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WILDLIFE-FRIENDLY FENCE POLICY ON FEDERAL PUBLIC LANDS  
MANAGED BY THE U.S. FOREST SERVICE AND BUREAU OF LAND  
MANAGEMENT

By

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Abstract

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Many wildlife species are negatively impacted by the presence of fences on the landscape. Climate change is only exacerbating the problem as home ranges shift and species face heightened levels of stress. In recent decades, wildlife biologists have studied these impacts and devised ways of constructing fences to increase habitat connectivity and significantly reduce fence-related injury and mortality rates. Conservationists attempting to address this issue on a landscape level face significant challenges resulting from complex land ownership patterns, specifically across the western United States.

The two largest landowners in the U.S. are the Bureau of Land Management (BLM) and the U.S. Forest Service (USFS). These federal agencies, which manage their jurisdictional lands on behalf of the American public, construct fences and issue permits and leases to construct fences on much of their lands for a variety of reasons. This professional paper addresses a piece of the wildlife-fence conflict by summarizing and analyzing the policies that guide fence practices on USFS and BLM lands. Specifically, this paper (1) summarizes and describes the statutes, regulations, and directives that are most relevant and potentially useful to making wildlife-friendly decisions about fencing on federal public lands administered by the USFS and BLM, (2) summarizes the fence-related guidance provided in USFS and BLM regulations and directives related to forest/field office planning, allotment management planning, and grazing permit decision making, (3) explains how these policies can be drawn upon by the USFS and BLM to consider, justify, and compel the use of wildlife-friendly fencing, and (4) provides recommendations to wildlife advocates for policy-level changes that can be made to better encourage and compel the consideration and use of wildlife-friendly fences on federal lands managed by these agencies.

The ultimate purpose of this paper is to arm wildlife advocates with the information necessary to successfully advocate for improved fence policy and practice on USFS and BLM lands. By setting a strong example, these agencies could positively impact the fence policies and practices of other agencies and landowners, contributing to a positive, landscape-scale impact for wildlife.

## Acknowledgements

I would like to begin by thanking the National Wildlife Federation (NWF) for initiating my interest and research into fencing policy on BLM lands during a summer internship in 2020. Sarah Bates and others at NWF remained involved during my research and writing process to help ensure that the end product would serve as a useful guide for wildlife advocates, and for this I am very grateful. I also want to express my sincerest thanks to my committee chair, Dr. Martin Nie, whose encouragement, insight, and guidance was vital from project conceptualization through the final editing process. It truly was an honor and a privilege to work with and learn from him. Thank you to my committee members, professor Michelle Bryan and Dr. Brian Chaffin, for helping to improve the completeness and accuracy of my final paper and encouraging me to take the extra steps needed to get my research out into the world. Finally, none of this would have ever happened without the support of my wife, who put up no resistance and even encouraged me to leave my engineering career to follow my passions.

## Definition of Terms

Connectivity: “Ecological conditions that exist at several spatial and temporal scales that provide landscape linkages that permit the exchange of flow, sediments, and nutrients; the daily and seasonal movements of animals within home ranges; the dispersal and genetic interchange between populations; and the long distance range shifts of species, such as in response to climate change.”<sup>1</sup>

Fence: Fences, in a very broad sense, may include everything from a border wall to a hedgerow. For the purposes of this paper, I narrow this definition and define a fence as “a physical linear feature with vertical load-bearing components (e.g., poles) and noncontinuous structures (e.g., boards, wires, rails, nettings) spanning these vertical components.”<sup>2</sup>

Directive: A directive is an official or authoritative instruction. As used in this paper, directives typically take the form of executive orders, agency handbooks, and agency manuals. Directives provide internal guidance and direction for land managers without having the force of law.

Ecological Integrity: “The quality or condition of an ecosystem when its dominant ecological characteristics (for example, composition, structure, function, connectivity, and species composition and diversity) occur within the natural range of variation and can withstand and recover from most perturbations imposed by natural environmental dynamics or human influence.”<sup>3</sup>

Grazing Permits and Grazing Leases: Both of these terms refer to documents that authorize private livestock use on public lands. The BLM issues grazing *permits* within grazing districts pursuant to Section 3 of the Taylor Grazing Act of 1934 (TGA). Outside of grazing districts, the BLM issues grazing *leases* pursuant to Section 15 of the TGA. The USFS issues grazing *permits* pursuant to 36 C.F.R. § 222.3. In this paper, I use *permit/lease* when these distinctions are inconsequential.

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<sup>1</sup> 36 C.F.R. § 219.19.

<sup>2</sup>McInturff et al., *infra* note 7, at 972.

<sup>3</sup> 36 C.F.R. § 219.19.

Policy: In a very broad sense, a policy is “a set of ideas or a plan of what to do in particular situations that has been agreed to officially by a group of people, a business organization, a government, or a political party.”<sup>4</sup> As such, policy can be understood to be more inclusive and incorporate elements of statutes, regulations, and directives. Federal public land agencies sometimes use the term to reference agency-specific guidance that is non-statutory and non-regulatory.

Regulation: Federal regulations are written by departments or agencies and relate to actions under that authority’s control. The primary purpose of a regulation is to interpret statutes enacted by Congress and fill in the blanks that Congress did not address. Regulations are codified in the Code of Federal Regulations (C.F.R.) and have the force of law.

Statute: A statute is a written law passed by a legislative body. Federal statutes relevant to federal agencies, as in this paper, are written and passed by the U.S. Congress. Federal statutes are codified in the United States Code (U.S.C.). Throughout this paper, I use *law* and *statute* synonymously.

Wildlife-friendly fence: A wildlife-friendly fence is a fence that is designed to minimize negative impacts to terrestrial and avian wildlife while serving its primary purpose (e.g., livestock containment).

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<sup>4</sup> Cambridge Dictionary <https://dictionary.cambridge.org/us/dictionary/english/policy>

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## I. Introduction

Since the industrial revolution, human civilization has had a dramatic impact on wildlife and wildlife habitat in the United States. As railroads and highways carved up the land, forests were cleared to make way for agriculture and the burgeoning population of European settlers. Some species adapted well to this modified environment and human behavior (e.g., whitetail deer), others were severely compromised (e.g., bison), and many are now extinct (e.g., passenger pigeon). Now, climate change and associated mega fires are adding another layer of anthropogenic impact to which species must adapt.

Following the patenting of barbed wire in 1873, fences quickly became ubiquitous and native fauna were required to contend with yet another structural modification to the landscape. Ungulate species developed ways to negotiate the vast network of fences that we are still trying to understand today. Some species are prone to avoiding fences while others have developed preferences for jumping over or crawling under fences. Regardless of the strategy, ungulates are negatively impacted by fences in a variety of ways that include habitat fragmentation, entanglement, and separation of the young from the mature. Low-flying avian species can also be adversely impacted by fences, typically as a result of mid-flight collisions.

Morally and ethically, it is incumbent upon humankind to mitigate our impacts on other species, particularly when doing so bears little cost. In the case of fences, we have the knowledge and tools necessary to do exactly this thanks to several wildlife biology studies in recent decades. Often, the solution is simple and inexpensive. For example, ungulate entanglement hazard can be reduced by ensuring the spacing between the top two wires is at least 12 inches, and avian collisions can be reduced by increasing the visibility of the top wire.

Most people are likely to agree that minimizing accidental wildlife mortality resulting from the presence of fences is morally and ethically the “right” thing to do. But what about legally? Now that we know how to build fences in a more wildlife-friendly manner, are we required to do so? What do we do about existing fences that fail to meet wildlife-friendly standards? This paper attempts to answer these questions as they concern fencing on federal lands managed by the two largest landowners in the country:

the U.S. Forest Service (USFS) and the Bureau of Land Management (BLM). By doing so, I hope to arm wildlife advocates with the information necessary to effectively advocate for improved fence policy and practice within both agencies.

\* \* \* \* \*

In a study of pronghorn, mule deer, and elk, researchers found that wire fences caused 0.25 deaths per kilometer per year.<sup>5</sup> This number is likely conservative because the researchers defined “death” as an animal found physically caught in the fence, which did not account for ungulates injured in fence encounters that lead to death elsewhere.<sup>6</sup> With over a million kilometers of fence estimated in the western United States,<sup>7</sup> western states could be losing upwards of 250,000 ungulates per year due to direct, fence-related mortality. This same study points out that “the characteristics of wire fences that are detrimental to ungulate passage must be identified if management techniques are to be developed to mitigate these conflicts.”<sup>8</sup> Taking this one step further and applying the same logic to federally managed lands, agency policies should be in place to ensure management practices that mitigate wildlife-fence conflicts are employed to the maximum extent practicable.

Migrating ungulate populations are exposed to particularly high threat levels from fences. One study in Wyoming showed that a migrating population of mule deer crossed 171 fences during the course of their round-trip seasonal migration.<sup>9</sup> Others observed that “[m]igratory animals are especially vulnerable to a variety of threats because they come into contact with multiple ecosystems and jurisdictions.”<sup>10</sup> While managing fencing

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<sup>5</sup> Justin L. Harrington and Michael R. Conover. "Characteristics of ungulate behavior and mortality associated with wire fences," *Wildlife Society Bulletin* 34, no. 5 (2006): 1295-1305. This study was conducted in portions of Colorado and Utah where ungulate concentrations are generally high, suggesting that mortality rates would likely be lower where ungulate concentrations are lower.

<sup>6</sup> *Id.* Also, see Andrew F. Jakes, Paul F. Jones, L. Christine Paige, Renee G. Seidler, and Marcel P. Huijser. "A fence runs through it: A call for greater attention to the influence of fences on wildlife and ecosystems." *Biological Conservation* 227 (2018) at 313 for a discussion of direct and indirect impacts of fencing on wildlife.

<sup>7</sup> Alex McInturff, Wenjing Xu, Christine E. Wilkinson, Nandintsetseg Dejid, and Justin S. Brashares. "Fence ecology: Frameworks for understanding the ecological effects of fences." *BioScience* 70, no. 11 (2020): 971-985, at 974. This estimate does not include urban and suburban fencing.

<sup>8</sup> Harrington and Conover, *supra* note 5, at 1295.

<sup>9</sup> Hall Sawyer, Arthur D. Middleton, Matthew M. Hayes, Matthew J. Kauffman, and Kevin L. Monteith. "The extra mile: Ungulate migration distance alters the use of seasonal range and exposure to anthropogenic risk." *Ecosphere* 7, no. 10 (2016): e01534, at 8.

<sup>10</sup> Hyman et al., *infra* note 48, at 407.

across all jurisdictions is a daunting task,<sup>11</sup> doing the same on federally managed lands is a much more tractable problem – a piece of the migration and connectivity puzzle that can be mitigated while the problem continues to be addressed at the landscape scale. When migrating animals cross BLM and USFS lands, the hazards posed by fences should be minimized. These public lands should be as close to a fence safe-haven for migrating ungulates as possible.

Our rapidly changing climate exacerbates this problem. Researchers have long predicted that enhancing connectivity may be the best way to manage for biodiversity in the face of climate change.<sup>12</sup> Considering that ungulate migration routes “... are not fixed. They shift and even disappear over fairly short time spans in response to environmental changes,”<sup>13</sup> conservation efforts that simply target known migration routes are insufficient. Anthropogenic climate change is already altering migration habits and causing climate-driven range shifts.<sup>14</sup> The relevance of fence hazards posed to wildlife will likely only increase as species attempt to geographically adapt to the changing climate and ecosystems. Barriers, like fences, may physically inhibit the ability of some species to adapt to these changes. Conversely and from a management perspective, “successful efforts to maintain animal migrations may create templates for improving ecological resilience as climate change accelerates.”<sup>15</sup>

Of course, fence hazards are not limited to migrating ungulates. Resident ungulate populations must still contend with fences,<sup>16</sup> and other wildlife species are impacted as well. One high-profile example is the greater sage-grouse (GSG, or sage-grouse). These birds, which narrowly avoided listing under the Endangered Species Act, tend to fly low

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<sup>11</sup> Many organizations are tackling the issue of landscape-scale migration protection. Organizations focusing on this issue include the Center for Large Landscape Conservation and the Network for Landscape Conservation. Many larger organizations with a broader focus (e.g., Sierra Club, Defenders of Wildlife) and smaller, local organizations are also working on these issues.

<sup>12</sup> Nicole E. Heller and Erika S. Zavaleta. "Biodiversity management in the face of climate change: a review of 22 years of recommendations." *Biological Conservation* 142, no. 1 (2009): 14-32.

<sup>13</sup> Robert L. Fischman. "Migration conservation: a view from above." *Environmental Law* (2011): 277-287 at 279.

<sup>14</sup> John Kostyack, Joshua J. Lawler, Dale D. Goble, Julian D. Olden, and J. Michael Scott. "Beyond reserves and corridors: Policy solutions to facilitate the movement of plants and animals in a changing climate." *BioScience* 61, no. 9 (2011): 713-719, 713-714 (discussing how climate change is affecting species' ranges).

