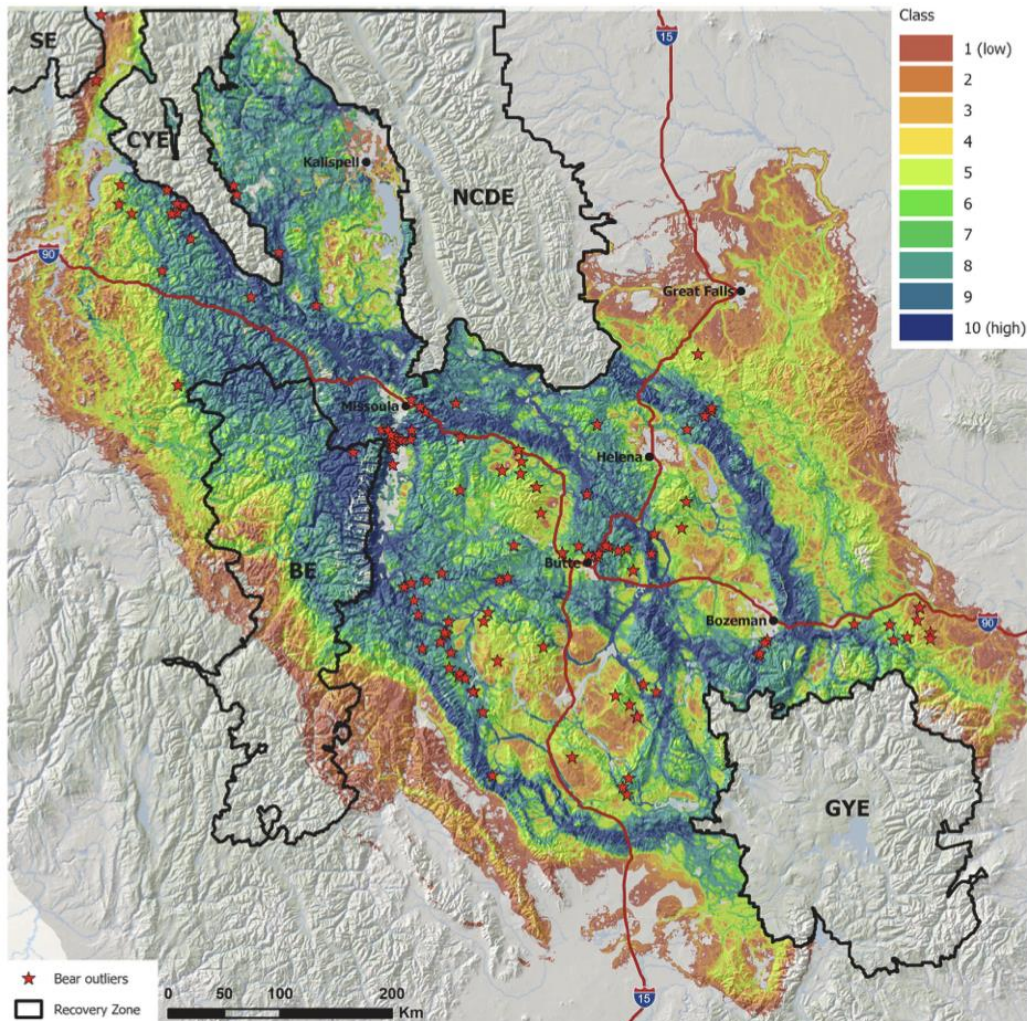


Fig. 3. Prediction of female grizzly bear connectivity pathways in western Montana, summarized from 5 sets of directed (randomized shortest path) movement simulations using start and end nodes associated with routes of NCDE-CYE, NCDE-BE, NCDE-GYE, CYE-BE, and GYE-BE (Fig. 1). Class 1 = lowest relative predicted use, whereas class 10 = highest relative predicted use. Simulations were based on 46 individual iSSFs for NCDE females. These simulations employed the lowest θ value of 0.0001, which resulted in the highest correlation with independent grizzly bear outlier observations (Table 1). Results from other θ values shown in the Appendix.