<sup>15</sup> Fischman, *supra* note 13, at 278.

<sup>16</sup> Hanophy, *infra* note 36, at 2, mentioning the effects of fencing on daily movements of wildlife.

to the ground, often during the low-light conditions of dawn and dusk.<sup>17</sup> Fences, which pose strike hazards as well as increased predator hazards, “are a major source of mortality for grouse species in...North America and may be a factor driving population declines.”<sup>18</sup>

Lurking in the background behind present-day policies is the cultural, administrative, and legal history surrounding public land grazing, a practice that necessitates fencing and is responsible for most public land fences that have the potential to negatively impact wildlife. This once ubiquitous practice is still quite prevalent. Putting some numbers to the scale of public land grazing, 154.1 million acres of BLM land and over 93 million acres of Forest Service land were available for grazing in 2017.<sup>19</sup> This equates to about two-thirds of all BLM-managed land and half of all USFS-managed land. Over 24,000 grazing permits were active in 2017 for the grazing of roughly 90 percent of BLM land and 80 percent of USFS land available for grazing. The combined area of publicly grazed land for these two agencies is roughly equivalent to the combined size of Montana, Wyoming, and Colorado.

Fortunately, fences can be designed and constructed in ways that significantly mitigate the hazards posed to wildlife while effectively serving their intended purposes (e.g., livestock containment). Studies continue to demonstrate new ways to construct and modify fences that significantly reduce the hazards posed to wildlife. For example, the top wire of multi-strand fences in sage-grouse habitat can be marked in a variety of ways to increase visibility, resulting in decreased collision rates. In pronghorn habitat, a bottom wire that is smooth (as opposed to barbed) and at least 16 inches above the ground significantly increases the permeability of wire fences for these animals. Also, ungulate entanglement risk can be reduced by ensuring the spacing between the top two wires is at least 12 inches and that fences are regularly maintained.

### Purpose and Goals of Study

The purpose of this study is to understand and explain USFS and BLM policies that relate to fencing and how these policies impact agency decisions regarding the use of

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<sup>17</sup> Sage-grouse behavior that makes them vulnerable to fence collisions is discussed by Sage-grouse Initiative, *infra* note 42, at 1.

<sup>18</sup> Jakes et al., *supra* note 6, at 316.

<sup>19</sup> Carol Hardy Vincent. "Grazing fees: overview and issues." *Congressional Research Service RS21232*, Washington DC (2019).

wildlife-friendly fencing. Specifically, this research aims to answer the following questions:

- 1) What laws, regulations, and directives (including agency manuals and handbooks and executive orders) are most relevant and potentially useful for making wildlife-friendly decisions about fencing on federal public lands administered by the USFS and BLM?
- 2) What fence-related guidance is provided in USFS and BLM regulations and directives related to forest/field office planning, allotment management plans, and grazing permit/lease decision making?
- 3) Can existing laws, regulations, and directives be drawn upon to consider, justify, and/or compel the use of wildlife-friendly fencing by the USFS and BLM?
- 4) Within the current statutory framework governing USFS and BLM management, what policy-level changes can be made to better encourage and compel the use of wildlife-friendly fencing on federal lands managed by the USFS and BLM?

By answering these questions, the goal is to provide individuals and organizations interested in wildlife advocacy with the background and tools necessary to more effectively advocate for wildlife-friendly fencing on USFS and BLM lands. Jakes et al. observed the following: “Although promoted by agencies and conservation organizations, the implementation of wildlife-friendlier fence designs across landscapes is patchy and by no means universal.”<sup>20</sup> The essence of this study is to take a deeper dive into understanding the legal structure and policies that have led to this “patchy” situation on USFS and BLM lands, and provide wildlife advocates with recommendations for what they can do to help make wildlife-friendly fencing universal across these federal lands.

### Methods

I began my research by searching for and reading academic literature relevant to wildlife-friendly fencing, specifically seeking papers that relate to federal fence policies on public lands. I searched for combinations of the words “policy,” “fence,” “fencing,” “wildlife,” “wildlife-friendly,” “BLM,” and “Forest Service” in the following databases: University of Montana Mansfield Library OneSearch, Google Scholar, JSTOR, Web of

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<sup>20</sup> Jakes et al., *supra* note 6, at 314.

Science, LexisNexis (Nexis Uni), Social Science Research Network (SSRN), and HeinOnline. I also searched for these same terms within specific journals thought to have a higher likelihood of containing research on wildlife-friendly fencing, including *Rangeland Ecology and Management*, *Conservation Biology*, the *Journal of Wildlife Management*, and the *Wildlife Society Bulletin*. The results of this part of my research are summarized in Section II.

Following the literature review, I completed a thorough review of the relevant statutes, regulations, directives, and other policies for both the BLM and USFS. Specific statutes include the Federal Land Policy and Management Act of 1976 (FLPMA) for the BLM and the Forest Service Organic Administration Act of 1897 (Organic Act), the Multiple-Use Sustained-Yield Act of 1960 (MUSYA), and the National Forest Management Act of 1976 (NFMA) for the USFS. I also reviewed relevant portions of the Taylor Grazing Act of 1934 (TGA), the National Environmental Policy Act of 1969 (NEPA), the Endangered Species Act of 1973 (ESA), and the Public Rangelands Improvement Act of 1978 (PRIA) as they pertain to federal public lands management and planning.

The primary regulations I reviewed were the 2012 Planning Rule<sup>21</sup> (USFS), Range Management (USFS),<sup>22</sup> and FLPMA's 1983 regulations (BLM).<sup>23</sup> I used the Cornell Law School's Legal Information Institute website<sup>24</sup> to access current versions of all codified laws and regulations. I searched the respective agencies' websites for relevant directives (manuals, handbooks, and other policy)<sup>25</sup> as well as using the Google search engine more generally.

While my focus is on synthesizing how the statutes, regulations, and directives guide agency decisions regarding fence construction, I have also reviewed publicly available planning and implementation documents produced by the respective agencies to better understand how fence-related policy is effectuated on the ground. These documents

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<sup>21</sup> National Forest Service Land Management Planning found at 36 C.F.R. Part 219.

<sup>22</sup> National Forest Service Range Management found at 36 C.F.R. Part 222.

<sup>23</sup> BLM regulations found at 43 C.F.R. Parts 1000-5000.

<sup>24</sup> <https://www.law.cornell.edu/>

<sup>25</sup> BLM: <https://www.blm.gov/about/laws-and-regulations>; USFS: <https://www.fs.fed.us/im/directives/>

include Land and Resource Management Plans (LRMPs)<sup>26</sup> (USFS), Resource Management Plans (RMPs)<sup>27</sup> (BLM), Allotment Management Plans (AMPs)<sup>28</sup> (USFS and BLM), grazing permits and leases<sup>29</sup> (USFS and BLM), and environmental assessments (EAs) and environmental impact statements (EISs) associated with the above documents. As part of this process, I also spoke informally over the phone with land managers working within both agencies.

### Scope and Limitations

This paper provides an in-depth summary and analysis of laws, regulations, and directives that guide fence construction decisions on lands under the jurisdiction of the USFS and the BLM, with the purpose of evaluating how agency policies authorize, encourage, and/or compel agencies to make decisions pertinent to fencing in a wildlife-friendly manner. Lands, federal or otherwise, outside the jurisdiction of these two agencies are beyond the scope of this paper. However, it is worth noting that the Property Clause of the U.S. Constitution<sup>30</sup> and the Unlawful Inclosures of Public Lands Act,<sup>31</sup> as interpreted in *U.S. ex Rel. Bergen v. Lawrence*,<sup>32</sup> can make federal land fence policies applicable on non-federal lands in certain situations where fencing restricts wildlife movement to and from public lands.<sup>33</sup> This extraterritorial reach effectively brings non-

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<sup>26</sup> National forest LRMPs were obtained from the respective forest's websites.

<sup>27</sup> BLM RMPs were obtained from the BLM's planning website at <https://eplanning.blm.gov/eplanning-ui/home>

<sup>28</sup> AMPs are generally not publicly available without a FOIA request. However, many EAs associated with AMPs are available on the BLM's National NEPA Register at: <https://eplanning.blm.gov/eplanning-ui/home>

<sup>29</sup> Grazing permits are generally not be publicly available without a FOIA request. According to the BLM's Rangeland Management Specialist in the Missoula Field Office, leases and permits tend to delineate authority for fence construction and maintenance, whereas the AMP provides more about the type of fence to be constructed (phone conversations with Steve Bell on Feb. 22 and August 26, 2021).

<sup>30</sup> U.S. Const. art. IV, § 3. *See also* *Kleppe v. New Mexico*, 426 U.S. 529 (1976) for the landmark case interpreting the extraterritorial reach of the property clause where wildlife is concerned.

<sup>31</sup> 43 U.S.C. § 1061 to 1066. The Unlawful Inclosures Act, relying heavily on the Property Clause of the U.S. Constitution, renders it unlawful for private landowners to construct fences on their property when those fences frustrate access to public lands.

<sup>32</sup> *U.S. ex Rel. Bergen v. Lawrence*, 848 F.2d 1502 (10th Cir. 1988), where the court determined that a Wyoming rancher was required to modify or remove a 28-mile fence, constructed primarily on private property, because it prevented a herd of pronghorn from accessing its winter range, thus violating the Unlawful Inclosures Act by frustrating pronghorn access to and from public lands.

<sup>33</sup> *See* Gregory A. Miles, "U.S. ex rel. Bergen v. Lawrence: A Victory for Wildlife?" *Journal of Energy Law and Policy* 10, no. 2 (1990): 203-216 for an analysis of this decision.

federal lands under federal agency jurisdiction for very specific purposes in specific situations.

Statutes, regulations, and directives are put into action through agency planning and permitting processes. Planning is typically done at the forest (USFS) or field office (BLM) levels and must be done in accordance with the NEPA. Permits and leases are issued at smaller scales, making an exhaustive review of such documents impractical for this study. Focusing on the American West, I review a limited number of examples of these planning/decision documents to illustrate how relevant policies manifest at the planning and decision-making levels and how decisions are ultimately tied to the pertinent statutes, regulations, and directives. A systematic review of planning and decision documents is beyond the purview of this paper.

While the USFS makes all agency directives publicly available on their website, the BLM only provides public access to some directives. The review of directives in this paper is limited to publicly available ones, either published on the respective agencies' websites or otherwise readily available without a FOIA request.

This paper is not intended to be a critique of public land grazing practices. However, no discussion of fences on USFS and BLM lands would be complete without acknowledging that the primary purpose of the vast majority of public land fencing is the containment of private livestock. Consequently, wildlife-fence conflict on USFS and BLM lands is fundamentally a conflict between the uses of grazing and wildlife, both of which are express and legitimate land uses according to the statutes governing both agencies. I discuss grazing permits and leases as they relate to fence standards and the implementation of fence policy, but intentionally avoid further discussion or critique of the practice as it is outside the scope of this paper.

Fences on public lands are often used in service of rotational grazing practices. Rotational grazing of livestock can have significant direct effects on vegetation composition and resulting indirect effects on wildlife.<sup>34</sup> Discussions in this paper are limited to the more direct effects of fences on wildlife and do not include the indirect effects that fences have on wildlife through vegetation alteration.

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<sup>34</sup> Martin Vavra, "Livestock grazing and wildlife: Developing compatibilities." *Rangeland Ecology & Management* 58, no. 2 (2005): 128-134.

Temporally, this paper focuses on the state of fence-related policy at the time the research was conducted (2021). I make no attempt to summarize or discuss past statutes, regulations, or directives that are no longer relevant.

## II. Summary of Academic Research

Relevant academic research comes mostly from the field of wildlife biology. Knowledge of how different types of fences impact wildlife is necessary and invaluable in creating sound policy related to the same, so I have included this in my review and summary. Significantly less research has focused on federal agency policies that relate to fencing on public lands. Most policy-related research is focused on landscape-scale conservation and protection of ungulate migration routes. As most fences are located on private property, the fence related aspects of these policy-centric studies tend to focus on policies that impact private, non-federal lands. Consequently, BLM and USFS fencing policies have been effectively ignored by researchers. Wildlife biology and policy research most relevant to wildlife-friendly fencing is summarized below.

### Fence-Related Wildlife Biology Research

The basics of how to mitigate the hazards posed to wildlife by fences have been reasonably well understood for decades. For example, fence design advice in the BLM's 1989 fencing directive<sup>35</sup> aligns fairly well with more recent recommendations for wildlife-friendly fencing<sup>36</sup> in terms of hazard mitigation for ungulates, although researchers continue to generate empirical data that support and refine these earlier recommendations.<sup>37</sup>

Jakes et al. point out that “[l]arge gaps exist in the empirical science on wildlife-fence interactions and we need more information to support wildlife conservation and resource management. We lack knowledge on the broad-scale and cumulative effects of fence infrastructure on a multitude of species, population demographics, and ecosystem

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<sup>35</sup> United States Department of the Interior. Fencing Manual Handbook H-1741-1. Bureau of Land Management, Washington, DC (1989).

<sup>36</sup> E.g., Christine Paige, *A Landowner's Guide to Wildlife Friendly Fences*, Second Edition. (Helena, MT: Private Land Technical Assistance Program, Montana Fish, Wildlife & Parks, 2012) and Wendy Hanophy, *Fencing with Wildlife in Mind* (Denver, CO: Colorado Division of Wildlife, 2009).

<sup>37</sup> E.g., Paul F. Jones, Andrew F. Jakes, Daniel R. Eacker, Blair C. Seward, Mark Hebblewhite, and Brian H. Martin. "Evaluating responses by pronghorn to fence modifications across the Northern Great Plains." *Wildlife Society Bulletin* 42, no. 2 (2018): 225-236; Paul F. Jones, Andrew F. Jakes, Amanda M. MacDonald, Jason A. Hanlon, Daniel R. Eacker, Brian H. Martin, and Mark Hebblewhite. "Evaluating responses by sympatric ungulates to fence modifications across the northern Great Plains." *Wildlife Society Bulletin* 44, no. 1 (2020): 130-141; and Josiane Segar and Aidan Keane. "Species and demographic responses to wildlife-friendly fencing on ungulate crossing success and behavior." *Conservation Science and Practice* 2, no. 10 (2020): e285.

processes.”<sup>38</sup> In terms of federal policies, this illuminates the need for agencies to have decision-making structures in place that incorporate the best available scientific information (BASI). Ideally, as new information and knowledge is generated regarding the impacts of fencing on wildlife, it will be reflected in agency decisions.

Until recently, research on terrestrial wildlife-fence interactions tended to focus on fences as a barrier (complete blockage) of ungulate movement and direct fence-related mortality. More recent studies are now helping to increase our understanding of the indirect effects of fencing on wildlife<sup>39</sup> and various behavioral responses to fences other than an outright blockage of movement.<sup>40</sup> While it is not the purpose of this paper to provide a comprehensive review of wildlife-fence interaction studies, these referenced examples illustrate that the BASI relevant to BLM and USFS decision makers is continuing to expand.

Specific to sage-grouse and other low-flying avian wildlife more generally, researchers have demonstrated the effectiveness of increasing the visibility of wire fences at reducing fence-strike mortality.<sup>41</sup> Various marking methods have been used to increase wire visibility. The most common method of marking, primarily due to its low cost and relative ease of installation, involves clipping vinyl tabs onto the upper wire at regular intervals.<sup>42</sup> While the required materials are inexpensive, the labor required for manual installation can be significant for long stretches of fence. Studies also show that the majority of sage-grouse collisions occur near leks, and researchers have developed tools

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<sup>38</sup> Jakes et al., *supra* note 6, at 311.

<sup>39</sup> *E.g.*, Paul F. Jones "Scarred for life: the other side of the fence debate." *Human-Wildlife Interactions* 8, no. 1 (2014): 150-154, at 150 discussing pronghorn indirect mortality as a result of hair loss from repeated fence crossings, and John W. Connelly, Michael A. Schroeder, Alan R. Sands, and Clait E. Braun. "Guidelines to manage sage-grouse populations and their habitats." *Wildlife Society Bulletin* (2000): 967-985, at 974 mentioning sage-grouse mortality resulting from fence posts serving as raptor perches.

<sup>40</sup> *E.g.*, Xu, Wenjing, Nandintsetseg Dejid, Valentine Herrmann, Hall Sawyer, and Arthur D. Middleton. "Barrier Behaviour Analysis (BaBA) reveals extensive effects of fencing on wide-ranging ungulates." *Journal of Applied Ecology*, no. 00 (2020):1-9., where researchers studied mule deer and pronghorn, categorizing their responses to fence encounters as quick cross, average movement, bounce, back-and-forth, trace, and trapped.

<sup>41</sup> Bryan S. Stevens, Kerry P. Reese, John W. Connelly, and David D. Musil. "Greater sage-grouse and fences: Does marking reduce collisions?" *Wildlife Society Bulletin* 36, no. 2 (2012): 297-303, which shows an 83 percent reduction in sage-grouse collision rates as a result of fence marking. *See also*, Nicholas J. Van Lanen, Adam W. Green, Taylor R. Gorman, Laura A. Quattrini, and David C. Pavlacky Jr. "Evaluating efficacy of fence markers in reducing greater sage-grouse collisions with fencing." *Biological Conservation* 213 (2017): 70-83, which shows a 57 percent reduction in collision rates.

<sup>42</sup> Sage-grouse Initiative, "Marking high-risk fences saves sage-grouse," *Science to Solutions Series* no. 1. (2014): 1-4. <http://www.sagegrouseinitiative.com/>

for use by land managers to identify priority areas for fence marking.<sup>43</sup> Demonstrating the scale of this problem, researchers in Oklahoma and New Mexico found fence strikes to be the leading cause of lesser prairie-chicken mortality, accounting for 40 percent of the deaths of radio-collared birds.<sup>44</sup>

In addition to direct fence strikes, fences have been shown to increase sage-grouse mortality in other ways. When wood posts are used, the posts can serve as raptor perches and effectively improve the ability of raptors to prey on sage-grouse. Fences also tend to be accompanied by access roads for fence construction and maintenance. These same roads often serve as corridors for terrestrial predators. When these corridors pass through or near sage-grouse lek sites, predation on sage-grouse increases.<sup>45</sup>

### Fence-Related Policy Research

Research pertaining specifically to fencing policy on federal public lands is lacking. Federal statutes protective of wildlife (namely the ESA) are activated when a species' ability to persist is in danger. Statutorily, wildlife whose existence is not imperiled receive little federal protection without a specific statute aimed at a more narrowly defined taxa.<sup>46</sup> Conservation organizations have pointed out that, while the ESA is effective at protecting species once they have reached "emergency room" status, it does little to prevent species from reaching such a critical state.<sup>47</sup> Hyman et al. call for a more comprehensive conservation law that would authorize federal agencies to protect migrations as phenomena of abundance.<sup>48</sup> Such an act could go a long way toward conserving migratory species before ESA listing is warranted, potentially adding legal levers for compelling agencies to address barriers to migration, such as fences.

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<sup>43</sup> Bryan S. Stevens, David E. Naugle, Brian Dennis, John W. Connelly, Tim Griffiths, and Kerry P. Reese. "Mapping sage-grouse fence-collision risk: Spatially explicit models for targeting conservation implementation." *Wildlife Society Bulletin* 37, no. 2 (2013): 409-415.

<sup>44</sup> Donald H. Wolfe, Michael A. Patten, Eyal Shochat, Christin L. Pruett, and Steve K. Sherrod. "Causes and patterns of mortality in lesser prairie-chickens and implications for management." *Wildlife Biology* 13, no. sp1 (2007): 95-104.

<sup>45</sup> U.S Fish and Wildlife Service, "Modifications of fencelines and their effect on the greater sage-grouse," [https://www.fws.gov/refuge/Red\\_Rock\\_Lakes/what\\_we\\_do/science/greater\\_sage\\_grouse.aspx](https://www.fws.gov/refuge/Red_Rock_Lakes/what_we_do/science/greater_sage_grouse.aspx)

<sup>46</sup> E.g., Migratory Bird Treaty Act of 1918, Marine Mammal Protection Act of 1972, and Wild and Free-Roaming Horses and Burros Act of 1971.

<sup>47</sup> E.g., Steve Holmer, et al. "Endangered Species Act: A record of success." *American Bird Conservancy* (2016): 1-33, at 29.

<sup>48</sup> Jeffrey B. Hyman; Andrea Need; W. William Weeks, "Statutory Reform to Protect Migrations as Phenomena of Abundance," *Environmental Law* 41, no. 2 (Spring 2011): 407-446.

One challenge in creating effective conservation policy arises from ecosystem complexity and the fact that decision makers are working with incomplete information. Fischman illustrates this with respect to migration conservation: "... the basis for conservation policy should be solid scientific research. But, despite recent advances in technology, the migratory pathways and winter ranges of many species remain unknown. This raises the stakes for designing standards and programs that can be effective even without precise information."<sup>49</sup>

In an in-depth study of fence ecology, researchers observed that "fences have ...been a blind spot in environmental policy"<sup>50</sup> and recommend that policy action focus on two areas: (1) design and placement of fences and (2) fence construction and removal. Recent wildlife-friendly fence initiatives have shown that regulating the physical attributes of fences at the design stage has "meaningfully reduced the ecological impacts of fences for large and migratory wildlife species without sacrificing the utility of fences for human communities."<sup>51</sup> It is this proven success that this paper aims to leverage on USFS and BLM lands. The authors also point to the potential promise of programs that incentivize and fund fence removal and conversion programs.

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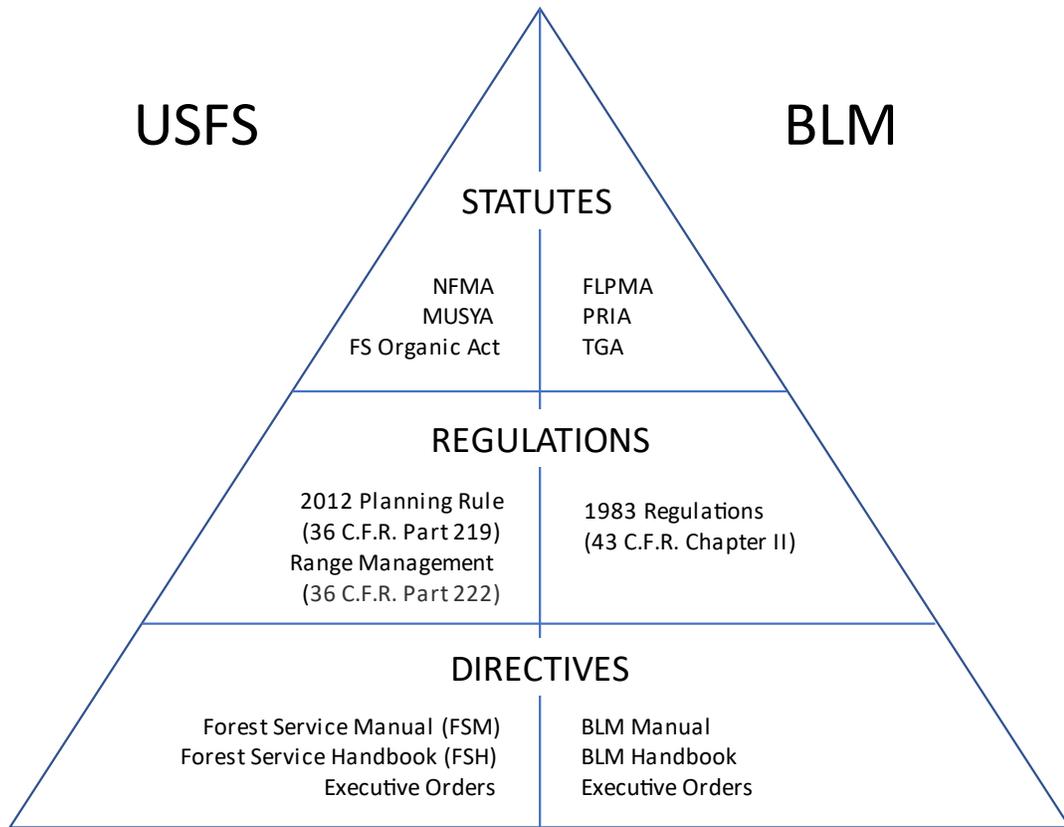
<sup>49</sup> Fischman, *supra* note 13, at 279.

<sup>50</sup> McInturff et al., *supra* note 7, at 981.

<sup>51</sup> *Id.* at 981.

### III. General Legal and Policy Context

The various levels of law and policy that govern federal agencies are intended to work together in an organized and structured way. The structures in place for both the USFS and BLM are basically the same. Figure 1 shows these hierarchical levels, where the provisions at each level must be consistent with the broader provisions of the level above. This hierarchical structure is often referred to as *tiering*. Figure 1 also includes examples at each level relevant to this study.



*Figure 1 - Tiered Policy Structure for the USFS and BLM*

In the case of the USFS and BLM, congressionally enacted *statutes* create the agencies and articulate their general authorities and responsibilities. While there is no theoretical limit to the level of detail and specificity that may be included within statutes, a practical limit effectively exists for several reasons including Congress's time constraints, expertise, and the desire of individual policy makers to avoid making decisions that may be seen as controversial among their constituents. Even if Congress could regulate for every situation, this would result in an overly rigid structure that would

be inappropriate for decisions that necessitate flexibility and adaptation based on nuanced variables. The result is that, by design, statutes are often vague, ambiguous, have omissions, and require interpretation. Federal statutes are codified in the United States Code, or U.S.C.