Grizzly bear dispersal is required for connecting populations via the connectivity pathways shown above, which in turn will help establish new populations and facilitate needed genetic exchange between existing populations. But when grizzly bears dispersing across connectivity pathways encounter livestock, it can lead to conflicts and the subsequent death of bears, particularly when no conflict reduction measures are in place. The deaths of dispersing bears have outsized impacts on the population as a whole. Bears are slow to disperse across the landscape because they do not move far out of their natal range when establishing their new home ranges as adults.⁵¹ This means that if a

⁵¹ Proctor, M.F., McLellan, B., Strobeck, C., Barclay, R.M.R. 2004. Gender-specific dispersal distance of grizzly bears estimated by genetic analysis. *Canadian Journal of Zoology*. 82(7):1108-1118. Provided in source files accompanying petition. (finding that females on average dispersed less than 10 miles away from their natal range, and males dispersed on average approximately 26 miles).

dispersing bear is killed, it could take significant time before another bear continues expanding the population in a given direction.

Bureau-administered livestock grazing allotments surround several key connectivity areas for grizzly bear dispersal, including in: (1) the Red Rock River in Montana; (2) the Pleasant Valley into the Beaverhead Range; (3) the Gravelly Range; (4) the Tobacco Root mountains; (5) the Ruby River and into the Greenhorn Range; (6) the northern end of the Big Belt Mountains; and (7) south of Greenough and Southeast of Missoula.

Systemically implementing livestock-bear coexistence measures in each of these allotments would reap benefits on humans and bears. Grizzly bears would be able to move more safely through the major connectivity pathways as needed for their successful recovery in the lower-48 states, and livestock operators in these areas could more readily avoid losses to grizzly bears.

Science on Carnivore-Livestock Conflict Mitigation Measures

A large and growing body of scientific research suggests that nonlethal carnivore-livestock conflict deterrents and animal husbandry practices effectively reduce carnivore predation on livestock. Conversely, science also suggests that lethal control does not decrease carnivore-livestock conflicts over time and may lead to increased conflict. Research shows that nonlethal methods are generally more effective than lethal methods for preventing livestock depredation by large carnivores.⁵² Additionally, studies show that the effectiveness of nonlethal tools is enhanced when several types are used in combination on an adaptive basis.⁵³ Because native carnivores play such a critical role in maintaining healthy ecosystems, nonlethal conflict prevention benefits not only carnivores and livestock producers, but the environment as a whole.

⁵² See, e.g., Shivik, J.A., Treves, A., Callahan, P. 2003. Nonlethal techniques for managing predation: Primary and secondary repellents. *Conservation Biology*. 17(6):1531–37. Available at <https://doi.org/10.1111/j.1523-1739.2003.00062.x>; Lance, N.J., Breck, S.W., Sime C., Callahan, P., Shivik, J.A. 2010. Biological, technical, and social aspects of applying electrified fladry for livestock protection from wolves (*Canis lupus*). *Wildlife Research*. 37(8):708–14. Available at https://digitalcommons.unl.edu/cgi/viewcontent.cgi?article=2257&context=icwdm_usdanwrc; Breck, S.W., Kluever, B.M., Panasci, M., Oakleaf, J., Johnson, T. 2011. Domestic calf mortality and producer detection rates in the Mexican wolf recovery area: Implications for livestock management and carnivore compensation schemes. *Biological Conservation*. 144(2):930–36. Available at <https://doi.org/10.1016/j.biocon.2010.12.014>; Stone, S.A., Breck, S.W., Timberlake, J., Haswell, P.M., Najera, F., Bean, B.S., Thornhill, D.J. 2017. Adaptive use of nonlethal strategies for minimizing wolf-sheep conflict in Idaho. *Journal of Mammalogy*. 98(1):33–44. Available at <https://doi.org/10.1093/jmammal/gyw188>; Barnes, M. 2015. Livestock management for coexistence with large carnivores, healthy land and productive ranches. Keystone Conservation. Bozeman, Montana, available at <https://wolfwatcher.org/wp-content/uploads/2015/09/Livestock-Management-for-Coexistence-with-Large-Carnivores-Healthy-Land-Productive-Ranches.pdf>.