The agency responsible for carrying out a particular statute is charged with promulgating *regulations* (also referred to as rules) to fill in the holes left by Congress and interpret the meaning of statutory language. The rulemaking process follows the procedures of the Administrative Procedure Act (APA),<sup>52</sup> which includes the ability of the public to comment on and influence proposed rules. Once finalized, federal regulations are published in the Code of Federal Regulations, or C.F.R., and like statutes, carry the force of law.

Agencies often write additional policy guidance beyond that provided at the statutory and regulatory levels. Within the USFS and BLM, these *directives* typically take the form of agency manuals and handbooks. Executive and secretarial orders also fall into this category. Directives guide agency personnel in how they are to make decisions and the considerations they should include. Directives are generally not legally enforceable.<sup>53</sup>

Both the USFS and BLM engage in detailed planning processes at the unit level.<sup>54</sup> The basic purpose of a plan is to guide agency activities within a particular unit and ensure that units are managed under a cohesive strategy in a way that methodically considers the agency's various mandates and obligations. Unit-level plans include detailed maps that indicate the suitability of specific areas for particular uses. Plans are statutorily mandated with accompanying regulations and directives that guide planning

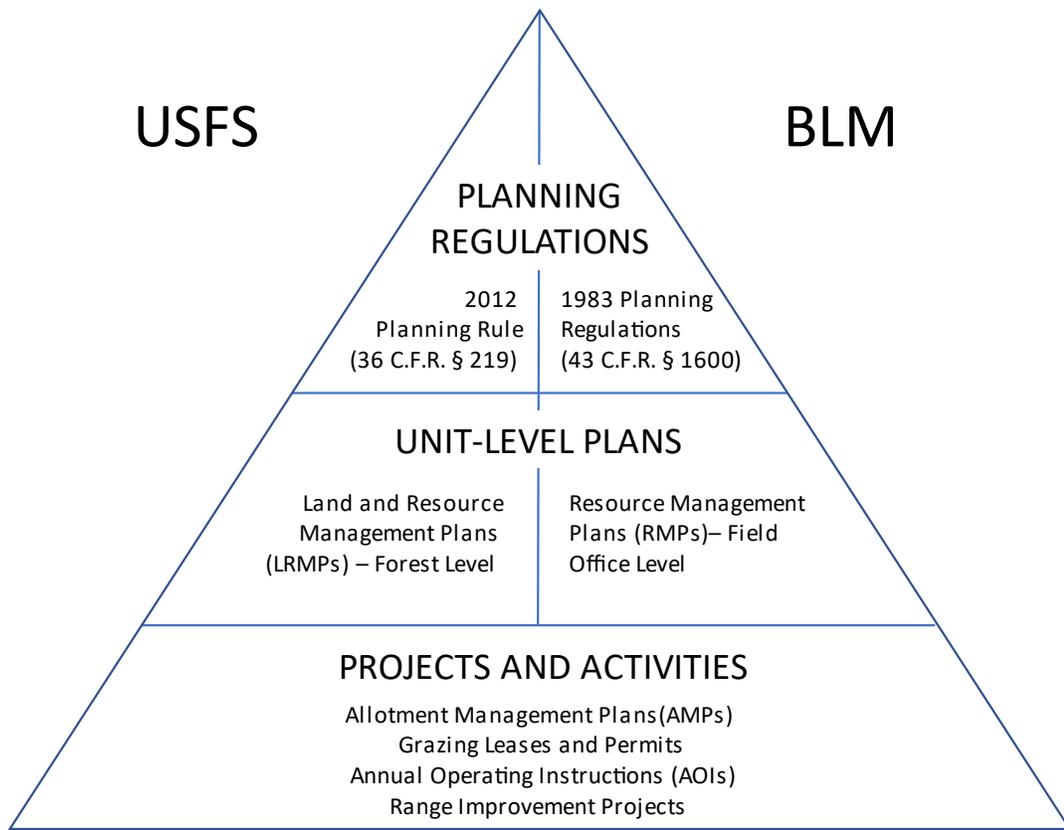
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<sup>52</sup> Administrative Procedure Act of 1946 (5 U.S.C. §§ 551-559)

<sup>53</sup> While directives are generally not legally enforceable, they can be in certain situations. This is a complex legal gray area that is beyond the scope of this paper. The judiciary has referred to the distinction between a rule subject to notice-and-comment procedures under the APA and general statements of policy, which are not, as "enshrouded in considerable smog." (Noel v. Chapman, 508 F.2d 1023 (2d Cir. 1975) at 1030). See, Robert A. Anthony, "Interpretive rules, policy statements, guidances, manuals, and the like - Should federal agencies use them to bind the public?" *Duke Law Journal* 41 (1991): 1311 and Peter L. Strauss, "The Rulemaking Continuum," *Duke Law Journal* 41, no. 6 (June 1992): 1463-1489 for thorough discussions of agency rulemaking, the APA, agency discretion, and judicial interpretation of Section 553 of the APA.

<sup>54</sup> Generally, a planning unit for the USFS is an individual national forest, and BLM planning units tend to correspond to lands under the jurisdiction of a particular field office. For a more thorough discussion of national forest planning, see USDA Forest Service, "A Citizen's Guide to National Forest Planning," (June 2016). For BLM planning, see Erik Schlenker-Goodrich, "A Citizen's Guide to the Bureau of Land Management's Resource Management Planning Process," The Wilderness Society (January 2002).

processes. Plans must be consistent with relevant statutes and regulations, whereas consistency with directives is generally not obligatory. Planning can be thought of as its own tiered system with national-level planning regulations at the top. Detailed unit-level plans (mid-level) must be consistent with the regulations, and actual projects and activities (lower level) must be consistent with the unit-level plan. Relevant to this research, fence construction projects, allotment management plans, and the issuance of grazing permits/leases and their associated annual operating instructions (AOIs) would constitute activities that must be consistent with the unit plan. Legally, projects and activities that violate unit-level plans technically violate the statutes that require this consistency.<sup>55</sup> This tiered planning system is depicted in Figure 2 for the USFS and BLM.



*Figure 2 - Tiered Planning Structure for the USFS and BLM*

<sup>55</sup> See *Western Watersheds Project v. Salazar*, 843 F. Supp. 2d 1105 (D. Idaho 2012), where the district court held, in part, that the BLM’s decision to mitigate overgrazing of riparian areas by fencing them off without addressing the impacts of that fencing on sage-grouse violated the resource management plan, and as a result, violated the FLPMA.

The structure presented in this section generally pertains to agency-specific statutes, regulations, and directives. Two additional statutes impact multiple agencies and have implications for decisions relevant to fencing for the USFS and BLM, both of which are discussed below.

### Endangered Species Act

The Endangered Species Act places substantive restraints on agency action when that action has the potential to adversely impact a species listed as threatened or endangered under the Act. Consequently, a much stronger hook exists to compel federal agencies to use wildlife-friendly fences when traditional fences are shown to harm or kill listed species.

For a variety of reasons, namely the time and expense involved with duly considering listed species in proposed agency actions, agency and industry decision makers often desire to prevent species from being listed under the ESA. A classic example relevant to fencing is the greater sage-grouse. In 2015 the U.S. Fish and Wildlife Service (USFWS) decided not to list the GSG and removed it from the candidate species list – a determination based largely on a conservation partnership whereby state and federal agencies agreed to increase regulatory mechanisms to protect GSG and their habitats.<sup>56</sup> Even though the GSG is not listed as threatened or endangered under the ESA, the Act is responsible for many planning-level protections for the species.

Most species known to be harmed by fences are not listed under the ESA. This paper is primarily concerned with these unlisted species as they cannot rely on ESA protections. Nonetheless, it is important to understand that federally threatened and endangered species receive a much higher level of protection, compelling agencies to ensure that a proposed action is “not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat of such species which is determined by the Secretary...”<sup>57</sup>

Policy language often draws on these ESA requirements and extends similar protections to other species of more local concern. For example, BLM regulations require that “[h]abitats are, or are making significant progress toward being, restored or

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<sup>56</sup> The USFWS decision is published in full in the Federal Register at [80 FR 59857](#) (October 2, 2015).

<sup>57</sup> 16 U.S.C. § 1536(a)(2).

maintained for Federal threatened and endangered species, Federal proposed or candidate threatened and endangered species, and other special status species.”<sup>58</sup>

### National Environmental Policy Act

The NEPA is largely considered a procedural statute, in that it requires decision makers to take a “hard look” at possible environmental impacts of “major Federal actions significantly affecting the quality of the human environment,”<sup>59</sup> but it does not require that decisions minimize or even mitigate those impacts. In effect, it requires informed decision making. Much of the NEPA’s power comes from the fact that the process requires public participation, and the resulting reports must be disclosed to the public. Consequently, agencies like the USFS and BLM are likely to face significant public scrutiny (and litigation) when they fail to make environmentally friendly decisions. Legally, the courts typically defer to agency discretion unless they fail to take a “hard look” (i.e., fail to identify and evaluate adverse environmental effects).

Relevant NEPA regulations were recently dismantled by the Council on Environmental Quality (CEQ) during the Trump administration.<sup>60</sup> The CEQ is now trying to restore past regulations under the Biden Administration. Importantly, the past (and hopefully future) regulations defined “effects” to include direct effects, indirect effects, and cumulative impacts. Cumulative impacts, if reinstated in the regulations, could prove a powerful tool with regard to wildlife-friendly fencing on federal lands. While the impact of a new mile of fence constructed on BLM lands might have a small impact on a local deer herd, the cumulative impacts of hundreds of miles of fence in that herd’s habitat would be much more significant. NEPA analyses would need to take a hard look at these larger scale cumulative impacts if this regulation is revived.<sup>61</sup> When federal agencies fail to take a hard look, as required by the NEPA, they risk having their decisions overturned as being arbitrary and capricious under APA § 706(2)(a).

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<sup>58</sup> 43 C.F.R. § 4180.1(d).

<sup>59</sup> 42 U.S.C. § 4332(C).

<sup>60</sup> 85 Fed. Reg. 43304, 43375 (July 16, 2020).

<sup>61</sup> *See Western Watersheds Project v. Salazar*, 843 F. Supp. 2d 1105 (D. Idaho 2012), where the district court held, in part, that the BLM’s decision to construct fence in sage-grouse habitat failed to take a hard look at the cumulative impacts of fencing on sage grouse and failed to adequately explain how they chose the scope/scale of their cumulative effects analysis.

NEPA regulations obligate federal agencies to cooperate with state, tribal, and local governments.<sup>62</sup> “[E]nvironmental impact statements shall discuss any inconsistency of a proposed action with any approved State, Tribal, or local plan or law (whether or not federally sanctioned). Where an inconsistency exists, the statement should describe the extent to which the agency would reconcile its proposed action with the plan or law. While the statement should discuss any inconsistencies, the NEPA does not require reconciliation.”<sup>63</sup> While the agencies retain the discretion to decide as they see fit, this ensures that state, tribal, and local laws are not ignored in the NEPA process.

Forest Service LRMPs and BLM RMPs are considered major federal actions that significantly affect the environment, so plan development/revision triggers the need to prepare an environmental impact statement (EIS) pursuant to the NEPA. At the allotment level, AMPs are typically completed with an accompanying environmental assessment (EA). Grazing permit issuance and modification are also typically completed with an EA. Importantly, construction of grazing fences on federal land is not part of a categorical exclusion, so an EIS or EA is required for any fence constructed on Forest Service and BLM lands.

The following sections summarizing USFS and BLM policies are organized in accordance with the legal and policy structure presented above.

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<sup>62</sup> 40 C.F.R. § 1506.2.

<sup>63</sup> 40 C.F.R. § 1506.2(d).

#### IV. Fence Policy on U.S. Forest Service Lands

##### Agency Overview

The U.S. Forest Service, operating within the U.S. Department of Agriculture (USDA), is responsible for managing over 193 million acres of forests and grasslands in the public trust. Under the agency's congressional multiple-use mandate, discussed in detail below, they are to manage these lands for a variety of uses. Some uses benefit from the construction of fences, for example, managing livestock that are permitted to graze on USFS lands. Within the Forest Service's Region 1, there are approximately 13,000 miles of grazing-related fence on USFS land.<sup>64</sup> The majority of fence on USFS lands is related to grazing. New fence construction is rare compared to maintenance and reconstruction.

The following sections summarize the language from statutes, regulations, and directives that impact, or could be used to impact, USFS decisions about fencing. I then discuss some examples of how these policies have manifested in LRMPs and AMPs, followed by an analysis of how these various levels of policy and implementation can be used to advocate for wildlife-friendly fencing on USFS lands.

##### Statutes

###### *Organic Act*

The Forest Service Organic Administration Act of 1897 (Organic Act) effectively created the U.S. Forest Service and authorized the agency to manage the occupancy and use of national forests. Under the Organic Act, national forests had two specific purposes: to secure "favorable conditions of water flows" and "to furnish a continuous supply of timber..."<sup>65</sup> The Act is broad and the protection of wildlife and wildlife habitat was not specifically considered by Congress in the Act's passing, so the Act itself provides no guidance specifically relevant to wildlife management or fence construction. However, it does set the stage for future legislation that further defines and expands on the role of the Forest Service in managing USFS lands.

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<sup>64</sup> Phone conversation with Shawn Heinert, Region 1 Range Program Manager, October 18, 2021. Region 1 includes Montana, North Dakota, the Idaho panhandle, a portion of northeast Washington, and a small corner in northwest South Dakota. Fence density in Region 1 is approximately 1 mile of fence for every 3 square miles of USFS jurisdictional lands.

<sup>65</sup> 16 U.S.C. § 475.

### *Multiple-Use Sustained-Yield Act (MUSYA)*

Congress expanded the Forest Service's management role beyond timber and watersheds with the Multiple-Use Sustained-Yield Act of 1960 (MUSYA). This Act mandated that the USFS manage lands under its jurisdiction for five specific uses: "outdoor recreation, range, timber, watershed, and *wildlife and fish* purposes."<sup>66</sup> These uses were intentionally ordered alphabetically within the Act so as not to indicate preferences or a hierarchy among uses. The Act defines multiple use as:

The management of all the various renewable surface resources of the national forests so that they are utilized in the combination that will best meet the 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; that some land will be used for less than all of the resources; and harmonious and coordinated management of the various resources, each with the other, without impairment of the productivity of the land, with consideration being given to the relative values of the various resources, and not necessarily the combination of uses that will give the greatest dollar return or the greatest unit output.<sup>67</sup>

Based largely on this definition, courts have interpreted the USFS multiple-use mandate as affording the USFS wide latitude in determining where and how the various uses should be accommodated.<sup>68</sup> Consequently, this statute grants the USFS great *authority* to manage for wildlife and fish on USFS lands but does little to *compel* them to do so in any particular way.

### *National Forest Management Act (NFMA)*

With nothing to compel the agency to substantively shift its focus away from timber, Congress's intentions under MUSYA went largely unmet. Congress responded by enacting the National Forest Management Act of 1976 (NFMA). Significantly less discretionary than the MUSYA, the NFMA places substantive and procedural constraints on the USFS and requires that every national forest and grassland develop land and

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<sup>66</sup> 16 U.S.C. § 528 (emphasis added).

<sup>67</sup> 16 U.S.C. § 531.

<sup>68</sup> *For example*, *Sierra Club v. Hardin*, 325 F. Supp. 99, 122-124 (D. Alaska 1971), where the USFS decision to reserve less than one percent of the Tongass N.F. from logging was upheld because "Congress has given no indication as to the weight to be assigned each value and it must be assumed that the decision as to the proper mix of uses within any particular area is left to the sound discretion and expertise of the Forest Service."

resource management plans (LRMPs) to guide agency decisions. The NFMA expands opportunities for public participation as a way to democratize national forest management to a higher level than required by either the Organic Act or the MUSYA. The planning process is discussed further in the *Regulations* section, below.

Importantly, the NFMA requires that plans “provide for a diversity of plant and animal communities based on the suitability and capability of the specific land area in order to meet overall multiple-use objectives.”<sup>69</sup> Known as the *wildlife diversity mandate*, this section of the statute places sideboards on agency discretion and provides a substantive hook that compels the USFS to consider and accommodate the needs of wildlife.

NFMA’s consistency provision sets up a tiered planning framework, requiring the USFS to develop regulations that are consistent with the statute.<sup>70</sup> Plans must then be consistent with the regulations, and site-specific projects (including permits and contracts) must be consistent with the plan.<sup>71</sup> Consequently, LRMPs are much more than a paper tiger – they substantively guide what types of actions are allowed within defined zones of each national forest. Applying the wildlife diversity mandate, regulations, plans, and site-specific activities must all demonstrate that they are consistent with the congressional mandate to provide for a diversity of animal communities.

### Regulations

Forest planning provides the fundamental link between guiding policy and specific management actions. As such, the regulations that govern forest planning are an important policy component for wildlife advocates to understand. Current regulations for the implementation of the NFMA are codified at 36 C.F.R. Part 219 as National Forest System Land Management Planning (hereinafter 2012 Planning Rule, or Planning Rule). The Planning Rule interprets and expands on the NFMA’s provisions.<sup>72</sup> Having gone through the formal rulemaking process in accordance with the APA, the regulations are just as legally enforceable as the statute itself. The planning process includes assessment,

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<sup>69</sup> 16 U.S.C. § 1604(g)(3)(B).

<sup>70</sup> 16 U.S.C. § 1604(g).

<sup>71</sup> 16 U.S.C. § 1604(i).

<sup>72</sup> Readers are referred to [A Citizens’ Guide to National Forest Planning](https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/fseprd509144.pdf) for a practical summary of the national forest planning process. USDA Forest Service. (2016). “A Citizens’ Guide to National Forest Planning.” [https://www.fs.usda.gov/Internet/FSE\\_DOCUMENTS/fseprd509144.pdf](https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/fseprd509144.pdf)

plan development, and monitoring phases, all of which are undertaken concurrently with the process of preparing an EIS<sup>73</sup> in accordance with the NEPA. Plans are to be revised “at least every 15 years.”<sup>74</sup>

The Planning Rule requires that plans contain specific plan components, which may apply to the entire plan area or specific management areas.<sup>75</sup> Collectively, “[t]he set of plan components must meet the requirements...for sustainability (§ 219.8), plant and animal diversity (§ 219.9), multiple use (§ 219.10), and timber (§ 219.11).”

Understanding these components and their definitions, provided in Table 1, is important for anyone wishing to effectively influence the planning processes. Importantly, all other plan components must be consistent with achieving the desired conditions.

Table 1		
Plan Components of the 2012 Planning Rule		
Component	Definition	Source: 36 C.F.R.
Desired Conditions	A desired condition is a description of specific social, economic, and/or ecological characteristics of the plan area, or a portion of the plan area, toward which management of the land and resources should be directed. Desired conditions must be described in terms that are specific enough to allow progress toward their achievement to be determined, but do not include completion dates.	§ 219.7(e)(1)(i)
Objectives	An objective is a concise, measurable, and time-specific statement of a desired rate of progress toward a desired condition or conditions. Objectives should be based on reasonably foreseeable budgets.	§ 219.7(e)(1)(ii)
Goals <sup>(1)</sup>	A plan may include goals as plan components. Goals are broad statements of intent, other than desired conditions, usually related to process or interaction with the public. Goals are expressed in broad, general terms, but do not include completion dates.	§ 219.7(e)(2)
Standards	A standard is a mandatory constraint on project and activity decisionmaking, established to help achieve or maintain the desired condition or conditions, to avoid or mitigate undesirable effects, or to meet applicable legal requirements.	§ 219.7(e)(1)(iii)
Guidelines	A guideline is a constraint on project and activity decisionmaking that allows for departure from its terms, so long as the purpose of the guideline is met. Guidelines are established to help achieve or maintain a desired condition or conditions, to avoid or mitigate undesirable effects, or to meet applicable legal requirements.	§ 219.7(e)(1)(iv)
Suitability of Lands	Specific lands within a plan area will be identified as suitable for various multiple uses or activities based on the desired conditions applicable to those lands. The plan will also identify lands within the plan area as not suitable for uses that are not compatible with desired conditions for those lands. The suitability of lands need not be identified for every use or activity. Suitability identifications may be made after consideration of historic uses and of issues that have arisen in the planning process. Every plan must identify those lands that are not suitable for timber production.	§ 219.7(e)(1)(v)
Note: (1) All of the listed components are required, except for goals, which are optional.		

<sup>73</sup> EISs are required for plan revisions per 36 C.F.R. § 219.5(a)(2)(i).

<sup>74</sup> 36 C.F.R. § 219.7(a). Although required by regulation to be revised at least every 15 years, in practice, plans are typically revised less frequently.

<sup>75</sup> 36 C.F.R. § 219.7(e).

The 2012 Planning Rule contains several provisions that guide wildlife and habitat management. Relevant Planning Rule provisions pertain to ecological integrity, sustainability, diversity and viability of plant and animal communities, social and economic benefits, and connectivity. These provisions are summarized below and discussed in terms of how they relate to wildlife-friendly fencing.

The purpose of the 2012 Planning Rule is:

to guide the collaborative and science-based development, amendment, and revision of land management plans that promote the *ecological integrity* of national forests and grasslands and other administrative units of the NFS. Plans will guide management of NFS lands so that they are *ecologically sustainable* and contribute to *social and economic sustainability*; consist of ecosystems and watersheds with ecological integrity and *diverse plant and animal communities*; and have the capacity to provide people and communities with *ecosystem services* and multiple uses that provide a range of social, economic, and ecological benefits for the present and into the future. These benefits include clean air and water; *habitat for fish, wildlife, and plant communities*; and opportunities for *recreational, spiritual, educational, and cultural benefits*.<sup>76</sup>

Several concepts in this purpose statement support the argument for fencing policies that minimize impacts to wildlife. Considering that wildlife is an important component of any ecosystem, promoting ecological integrity requires land managers to make decisions that not only reduce harm to wildlife, but promote robust, diverse, and sustainable animal communities. Furthermore, healthy wildlife populations provide social and economic benefits to human communities, which includes ecosystem services that contribute to recreational, spiritual, educational, and cultural benefits. Minimizing impediments to achieving healthy wildlife populations, such as fence hazards, is relatively low hanging fruit compared to addressing more intractable threats such as climate change.

Regulation language does not explicitly make clear to what extent, if any, these aspirations for wildlife extend to species that are not listed or otherwise of concern. However, the Federal Register explains that “[t]he Department's intent in providing the requirements in this section is to provide for diversity of plant and animal communities, and *provide ecological conditions to keep common native species common*, contribute to the recovery of threatened and endangered species, conserve candidate and proposed

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<sup>76</sup> 36 C.F.R. § 219.1(c) (emphases added).

species, and maintain viable populations of species of conservation concern within the plan area.”<sup>77</sup> This intent provides an important link, clearly demonstrating that the wildlife diversity mandate applies to common species as well as those that are ESA listed or of conservation concern. Furthermore, the federal judiciary has interpreted the wildlife diversity mandate as imposing a substantive standard on the Forest Service, confirming their duty to protect all wildlife.<sup>78</sup>

Bolstering this line of reasoning is the fact that the 2012 Planning Rule requires planners to “use the best available scientific information [BASI] to inform the planning process.”<sup>79</sup> Consequently, our growing scientific understanding of the impacts of fences on various species cannot be ignored in the planning process. Because the Planning Rule also requires the USFS to provide opportunities for public participation throughout the planning process,<sup>80</sup> wildlife advocates can (and should) ensure that the best available scientific information is considered by participating early and often in the process.

During the assessment phase, the USFS is explicitly to consider “[r]elevant private information, including relevant land management plans and local knowledge,” provided that information is “publicly available or voluntarily provided,”<sup>81</sup> highlighting the need for early engagement by wildlife advocates to ensure that information pertinent to wildlife-fence interactions is considered. Additionally, assessments “shall identify and evaluate existing information relevant to... (5) Threatened, endangered, proposed and candidate species, and potential species of conservation concern present in the plan area; (7) Benefits people obtain from the NFS planning area (ecosystem services); (8) Multiple uses and their contributions to local, regional, and national economies... [and] (11) Infrastructure, such as recreational facilities and transportation and utility corridors.”<sup>82</sup> Each of these requirements creates a potential nexus with wildlife-friendly fencing, be it directly through protected species, indirectly through the ecological, social, and economic

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<sup>77</sup> 77 Fed. Reg. 21161-21276, 2012 at 21212 (emphasis added).

<sup>78</sup> Jonathan Haber and Peter Nelson. “Planning for Connectivity.” *Defenders of Wildlife*, 2015, summarizing the decisions in *Seattle Audubon Society v. Moseley*, 798 F. Supp. 1484 (W.D. Wash. 1992) and *Sierra Club v. Espy*, 822 F.Supp. 356 (E.D. Tex. 1993).

<sup>79</sup> 36 C.F.R. § 219.3.

<sup>80</sup> 36 C.F.R. § 219.4.

<sup>81</sup> 36 C.F.R. § 219.6(a)(1).

<sup>82</sup> 36 C.F.R. § 219.6(b).

benefits wildlife provide, and the mandate to specifically identify and evaluate infrastructure (e.g., fences).

Following the assessment, regulations require the Forest Service to identify a need to change the plan based on deficiencies in the existing plan identified during the assessment phase.<sup>83</sup> The Forest Service will notify the public that it is prepared to begin the plan development phase and share a preliminary need for change. The public will have an opportunity to comment on the need for change. At this stage, it is important that wildlife health (generally) or wildlife-fence conflict (specifically) is included as a need for change since this document will guide the focus of the remainder of the planning phase.