⁵³ Bangs, E., Jiminez, M., Niemeyer, C., Fontaine, J., Collinge, M., Krischke, R., Handegard, L., Stone, S. 2006. Non-lethal and lethal tools to manage wolf-livestock conflict in the northwestern United States. Proceedings of the Vertebrate Pest Conference. 22:7–16. Available at <https://doi.org/10.5070/V422110170>; Sime, C.A., Bangs, E., Bradley, E., Steuber, J.E., Glazier, K., Hoover, P.J., Asher, V., Laudon, K., Ross, M., Trapp, J. 2007. Gray wolves and livestock in Montana: A recent history of damage management. Montana Fish, Wildlife & Parks. Available at <https://digitalcommons.usu.edu/cgi/viewcontent.cgi?article=1206&context=wdmconference>; Breck, S., Clark, P., Howery, L., Johnson, D. Kluever, B., Smallidge, S., Cibils, A. 2012. A perspective on livestock-wolf interactions on western rangelands. *Rangelands*. 34(5):6-11. Available at <https://doi.org/10.2111/RANGELANDS-D-11-00069.1>.

A 2017 study on public grazing allotments in Idaho demonstrated that nonlethal management methods and animal husbandry techniques effectively mitigate carnivore-livestock conflicts.⁵⁴ The allotments in the study, like many existing federal grazing allotments, were large, remote, rugged, unpopulated, mountainous, and/or had primarily forested landscapes. The researchers evaluated the effectiveness of nonlethal conflict mitigation measures and found that proactively using a variety of nonlethal techniques reduced sheep depredation by wolves. Over seven years, the researchers collected data on sheep depredation mortalities in an area where only nonlethal measures were used, including increased human presence, livestock guardian dogs, and attractant reduction. The researchers also collected data on sheep mortalities in an adjacent, wolf-occupied area where no nonlethal measures were applied, but where wolves were lethally removed. Comparing the data, the researchers calculated that wolves killed sheep at a rate 3.5 times higher in the lethal removal area with no nonlethal protection measures. Conversely, wolves killed only 0.02% of sheep in the area protected by nonlethals—the lowest loss rate among sheep-grazed areas in wolf habitat statewide. Proactive, nonlethal management measures reduced domestic sheep losses by 90 percent.

A 2018 literature review of 114 peer-reviewed studies that evaluated the effectiveness of lethal and nonlethal methods for reducing carnivore predation on livestock showed that certain nonlethal methods, including livestock guardian dogs, effectively deterred conflicts in agricultural landscapes.⁵⁵ Further, the science also showed that promptly removing or properly disposing of livestock carcasses and other attractants prevented conflicts.⁵⁶ Studies on seasonal carnivore behavior likewise showed that moving livestock away from high risk areas, like carnivore denning or rendezvous sites, during certain times of the year also effectively reduced carnivore-livestock conflicts.⁵⁷ In fact, according to one recent literature review, “[i]mproving [livestock] husbandry practices around wolf territories during high risk seasons is one of the leading factors in reducing wolf depredations.”⁵⁸

Since poor livestock surveillance is strongly associated with livestock losses, experts recommend maintaining regular and frequent human presence to detect and reduce carnivore-livestock conflict on the range. Trained individuals can closely monitor livestock and carnivore behavior, detect sick

⁵⁴ Stone, S.A., Breck, S.W., Timberlake, J., Haswell, P.M., Najera, F., Bean, B.S., Thornhill, D.J. 2017. Adaptive use of nonlethal strategies for minimizing wolf-sheep conflict in Idaho. *Journal of Mammalogy*. 98(1):33–44. Available at <https://wolfwatcher.org/wp-content/uploads/2019/03/Adaptive-use-non-lethal.pdf>.

⁵⁵ van Eeden, L.M., Eklund, A., Miller, J.R.B., López-Bao, J.V., Chapron, G., Cejtin, M.R. 2018. Carnivore conservation needs evidence-based livestock protection. *PLoS Biology*. 16(9):e2005577. Available at <https://doi.org/10.1371/journal.pbio.2005577>.

⁵⁶ Wilson, S.E., Madel, M.J., Mattson, D.J., Graham, J.M., Merrill, T. 2006. Landscape conditions predisposing grizzly bears to conflicts on private agricultural lands in the western USA. *Biological Conservation*. 130(1):47–59. Available at <https://doi.org/10.1016/j.biocon.2005.12.001>; Morehouse, A.T., Boyce, M.S. 2011. From venison to beef: Seasonal changes in wolf diet composition in a livestock grazing landscape. *Frontiers in Ecology and the Environment*. 9(8):440–45. Available at <https://doi.org/10.1890/100172>.

⁵⁷ Parr, S., Engelhart, J., Liebenberg, L., Sampson, L., Coleshill, J. 2017. A rancher’s guide to coexistence among livestock, people, and wolves. 2d ed. Pp. 20–23. Available at DOI:10.13140/RG.2.2.17802.18883; Breck, S.W., Kluever, B.M., Panasci, M., Oakleaf, J., Johnson, T., Ballard, W., Howery, L., Bergman, D.L. 2011. Domestic calf mortality and producer detection rates in the Mexican wolf recovery area: Implications for livestock management and carnivore compensation schemes. *Biological Conservation*. 144(2):930–36. Available at <https://doi.org/10.1016/j.biocon.2010.12.014>.

⁵⁸ Western Wildlife Outreach. 2014. Wolf-livestock nonlethal conflict avoidance: A review of the literature. 2014. P. 12. Available at https://wdfw.wa.gov/sites/default/files/2019-02/wolf_livestock_conflict_avoidance_literature_review_11_2014_final_submitted_version.pdf.

or dead livestock so that they can be promptly removed or properly managed, and keep herds or flocks together in defensible spaces.⁵⁹

Further, the field of non-lethal conflict deterrence research is expanding. For example, a 2024 study explored how we may bring back practices historically used by people sharing landscapes with large carnivores in much greater densities than today. This study considered the use of Livestock Guardian Dogs (LGDs).⁶⁰ LGDs are “working dogs that accompany livestock and protect them from attacks by predators.”⁶¹ Young & Sarmento (2024) “found several lines of evidence supporting the use of LGDs to deter bears from farmsteads that had chronic interactions with grizzly bears.” Similarly, van Bommel et al. (2024) found that LGDs can have strong effects on predator behavior, deterring them from areas used by livestock.

Another study in 2023 examined the effectiveness of ‘low stress livestock handling’ as a large carnivore deterrent.⁶² Low stress livestock handling (LSLH) describes a type of human interaction with livestock. LSLH that takes advantage of the livestock animals’ natural prey responses, encouraging their herding instincts. When handling the livestock, handlers gently push the animals toward a herd and allow them to move together calmly, teaching them a positive association between human actions and herding, and thus making them more willing to remain as a herd; contrary to conventional livestock handling, which forces animals together in an “uncomfortable and rapid way,” decreasing their natural herding response, making them more susceptible to predation. The authors observed that properly executed low-stress livestock handling can protect cattle from multiple large carnivores with fewer range riders because they respond more positively to human presence and are more likely to herd.

Conversely, lethal measures have not been shown to effectively reduce carnivore-livestock conflicts, and may have unintended consequences, including increased predation. For example, researchers examining 25 years of data (1987-2012) from Idaho, Wyoming, and Montana found a positive correlation between the number of wolves killed and the number of livestock depredations the

⁵⁹ Parr, S., Engelhart, J., Liebenberg, L., Sampson, L., Coleshill, J. 2017. A Ranchers Guide to Coexistence Among Livestock, People, and Wolves. 2d. Available at DOI:10.13140/RG.2.2.17802.18883, at 9–10 (*citing* Barnes, M. 2015. Low-stress herding improves herd instinct, facilitates strategic grazing management. *Stockmanship Journal*. 4(1):34–43. Available at https://www.researchgate.net/publication/290434533_Low-stress_Herding_Improves_Herd_Instinct_Facilitates_Strategic_Grazing_Management; and Musiani, M., Muhly, T., Callaghan, C., Gates, C.C., Smith, M., Stone, S., Tosoni, E. 2004. Recovery, conservation, conflicts and legal status of wolves in western North America. Pp. 51–75 in Fascione, N., Delach, A., Smith, M. (eds.). *Predators and People: from conflict to conservation*. Island Press, Washington, D.C.).