The wildlife diversity mandate in the NFMA is further addressed in the 2012 Planning Rule by requiring that plans include components that address ecosystem integrity and ecosystem diversity. Specifically, “the plan must include plan components, including standards or guidelines, to maintain or restore the ecological integrity of terrestrial ... ecosystems ... including plan components to maintain or restore their structure, function, composition, and connectivity.”<sup>84</sup> While much of this language can be connected to the need to reduce fence hazards posed to wildlife, the inclusion of *connectivity* is particularly relevant as fences can have a significant impact on connectivity within the broader landscape. The requirement to provide for “social, economic, and ecological sustainability” considering the “(i) Interdependence of terrestrial and aquatic ecosystems in the plan area” and “(ii) Contributions of the plan area to ecological conditions within the broader landscape influenced by the plan area”<sup>85</sup> only bolsters the need for plans to consider the effects of fencing on wildlife.

Regarding the agency’s multiple use mandate, the USFS must consider, “fish and wildlife species...connectivity...recreation settings and opportunities...[a]ppropriate placement and sustainable management of infrastructure...[h]abitat conditions...for wildlife, fish, and plants commonly enjoyed and used by the public; for hunting, fishing, trapping, gathering, observing, subsistence, and other activities...[and] [r]easonably

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<sup>83</sup> 36 C.F.R. § 219.7(c)(2)(i).

<sup>84</sup> 36 C.F.R. § 219.9(a)(1).

<sup>85</sup> *Id.*

foreseeable risks to ecological, social, and economic sustainability.”<sup>86</sup> Each of these considerations could be used to justify the need for wildlife-friendly fencing. While this language compels the agency to *consider* all of these things when balancing forest uses, it does not itself obligate the forest managers to take any specific actions, leaving intact significant agency discretion.

In summary, the 2012 Planning Rule requires the USFS to *consider* many aspects pertinent to wildlife and forest infrastructure. This does not compel the agency to prioritize wildlife or take specific actions. However, the requirement to use the best available scientific information to inform the planning process combined with the requirement to provide opportunities for public engagement throughout the planning process help create an overall structure that can be used to substantively argue for the minimization of detrimental fencing impacts on wildlife. Under the multiple-use mandate, it is important to keep in mind that wildlife-friendly fencing is generally compatible with all other uses, eliminating the need to choose or prioritize uses when considering fencing policies.

Regulations other than the 2012 Planning Rule can affect how agencies address fencing. One important example of this are the regulations pertaining to range management found at 36 C.F.R. §§ 222.3 and 222.4, which give the Chief of the Forest Service ample authority to issue, modify, and cancel grazing permits on lands under USFS jurisdiction. The Chief of the Forest Service is authorized to “[c]ancel or suspend the [grazing] permit if the permit holder is convicted for failing to comply with Federal laws or regulations or State laws relating to protection of air, water, soil and vegetation, *fish and wildlife*, and other environmental values when exercising the grazing use authorized by the permit.”<sup>87</sup> Even without cause, the Chief may cancel grazing permits with a two-year notice if the land is to be devoted to another public purpose.<sup>88</sup> While these authorities are great, agency discretion is high and there is nothing in this part of the regulations to compel the agency to protect natural resources, such as wildlife, that may

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<sup>86</sup> 36 C.F.R. § 219.10(a).

<sup>87</sup> 36 C.F.R. § 222.4(a)(6) (emphasis added).

<sup>88</sup> 36 C.F.R. § 222.4(a)(1).

be impacted by permitted grazing. Additionally, grazing permit cancellation does not necessarily mean that associated fences negatively impacting wildlife will be removed.

Of a more compelling nature and pertinent to wildlife advocates, regulations provide that the USFS “will cooperate with other agencies, institutions, organizations, and individuals who have interest in improvement of range management on public and private lands.”<sup>89</sup> While this obligates agency cooperation with organizations and individuals, it does little to infringe on the agency’s decision-making discretion.

Regarding range improvements, which include fences, the USFS has the authority to require grazing permittees “to maintain improvements to specified standards.”<sup>90</sup> Again, we see great agency authority to manage fencing on its jurisdictional lands, but nothing here compels action.

Using the range betterment fund,<sup>91</sup> the USFS “shall implement range improvement programs where necessary to arrest range deterioration and improve forage conditions with resulting benefits to wildlife...”<sup>92</sup> The range betterment fund is to be used for on-the-ground improvements, which explicitly includes fence construction. This is the most compulsory regulatory language linking fencing on USFS-managed lands with the needs of wildlife. Of course, even the most compulsory actions cannot be carried out without adequate funding, which highlights the need for the agency and agency programs to be appropriately funded. With contributions to this fund consisting of half the money received from national forest grazing fees, the impact of this relatively strong language is likely small. Nonetheless, it serves as a good example of language that could be used elsewhere to compel the agency to accommodate wildlife when constructing fences.

### Directives

Forest Service directives include Forest Service Manuals (FSMs) and Forest Service Handbooks (FSHs).<sup>93</sup> The directive system codifies the agency’s policy, practice,

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<sup>89</sup> 36 C.F.R. § 222.7(d).

<sup>90</sup> 36 C.F.R. § 222.9(c).

<sup>91</sup> “Range betterment fund means the fund established by title IV, section 401(b)(1), of the Federal Land Policy and Management Act of 1976. This consists of 50 percent of all monies received by the United States as fees for grazing livestock on the National Forests in the 16 contiguous western States.” 36 C.F.R. § 222.1(b)(20).

<sup>92</sup> 36 C.F.R. § 222.10(a).

<sup>93</sup> USFS directives are publicly available at <https://www.fs.fed.us/im/directives/>

and procedure and serves as the primary guide for internal management. Directives, by themselves, generally do not have the force of law. The FSM generally contains “legal authorities, objectives, policies, responsibilities, instructions, and guidance”<sup>94</sup> to be used by higher level staff and managers, while FSHs generally serve as a source of “specialized guidance and instruction for carrying out the direction issued in the FSM”<sup>95</sup> to be used by specialists and technicians. These lines are often blurred, but the above generalizations help define the basic structure and use of Forest Service directives.

The most extensive directive relevant to wildlife-friendly fencing is FSH 1909.12 – Land Management Planning Handbook. FSM 2200 – Range Management Manual and FSM 2600 - Wildlife, Fish, and Sensitive Plant Habitat Management Manual also contain language that is supportive of and expands on the concepts of connectivity, sustainability (ecological, social, and economic), recreation, and healthy wildlife populations as mandated in statutes and regulations, but nowhere in the directive system is wildlife-friendly fencing discussed. The system mentions fences only a few times, making clear the fences are considered infrastructure<sup>96</sup> and that fences classify as permanent structural range improvements.<sup>97</sup> Therefore, references to and requirements for infrastructure and range improvements apply to fences. The following paragraph, while not exhaustive, contains some of the most compelling directive language for the use of wildlife-friendly fencing.

USFS policies related to fish and wildlife include coordination “with other uses and activities to accomplish habitat management objectives and *to reduce detrimental effects on wildlife and fisheries*,”<sup>98</sup> and to “[m]itigate the negative effects of other resource projects on wildlife...”<sup>99</sup> Assessments are to include identification and evaluation of “[t]he impacts of infrastructure on ecological integrity and species diversity,”<sup>100</sup> and “[t]he impacts of grazing on ecological integrity and species

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<sup>94</sup> <https://www.fs.fed.us/im/directives/dughtml/overview.html>

<sup>95</sup> *Id.*

<sup>96</sup> FSH 1909.12-13.6(1).

<sup>97</sup> FSM 2240.5. While highly variable, the USFS generally tries to split the costs of permanent improvements evenly with permittees. Once constructed, permittees are generally responsible for fence maintenance with interest in the fence belonging to the agency.

<sup>98</sup> FSM 2630.3(2) (emphasis added).

<sup>99</sup> FSM 2630.3(3).

<sup>100</sup> FSH 1909.12-13.32(4).

diversity.”<sup>101</sup> Land management plans are to consider “[m]anagement strategies that mitigate the impacts of stressors,”<sup>102</sup> and mitigate the adverse impacts of infrastructure.<sup>103</sup> These are some of the most compelling clauses within the Forest Service directive system to support the use of wildlife-friendly fencing, and advocates should point to this language when trying to promote the use of and conversion to fencing that mitigates adverse impacts to wildlife. However, the requirement to consider such impacts and a general policy to reduce detrimental effects does not create an enforceable mandate to act accordingly.

Fish and wildlife policy at the departmental (USDA) level is succinctly and broadly summarized in Departmental Regulation 9500-004.<sup>104</sup> “It is the policy of the Department to assure that the values of fish and wildlife are recognized, and that their habitats...are recognized, and enhanced, where possible, as the Department carries out its overall missions.”<sup>105</sup> Since this policy supports enhancing wildlife habitat, it appears to support use of and conversion to wildlife-friendly fencing as one way to do this. Despite the naming of this document as a “regulation,” it is not codified in the C.F.R.

Regarding departmental administered lands (e.g., lands managed by the USFS), “[c]onsideration will be given to fish and wildlife and their habitats in developing programs for these lands. Alternatives that maintain or enhance fish and wildlife habitat should be promoted. When compatible with use objectives for the area, *management alternatives which improve habitat will be selected.*”<sup>106</sup> While most of this language is discretionary, the final sentence appears to compel the USFS to use wildlife-friendly fencing for new programs and projects because its use improves wildlife habitat and does not conflict with other uses. As an agency within the Department of Agriculture, the USFS is tied to department-wide policy such as this. However, as a departmental policy, it is unlikely that these provisions are enforceable. Nonetheless, they provide added clarity to departmental-level goals and values related to wildlife.

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<sup>101</sup> FSH 1909.12-13.6(6).

<sup>102</sup> FSH 1909.12-23.1(9).

<sup>103</sup> FSH 1909.12-23.23i.

<sup>104</sup> U.S. Department of Agriculture. Departmental Regulation 9500-004: Fish and Wildlife Policy. April 28, 2008.

<sup>105</sup> *Id.* at 2.

<sup>106</sup> *Id.* at 2 (emphasis added).

## Planning and Implementation

As explained in previous sections, each national forest is statutorily mandated to complete a land and resource management plan (LRMP) to guide management of that forest. For the purposes of understanding how the agency interprets and applies their applicable laws and regulations in the planning process, I reviewed planning documents for all four plans completed under the 2012 Planning Rule (Flathead National Forest, Inyo National Forest, Francis Marion National Forest, and Rio Grande National Forest) as well as two plans that were nearly complete at the time of my review (Helena-Lewis and Clark National Forest and Custer Gallatin National Forest).<sup>107</sup> To gain a more thorough understanding of how wildlife-friendly fencing was considered in the planning processes, I reviewed forest assessments and need-for-change documents in addition to LRMPs.

The NEPA process is integrated throughout the planning process. Because forest plans are considered “major Federal actions significantly affecting the quality of the human environment,”<sup>108</sup> each plan requires an accompanying environmental impact statement (EIS). The EISs that accompany LRMPs contain more detail and analysis than that found in the plans themselves. For this reason, I also reviewed final EIS documents that accompanied the aforementioned plans to better understand what, if any, fencing-related environmental impacts were considered that did not make it into the LRMPs. This also helped to shed light on the multiple alternatives considered in the EIS (required under NEPA) since the LRMPs are written specifically for the preferred alternative. The 2012 Planning Rule’s requirement to “use the best available scientific information to inform the planning process”<sup>109</sup> and NEPA’s requirement to fully consider the environmental effects of proposed agency actions work together to compel informed decision making in a transparent manner that involves public input.

### *Flathead National Forest*

In my review of the six forest plans completed (or nearly complete) under the 2012 Planning Rule, I found wide variation in how fencing impacts on wildlife were

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<sup>107</sup> At the time of review, both of these plans were in the process of being finalized following the objection resolution phase.

<sup>108</sup> 43 USC § 4332(c).

<sup>109</sup> 36 C.F.R. § 219.3.

considered. On the Flathead National Forest, the assessment mentions that there are nine active grazing permits on the forest with a total of 70 miles of fence,<sup>110</sup> with no mention of fences on lands outside of these nine areas. Neither the assessment, need for change, nor LRMP mention fencing impacts to wildlife. Fencing is discussed in the LRMP in terms of exclusion fencing to both direct wildlife to highway crossings and mitigate damage to riparian areas (primarily from livestock), but none of this relates to wildlife-friendly fencing as discussed in this paper. The final EIS mentions that fences may pose a hazard to peregrine falcons,<sup>111</sup> but says no more on the subject. The EIS also states that allotment management plans include requirements for range improvement maintenance and construction,<sup>112</sup> effectively delegating decisions about wildlife-friendly fencing on allotments to the AMP level with no guidance from the forest plan.

### *Inyo National Forest*

The Inyo National Forest assessment lists the amount of fence on both active (133 miles) and inactive (27 miles) range allotments.<sup>113</sup> Neither the assessment nor need for change mention the impacts of fences on wildlife, but the need for change includes multiple justifications that can be easily connected to the need to include plan language pertaining to wildlife-friendly fencing.<sup>114</sup> The Inyo LRMP<sup>115</sup> provides a good example of a plan that addresses fencing issues specific to at-risk species. The plan provides two standards specific to the greater sage-grouse, prescribing that new structures within 4 miles of active leks must be equipped with anti-perching devices and that existing structures will be retrofitted with the same,<sup>116</sup> and that “[a]ll fences and other barriers constructed or replaced within 1.2 miles of a known lek in suitable habitat must be let-

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<sup>110</sup> USDA Forest Service. Assessment of the Flathead National Forest. April 2014. Part 2, p. 205.

<sup>111</sup> USDA Forest Service. Final Environmental Impact Statement for the Land Management Plan: Flathead National Forest. November 2018. Vol. 2, p. 58.

<sup>112</sup> *Id.* at 468.

<sup>113</sup> USDA Forest Service. Inyo National Forest Assessment. Document No. R5-MB-266. pp. 164-165.

<sup>114</sup> USDA Forest Service. Inyo, Sequoia, and Sierra National Forests Need to Change Analysis. May 2014. *For example*: “Add desired conditions and plan direction that addresses habitat connectivity,” (p. 2) “Develop plan components for at-risk species that support climate change adaptation strategies,” (p. 4) and “Integrate plan components to reduce overlapping and conflicting management direction for range condition and use and ecological integrity” (p. 4).

<sup>115</sup> USDA Forest Service. Land Management Plan for the Inyo National Forest. 2018. Document No. R5-MB-303.

<sup>116</sup> *Id.* at 38.

down fences and/or marked with fence markers.”<sup>117</sup> Specific to research natural areas, the plan states that fences are not suitable in these areas “unless they contribute to the objectives or protection of the research natural area.”<sup>118</sup> The accompanying EIS<sup>119</sup> generally mimics the LRMP in this regard. Public comments published in an EIS appendix demonstrate that the public was concerned about the lack of consideration given to fencing-wildlife conflicts. One agency response asserted that because rangeland management was not identified as a need to change, the EIS did not analyze alternatives regarding grazing direction,<sup>120</sup> which emphasizes the value of early involvement in the planning process to ensure that the need for change includes language specifically supporting the need for wildlife-friendly fencing throughout the forest.

### *Rio Grande National Forest*

The Rio Grande National Forest assessment acknowledges fences as a threat to the Gunnison sage-grouse<sup>121</sup> and references a rangewide conservation plan, stating that those plan recommendations should be followed.<sup>122</sup> Risk factors for Rocky Mountain bighorn sheep are also discussed, but fences are not mentioned in this context. The need for change<sup>123</sup> does not mention the impacts of fences on wildlife, but it includes multiple requirements that support the need to include plan language pertaining to wildlife-friendly fencing.<sup>124</sup> In the LRMP,<sup>125</sup> all of this gets distilled into forestwide desired condition DC-RNG-4: “Range improvements support ecologically sustainable grazing

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<sup>117</sup> *Id.* at 38.

<sup>118</sup> *Id.* at 107.

<sup>119</sup> USDA Forest Service. Final Environmental Impact Statement for Revision of the Inyo National Forest Land Management Plan. September 2019. Document No. R5-MB-323d. 4 Volumes.

<sup>120</sup> *Id.* at 203 (Vol. 3).

<sup>121</sup> USDA Forest Service. Rio Grande National Forest – Draft Assessment 5 – Identifying and Assessing At-risk Species.

<sup>122</sup> Gunnison Sage-grouse Rangewide Steering Committee. 2005. Gunnison sage-grouse rangewide conservation plan. Colorado Division of Wildlife, Denver, Colorado, USA. A review of this document revealed multiple references to the fact that fences contribute to direct sage-grouse mortality (collisions) and also serve as raptor perches. Recommendations are thorough and appear to be aligned with the science available at the time.

<sup>123</sup> USDA Forest Service. Rio Grande National Forest Need for Change, Version 2. July 2016.

<sup>124</sup> *Id.* at 2, Requirement A4: “Update direction to further promote the recovery and conservation of federally recognized threatened, endangered, proposed, and candidate species.” Requirement A5: “Revise the 1996 Forest Plan to provide management direction to manage habitat to ensure viable populations of species of conservation concern.” *Id.* at 5, Requirement B5: “Revise the current plan to include management direction that ensures sustainable infrastructure related to recreation, forest health, and habitat connectivity.”

<sup>125</sup> USDA Forest Service. Rio Grande National Forest Land Management Plan. May 2020.

and benefits for wildlife when opportunities exist. New and replacement improvements are designed to benefit aquatic and terrestrial species.”<sup>126</sup> This language comes directly from the accompanying EIS, which provides no additional insights relevant to wildlife-friendly fencing or hazards posed to wildlife by fences.<sup>127</sup>

#### *Francis Marion National Forest*

Planning documents for the Francis Marion National Forest<sup>128</sup> mention almost nothing about fencing and contain no recognition of any impacts of fencing on wildlife. Grazing permits on the forest ceased in 1970<sup>129</sup> and no range improvements are currently present on the forest,<sup>130</sup> which could explain why fencing does not appear to be of concern on the Francis Marion National Forest.

#### *Custer Gallatin National Forest*

The forest assessment<sup>131</sup> for the Custer Gallatin National Forest essentially punts all fence related issues by claiming these details are covered in allotment management plans.<sup>132</sup> The need to change<sup>133</sup> does not specifically mention wildlife-fence conflicts, but some of the more generic needs for change are applicable. For example, the document emphasizes the “need to be consistent with the best available science and the most current understanding of ecosystem process and function” and the “need to incorporate multi-species and/or habitat-based plan components that are consistent with current science.”<sup>134</sup> The LRMP<sup>135</sup> contains three guidelines that specifically address wildlife-fence conflicts. Two of these pertain to the greater sage-grouse and state that new fences “should not be

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<sup>126</sup> *Id.* at 21.

<sup>127</sup> USDA Forest Service. Rio Grande National Forest Land Management Plan Final Environmental Impact Statement. April 2020. 2 Volumes.

<sup>128</sup> USDA Forest Service. Francis Marion National Forest Draft Forest Plan Assessment. December 2013. USDA Forest Service. Francis Marion National Forest Final Revised Land Management Plan. January 2017. Document No. R8-MB 151 A. USDA Forest Service. Francis Marion National Forest Final Environmental Impact Statement for the Revised Land Management Plan. January 2017. Document No. R8-MB 151 B and C. 2 Volumes.

<sup>129</sup> *Id.* Final Environmental Impact Statement, Vol. 1 at 246.

<sup>130</sup> *Id.* Final Environmental Impact Statement, Vol. 2 at 44.

<sup>131</sup> USDA Forest Service. Final Assessment Report of Ecological, Social and Economic Conditions on the Custer Gallatin National Forest. February 2017.

<sup>132</sup> *Id.* at 76.

<sup>133</sup> USDA Forest Service. Preliminary Need to Change the Existing Custer and Gallatin Forest Plans. February 2017.

<sup>134</sup> *Id.* at 4.

<sup>135</sup> USDA Forest Service. 2020 Land Management Plan – Custer Gallatin National Forest. July 2020. Document No. R1-19-07.

constructed in priority or general sage-grouse habitat unless the development results in a net conservation gain to the species and its habitat,”<sup>136</sup> and that “new range management structures (such as fences, stock tanks, etc.) should be designed and located to be neutral or beneficial to greater sage-grouse.”<sup>137</sup> The third pertains to wildlife more generally and states that “[t]o reduce the probability of wildlife entanglement, new fences and reconstruction of existing fences should allow for free movement and distribution of wildlife.”<sup>138</sup> The final EIS<sup>139</sup> for the plan contains similar language in the main document, with additional supporting information about *how* fences can be built to better accommodate the needs of wildlife. The EIS also specifies that grazing allotments on the forest contain 2,800 miles of fencing<sup>140</sup> and links fencing with habitat connectivity issues for wildlife.<sup>141</sup> One substantive comment on the draft EIS suggested removal of fencing on closed and vacant allotments. The agency response: “There is no policy for removal of infrastructure on allotments when they are closed, become vacant, or are designated as forage reserves, and a plan component requiring infrastructure removal would compel action.”<sup>142</sup> Indeed it would, which appears to be the point of the comment.

#### *Helena-Lewis and Clark National Forest*

The Helena-Lewis and Clark National Forest assessment<sup>143</sup> contains no mention of wildlife-fence conflicts. The need to change<sup>144</sup> does not mention fencing but emphasizes the need to incorporate updated science and information into the management of wildlife habitat.<sup>145</sup> It also acknowledges the need to “provide implementable and sustainable guidance to better integrate management and monitoring of wildlife habitats with other resource areas including recreation, range management and livestock grazing,

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<sup>136</sup> *Id.* at 60.

<sup>137</sup> *Id.* at 61.

<sup>138</sup> *Id.* at 74.

<sup>139</sup> USDA Forest Service. Final Environmental Impact Statement for the 2020 Land Management Plan - Custer Gallatin National Forest. July 2020. Document No. R1-19-08. 4 volumes.

<sup>140</sup> *Id.* at 80 (Vol. 2).

<sup>141</sup> *Id.* at 590 (Vol. 1).

<sup>142</sup> *Id.* at 64 (Vol. 4).

<sup>143</sup> USDA Forest Service. Assessment of the Helena and Lewis & Clark National Forests. March 2015.

<sup>144</sup> USDA Forest Service. Helena and Lewis & Clark National Forests Preliminary Need to Change. July 2015.

<sup>145</sup> *Id.* at 7. *See* need to change 2.26 and 2.27.

timber, minerals, and others.”<sup>146</sup> The LRMP provides a single broad guideline that specifically addresses wildlife-fence issues: “New fencing installation or reconstruction should be sited and designed to minimize hazards to wildlife and barriers to wildlife movements.”<sup>147</sup> The final EIS<sup>148</sup> for the plan briefly mentions that range infrastructure can pose a threat to sage-grouse<sup>149</sup> but mostly punts the issue of wildlife-friendly fencing to grazing permits and allotment plans.<sup>150</sup> One substantive comment on the draft EIS suggested removal of fencing on closed and vacant allotments. The agency response: “Range infrastructure that is no longer needed for livestock management would be removed and identified on a site specific, case by case basis. *Fence specifications have evolved over the years, and in general have minimal effects on wildlife.* If measurable effects are anticipated for a site-specific project, fence specifications may be modified, or operational requirements made.”<sup>151</sup> While fence specifications may have evolved, fence policy has not, and the claim that fences have a minimal impact on wildlife is not true and not based on best available scientific information.

### *Forest Plan Summary*

Based on the six forest plans reviewed above, several themes are apparent. First, treatment of wildlife-fence conflicts varies significantly among the plans. Plans can and should vary due to the diverse ecological conditions present in different forests. However, each national forest considered here, perhaps with the exception of the Francis Marion, contain populations of wildlife species that are impacted by the fences present on forest land. Yet the plans fail to treat the matter with a level of consistency appropriate for the landscape-scale threat that fencing poses to wildlife.

A second theme that emerged is that the planning processes tended to do a better job of considering the impacts of fences on species listed under the ESA (including proposed and candidate species) and species of conservation concern than on other

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<sup>146</sup> *Id.* at 8. *See* need to change 2.34.

<sup>147</sup> USDA Forest Service. 2020 Land Management Plan: Helena - Lewis and Clark National Forest. May 2020. Document No. R1-20-16 at 51.

<sup>148</sup> USDA Forest Service. Final Environmental Impact Statement for the 2020 Land Management Plan for the Helena – Lewis and Clark National Forest. May 2020. Document No. R1-20-16.

<sup>149</sup> *Id.* at 313 (Vol. 1).

<sup>150</sup> *Id.* at 214 (Vol. 2).

<sup>151</sup> *Id.* at 133 (Appendix G) (emphasis added).

species not specifically considered in one of these categories. Relevant plan components tended to be specific to one of these species (e.g., greater sage-grouse) or extremely broad and somewhat vague. These broad “umbrella” plan components could be extremely powerful in mitigating wildlife-fence conflicts if the Forest Service had a guidance document that described how to design and construct wildlife-friendly fencing, how various needs and uses are to be balanced, and how to incorporate a multi-species approach. With no such document in existence, plans cannot reference it, which leaves the forest managers with about as much discretion as they would have without a broad plan component that seems to encourage the use of wildlife-friendly fencing.

A third theme that emerged is that relevant plan components are written almost exclusively for new fencing. Except for the Custer Gallatin National Forest plan, the removal or modification of existing fences to wildlife-friendly fences is not addressed.