⁶⁰ Young, J.K., Sarmento, W. 2024. Can an old dog learn a new trick?: Efficacy of livestock guardian dogs at keeping an apex predator away from people. *Biological Conservation* 292 (2020). Available at <https://fwp.mt.gov/binaries/content/assets/fwp/conservation/bears/young-and-sarmento-2024-lgd-efficacy.pdf>.

⁶¹ van Bommel, L., Magrath, M., Coulson, G., Johnson, C.N. Livestock guardian dogs establish a landscape of fear for wild predators: Implications for the role of guardian dogs in reducing human-wildlife conflict and supporting biodiversity conservation. 2024. *Ecological Solutions and Evidence* 5(1):e12299. Available at <https://besjournals.onlinelibrary.wiley.com/doi/10.1002/2688-8319.12299>.

⁶² Louchouart, N.X., Treves, A. 2023. Low-stress livestock handling protects cattle in a five-predator habitat. *PeerJ*. Available at https://faculty.nelson.wisc.edu/treves/pubs/Louchouart_Treves_2023.pdf.

following year.⁶³ While the exact mechanism responsible for this effect is not entirely understood, the researchers surmised that wolf biology, and in particular compensatory strategies to respond to increased wolf mortality, likely played a role.⁶⁴

Two recent analyses of long-term lethal wolf control found that removals generally had limited or no effect in reducing the recurrence of depredation.⁶⁵ Other studies similarly found little or no scientific support for the proposition that killing carnivores such as wolves, mountain lions, and bears reduces livestock losses, and also suggested that killing wolves to benefit one farm or ranch may increase predation losses elsewhere.⁶⁶

Overall, the experimental evidence for effective ways to protect livestock is stronger for nonlethal methods than for lethal methods. The science on the relative effectiveness of nonlethal and lethal predator control measures at mitigating carnivore-livestock conflicts should inform the Bureau's development of an appropriate management response to reduce and prevent conflicts.

⁶³ Wielgus, R.B., Peebles, K.A. 2014. Effects of wolf mortality on livestock depredations. *PLoS One*. 9(12):e113505. Available at <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0113505>. Two subsequent studies have attempted to critique aspects of the Wielgus & Peebles (2014) study. Wielgus has addressed these concerns in several reviews and media articles.

⁶⁴ *Id.*

⁶⁵ Harper, E.K., Paul, W.J., Mech, L.D., Weisberg, S. 2008. Effectiveness of lethal, directed wolf depredation control in Minnesota. *Journal of Wildlife Management*. 72(3):778–84. Available at <https://digitalcommons.unl.edu/cgi/viewcontent.cgi?article=1096&context=usgsnpwrc>; Muhly, T., Gates, C.C., Callaghan, C., Musiani, M. 2010a. Livestock husbandry practices reduce wolf depredation risk in Alberta, Canada. Pp. 261–86 in Musiani, M., Boitani, L., Paquet, P.C. The world of wolves: new perspectives on ecology, behavior, and management. University of Calgary Press, Calgary, Alberta.

⁶⁶ Treves, A., Bruskotter, J.T. 2014. Tolerance for predatory wildlife. *Science*. 344(6183):476–77. Available at https://www.researchgate.net/publication/262008800_Tolerance_for_Predatory_Wildlife; Treves, A., Krofel, M., McManus, J. 2016. Predator control should not be a shot in the dark. *Frontiers in Ecology and the Environment*. 14(7):380–88. Available at https://faculty.nelson.wisc.edu/treves/pubs/Treves_Krofel_McManus.pdf; van Eeden, L.M., Crowther, M.S., Dickman, C.R., Macdonald, D.W., Ripple, W.J., Ritchie, E.G., Newsome, T.M. 2018. Managing conflict between large carnivores and livestock. *Conservation Biology*. 32(1):26–34. Available at https://trophiccascades.forestry.oregonstate.edu/sites/default/files/Eeden2017_CB.pdf; van Eeden, L.M., Eklund, A., Miller, J.R.B., López-Bao, J.V., Chapron, G., Cejtin, M.R. 2018a. Carnivore conservation needs evidence-based livestock protection. *PLoS Biology*. 16(9):e2005577. Available at <https://doi.org/10.1371/journal.pbio.2005577>; Eklund, A., López-Bao, J.V., Tourani, M., Chapron, G., Frank, J. 2017. Limited evidence on the effectiveness of interventions to reduce livestock predation by large carnivores. *Scientific Reports*. 7(1):2097. Available at <https://www.nature.com/articles/s41598-017-02323-w>; Moreira-Arce, D., Ugarte, C.S., Zorondo-Rodríguez, F., Simonetti, J.A. 2018. Management tools to reduce carnivore-livestock conflicts: Current gap and future challenges. *Rangeland Ecology & Management*. 71(3):389–94. Available at <https://repository.arizona.edu/bitstream/handle/10150/671046/S1550742418300290.pdf?sequence=1&isAllowed=y>; Santiago-Avila, F.J., Cornman, A.M., Treves, A. 2018. Killing wolves to prevent predation on livestock may protect one farm but harm neighbors. *PLoS One*. 13(12):e0209716. Available at <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0189729>; Bradley, E.H., Robinson, H.S., Bangs, E.E., Kunkel, K., Jimenez, M.D., Gude, J.A., Grimm, T. 2015. Effects of wolf removal on livestock depredation recurrence and wolf recovery in Montana, Idaho, and Wyoming. *Journal of Wildlife Management*. 79(8):1337–46. <https://doi.org/10.1002/jwmg.948>.

REQUESTED ACTION:

Petitioners request that the Bureau create a proactive, nationally coordinated, grazing management framework that mitigates conflicts between native carnivores and federally permitted commercial livestock. This management framework would require that permitted livestock grazing on Bureau administered public lands incorporates science-backed nonlethal conflict mitigation measures and livestock husbandry practices.

Proactive modifications to the Bureau's grazing program to reduce carnivore-livestock conflicts should include science-backed measures incorporated at both (1) the programmatic scale, as grazing management directives in resource management plans (RMPs), either during the RMP revision process or through amendments to existing plans; and (2) the allotment-specific scale, during the development and revision of allotment management plans for allotments that may experience carnivore-livestock conflicts. The agency's strategy should include the minimum components described below.

RMP Management Direction: Petitioners request that the Bureau require the following measures to be incorporated into Resource Management Plans during plan development, revision, and/or amendment processes:

- Require the removal and/or disposal of livestock carcasses such that a carcass will not attract carnivores. If carcass removal and/or disposal is not possible due to its location, require other remedies that will eliminate the attractant.
- Where carnivore presence is known or likely, require the use of guard animals or range riders, shepherds, or other forms of human presence, as appropriate for the type of livestock and that are trained and equipped to reduce carnivore-livestock conflict using approved nonlethal techniques.
- Limit grazing to open defensible spaces and prohibit livestock from grazing unattended by human range riders in remote, heavily treed areas.
- Prohibit the turnout of sick or injured livestock and require the removal of sick and injured livestock to reduce the risk of attracting carnivores.
- If an active wolf den or rendezvous site is discovered on an allotment during the grazing season, require that livestock be moved or create a minimum one-mile buffer between grazing and those sites. Offer alternative grazing sites away from known wolf areas when possible.
- Prohibit the placement of mineral blocks or other livestock attractants within a one-mile radius of known wolf dens or rendezvous sites to minimize wolf-livestock interactions.

- Implement appropriate seasonal restrictions based on site-specific consideration to reduce disturbance to wolves and protect livestock, such as reducing temporal overlap between grazing activities and high-risk periods for depredations (when wolves are rearing their offspring) and reduce livestock presence around high-risk areas like wolf dens and rendezvous sites.
- Require that permittees notify the Bureau and state wildlife agencies as soon as practicable of any predation of livestock or conflicts between large carnivores and livestock.
- In the event of depredation, require that livestock are moved to another unit or another allotment. If alternative grazing sites are unavailable, require livestock to be moved off the public lands for the duration of the grazing season.
- All grazing permits shall be made subject to cancellation, suspension, or modification for any violation of the Bureau’s carnivore-livestock conflict mitigation regulations.

Site-Specific Management Direction: Petitioners request that the Bureau requires the following measures be considered during site-specific NEPA and FLPMA § 402(c)(2) reauthorization processes⁶⁷ for renewing grazing permits for allotments where carnivore-livestock conflicts have occurred, or are likely to arise in the future, and that each corresponding AMP contain mandatory measures reflecting best management practices for the specific allotment:

- Adjust seasons of use to best avoid conflicts while also protecting sensitive resources. For instance, consider delaying livestock turnout until native ungulates are birthing their offspring and can provide an abundant and easy prey source for carnivores.
- Prohibit the turnout of young lambs, and calves under 200 pounds in weight, to minimize depredation potential.

⁶⁷ Problematically, over time the Bureau has engaged less and less in site-specific NEPA analysis for grazing permit or lease renewal, as revealed in a federal records review by Western Watersheds Project showing that in 2021, 54% of 10-year permits were renewed without NEPA analysis—up from 28% in 2013. *See* Streater, S. Many BLM grazing permits renewed without NEPA review, group says. E&E News. (Mar. 23, 2022), <https://www.eenews.net/articles/many-blm-grazing-permits-renewed-without-nepa-review-group-says/> (discussing a “congressionally authorized loophole” written into FLPMA in 2014 allowing the Bureau to “re-authorize 10-year grazing permits without making any changes in the permit conditions, pending completion of NEPA analysis”); *see also* Cain, M., Osher, J. (2022). Western Watersheds Project. Renew or Review: How the FLPMA 402(c)(2) Loophole has limited public engagement and enabled environmental degradation on western public lands. Available at <https://storymaps.arcgis.com/stories/45ea3ebe6ef54bd0840bb41e63a79174>; and P.L. 113-291 § 3023 (amending section 402 of FLPMA to allow continuation of a grazing permit or lease that has expired or was terminated until the Secretary concerned completes a NEPA analysis, while also allowing the categorical exclusion of grazing permit or lease issuance from the requirement to prepare a NEPA assessment if the issued permit or lease continues the current grazing management of the allotment—*i.e.*, the FLPMA 402(c)(2) loophole.

- Prohibit allotment management activities by humans near active wolf den sites during the denning period to avoid human disturbance of the site.
- At the end of each grazing season, agency range staff will document compliance with all applicable carnivore-livestock management directives.

Because livestock grazing results in significant degradation of public lands and wildlife, which includes but is not limited to impacts to native carnivores as discussed above, Petitioners urge the Bureau to engage more frequently and more thoroughly in site-specific NEPA analyses for grazing allotments to manage for healthy lands and wildlife.

The Bureau's strategy should include procedures to ensure that the best available science around carnivore-livestock conflict mitigation is incorporated into its conflict reduction framework. The Bureau should likewise require timely and thorough monitoring and documentation of carnivore-livestock conflicts across Bureau lands and use this data to measure conflict resolution success and to target subsequent management and mitigation efforts.

CONCLUSION

In sum, the Bureau has both the legal authority and the responsibility to create a proactive, science-based national grazing management framework that fosters coexistence between livestock and carnivores. As native carnivores expand into their historic ranges, they need public lands more than ever, including the 63% of Bureau lands in the lower-48 states that are currently available for private, commercial livestock grazing without carnivore coexistence regulations. Without Bureau leadership to reduce and prevent livestock conflicts—and the predictable and largely inevitable result of killing native carnivores—the preventable death will continue. We strongly urge the Bureau to use its legal authority to adopt a national grazing management framework that ensures meaningful coexistence between livestock and native carnivores.

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