Another pattern that emerged is that a few of these plans effectively relegated the issue of wildlife-fence conflict to the domain of grazing allotment plans while providing little to no guidance at the forest planning level. This is problematic for a few reasons, including the fact that this does nothing to address fencing that is used outside of allotments or for purposes other than grazing. This sets the stage for widely varying AMPs, some of which would likely contain strong wildlife-friendly fence provisions and others that would not. The prevalence of fencing across the landscape, the geographic scale of fencing impacts on wildlife, and the scale involved with creating ecological integrity and landscape connectivity necessitate solutions to this problem on a similar scale. A piecemeal approach that varies by allotment is inappropriate for the problem at hand. For this reason, it is important that substantive, wildlife-friendly fence policies are adopted in LRMPs at the forest-wide level, at least until substantive and enforceable agency-wide policies are in place. Additionally, LRMPs require an EIS, which guarantees public involvement. AMPs are typically completed with an EA, which may not include a public participation process.<sup>152</sup>

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<sup>152</sup> NEPA regulations state that “[a]gencies shall involve the public, State, Tribal, and local governments, relevant agencies, and any applicants, to the extent practicable in preparing environmental assessments.” 40 C.F.R. § 1505.1(e).

Collectively, these plans include some language that supports the use of wildlife-friendly fencing on the respective national forests. Appendix A contains some suggested language for plan components to include in forest plans to help compel the use of and modification to wildlife-friendly fencing. Some of these suggestions are pulled directly from the reviewed plans, and others are extrapolated from these to demonstrate the potential of specific plan language. Of course, all of this suggested language would be strengthened by the development of a wildlife-friendly fence directive prepared by the USFS and applicable across the agency.

Because many LRMPs leave decisions about fencing for allotment-level planning, I attempted to review a sample of Forest Service AMPs. These documents are generally not publicly available, unlike their associated NEPA documents. As with LRMPs and their associated EISs, the NEPA documents associated with AMPs tend to contain more information than what would be provided in the AMP. In light of this, I reviewed a sample of 10 NEPA documents (1 EIS and 9 EAs) associated with Forest Service AMPs. I attempted to select documents from a random sample of allotments across the western U.S. written within the last 10 years. Due to availability and the difficulty of locating these documents, my sample ended up being somewhat opportunistic.<sup>153</sup> The 10 documents included in my review cover 5 western states and 6 national forests, all written between 2009 and 2021.

Five of these environmental studies acknowledge that fences can negatively impact wildlife, three made no mention of wildlife-fence conflict, and two partially acknowledged the issue. None of these studies categorically require the use of wildlife-friendly fencing for all new fences, however four of them require some proposed fences to be constructed in a wildlife-friendly manner. The plan that came closest to a categorical requirement mentioned that all new fences would be constructed “in accordance with best management practices,”<sup>154</sup> but it fails to mention what these

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<sup>153</sup> I located EAs associated with AMPs by searching individual national forest websites. While these sites lack uniformity, these documents can often be located by navigating from the forest homepage to “Land and Resource Management” and then “Projects.” I then manually searched for allotment projects that had been recently completed or archived and selected projects that appeared representative of comprehensive AMPs. Some forests had no such documents available, and others had multiple.

<sup>154</sup> USDA Forest Service, Yellowstone Ranger District, Custer Gallatin National Forest. *East Paradise Range Allotment Management Plan Environmental Assessment*. April 2021, at 13.

practices are or where to find them. While this is not a systematic study of AMPs, this small sample clearly illustrates the variability found in AMPs with respect to wildlife considerations in AMP decisions that implicate fencing. Table 2 shows a summary of the relevant information gleaned from these documents.

State	Forest	Ranger District	Allotment Name	Year	Acknowledgement of Wildlife-Fence Conflict	Requires WFF	Remove/Replace Provision
CA	Inyo		Crowley Lake Watershed	2009	Yes (GSG only)	No	No <sup>(1)</sup>
CA	Inyo	Mono Lake	Mono Basin	2011	Yes	Yes (GSG only)	No
CA	Inyo	Mt. Whitney	Desert Allotments	2017	Yes <sup>(2)</sup>	No	No
CO	Rio Grande	Divide	Archuleta et al.	2010	No	No	No
CO	Rio Grande	Divide	Crooked Creek	2011	No <sup>(1)</sup>	No	No
CO	Rio Grande	Divide	Fisher-Ivy/Goose Lake	2013	No	No	No
MT	Flathead	Talley Lake	Swaney Range	2017	Partially <sup>(3)</sup>	No	If safety hazard
MT	Custer Gallatin	Yellowstone	East Paradise	2021	Yes	Yes <sup>(4)</sup>	FS will remove unneeded fence
NV	Humboldt-Toiyabe	Carson	East Alpine	2012	Yes (GSG and Mule Deer)	n/a <sup>(1)(5)</sup>	Funding dependant
OR	Ochoco	Lookout Mountain	Bear Creek Cluster	2019	Yes	Yes <sup>(6)</sup>	Funding dependant
<p>✓ (1) Explicitly reserves decision/discussion for future NEPA analysis.</p> <p>✓ (2) Hazard mentioned w/r/t Sierra Nevada Bighorn Sheep (listed), nothing on how to mitigate.</p> <p>✓ (3) Mentions that fencing will not preclude ungulate movements or hinder wolf/grizzly movement.</p> <p>✓ (4) Fencing to be constructed in accordance with BMPs, which are nowhere defined.</p> <p>✓ (5) This is mostly a fence removal proposal, and it highlights how removing fences will benefit GSG and mule deer.</p> <p>✓ (6) Wildlife-friendly fencing required for wire fencing only, in accordance with Paige, 2012. Buck and pole fence also specified, referencing Scott, 1992. Scott essentially concluded that B&amp;P fence is not wildlife-friendly.</p>							

The final level where fence types and specifications might be found is within grazing permits and their annual operating instructions (AOIs). Grazing permits are generally not publicly available. While grazing permits are typically issued for 10-year terms, AOIs are issued annually and allow the USFS to be responsive to changing conditions. Following consultation with the permittee, the USFS prepares the AOI so that both parties are clear about what is expected for the following year. In effect, AOIs are permit addendums with a one-year lifespan. In my cursory review of AOIs available online, I found that the fence-related portions of these documents tended to focus on maintaining fences to manage and control livestock. I found no mention of wildlife-friendly fencing in these documents, although some of them mentioned that fence standards could be found elsewhere or would be provided through a “Permit Modification for Cooperative Range Improvement” if new fencing was to be constructed.

## Analysis

There is no shortage of statutory and regulatory language requiring Forest Service managers to *consider* the needs of wildlife when making decisions affecting Forest Service lands. While none of this language addresses fencing explicitly, there is ample room in the generalized phrasing for wildlife advocates to argue that wildlife-fence conflicts must be assessed and considered. Important statutory examples include the fact that *wildlife and fish* is considered one of the five multiple uses under the MUSYA, MUSYA's language prohibiting impairment of the productivity of the land, and NFMA's wildlife diversity mandate. The 2012 Planning Rule expands on these concepts in important ways, adding language pertaining to ecological integrity, sustainability, connectivity, and ecosystem services. Based on their regulatory definitions, presented in the preface, *connectivity* is a critical part of *ecological integrity*, and fences greatly influence connectivity for terrestrial wildlife. Consequently, the effects of fences on wildlife are directly connected and integral to these core concepts in the 2012 Planning Rule.

Perhaps the most directly relevant part of the NFMA includes a reference to infrastructure (which includes fences), requiring the USFS to consider "fish and wildlife species...connectivity...recreation settings and opportunities...[a]ppropriate placement and sustainable management of infrastructure...[h]abitat conditions...for wildlife, fish, and plants commonly enjoyed and used by the public; for hunting, fishing, trapping, gathering, observing, subsistence, and other activities."<sup>155</sup> Once again, this is merely a requirement to *consider* these effects. Internal agency directives fortify these requirements by stating that managers should identify, reduce, and minimize the effects of infrastructure on wildlife, but as directives, this is guidance that managers may choose to follow or not.

Policy language that could be used to *compel* the Forest Service to use wildlife-friendly fencing is harder to find. Perhaps the most compelling language is found in USDA Departmental Regulation 9500-004, requiring wildlife habitat to be enhanced where possible, to promote alternatives that enhance wildlife habitat, and to select alternatives that improve habitat when they are compatible with use objectives. With this

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<sup>155</sup> 36 C.F.R. § 219.10(a).

departmental guidance in mind, and considering the NFMA’s requirement to use the best available scientific information, it would be difficult for Forest Service managers to justify installing new fence that is not wildlife friendly. As this departmental regulation is not codified, the enforceability of these provisions is doubtful.

When species listed under the ESA are involved, the Act’s prohibitions on (1) the take of listed species<sup>156</sup> and (2) federal actions that are likely to jeopardize the continued existence of a species<sup>157</sup> provide a sufficient hook to compel the use of wildlife-friendly fencing to avoid the need to obtain an incidental take permit or prepare an incidental take statement. While the ESA makes clear that “take” includes “harm,” ESA regulations make clear that harm includes “habitat modification or degradation” that “actually kills or injures fish or wildlife.”<sup>158</sup> Advocates should be prepared to link fences with habitat modification and show that a fence actually killed or injured an animal classified as a threatened, endangered, or candidate species under the Act. Practically, the threat provided by the ESA and the relative ease of constructing wildlife-friendly fencing should be sufficient to persuade Forest Service managers to construct new fences in a wildlife-friendly manner. The 2012 Planning Rule makes an explicit nod to these and other ESA mandates by requiring species-specific plan components when ecosystem-wide plan components fail to “provide the ecological conditions necessary to...contribute to the recovery of federally listed threatened and endangered species...”<sup>159</sup>

The above paragraphs pertain to new fences constructed on Forest Service lands. An arguably bigger concern is what to do about existing fencing that is not wildlife friendly. Unfortunately, Forest Service policy is silent on this specific issue. Advocates may rely on the aforementioned general requirements pertaining to wildlife and habitat to encourage fence removal or replacement, but as a practical matter, this requires funding and/or partnerships that may not be available.<sup>160</sup>

Notably absent from all Forest Service policy is a clear, agency-wide definition of wildlife-friendly fencing. The BLM and several states have adopted references that define

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<sup>156</sup> 16 U.S.C. § 1538(a)(1)(B).

<sup>157</sup> 16 U.S.C. § 1536(a)(2).

<sup>158</sup> 50 C.F.R. § 17.3.

<sup>159</sup> 36 C.F.R. § 219.9(b).

<sup>160</sup> Funding and partnerships are discussed further in the *Conclusions and Recommendations* section of this paper.

how to construct fences in particular situations so that they minimize the potential for conflict with wildlife while serving the primary intent of the fence, but the Forest Service has not yet done this. The existence of such a document would provide much clarity and ease the ability for plans (e.g., LRMPs and AMPs) to reference and require conformance with the document.

The treatment of wildlife-friendly fencing in LRMPs varies widely, even among plans written under the 2012 Planning Rule. This variability speaks to both the wide latitude of agency discretion on the matter and the lack of clear, agency-wide standards. Many LRMPs leave decisions about fencing for the AMP level without providing any guidance for standards that must be followed. This is problematic for many reasons as previously discussed in the *Forest Plan Summary*. A review of ten Forest Service AMPs revealed a high level of variability in the consideration and treatment of wildlife-friendly fencing, with most plans containing little to no consideration of the issue. This all demonstrates a drawback to the tiered nature forest planning, which makes it relatively easy for managers to avoid making significant decisions at one level by promising to address the issue at a lower level. When this tactic is used inappropriately, it often leads to inconsistent policy or outright failure to address the issue as it is lost within the process.

Part of Congress's purpose in enacting the NFMA's planning requirements was to require forests to create guiding plans with substantive, enforceable commitments on the part of the USFS – sideboards to help the public better understand what to expect in the management of their national forests. While the 2012 Planning Rule provides additional guidance to these ends, a review of plans written under the 2012 rule demonstrates that plans continue to lack meaningful plan components and enforceable commitments.<sup>161</sup> Instead, the agency writes plans in a way that maintains their discretion. This general theme appears to hold true for plan components relevant to fencing.

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<sup>161</sup> Susan Jane M. Brown and Martin Nie. "Making forest planning great again? Early implementation of the Forest Service's 2012 national forest planning rule." *Nat. Resour. Environ* 33, no. 3 (2019): 3-7.

## V. Fence Policy on Bureau of Land Management Lands

### Agency Overview

The Bureau of Land Management (BLM), operating within the U.S. Department of Interior (DOI), is responsible for managing over 247.3 million surface acres of land in the public trust. Most of this land is located in the American West and Alaska. Approximately 155 million of these acres are leased or permitted to private ranchers for livestock grazing. FLPMA's multiple-use provision states that the BLM is to manage the land and its various resources, which include "recreation, range, timber, minerals, watershed, *wildlife and fish*, and natural scenic, scientific and historical values" in a balanced manner that best meets the needs of present and future generations.<sup>162</sup> Similar to USFS multiple-use, some of these uses (e.g., range/grazing) benefit from the construction of fences. In the American West, the BLM constructs over 300 miles of fence annually on public lands.<sup>163</sup>

The following sections summarize the language from statutes, regulations, and directives that impact, or could be used to impact, BLM decisions about fencing. I then discuss some examples of how these policies have manifested in RMPs and AMPs, followed by an analysis of how these various levels of policy and implementation can be used to advocate for wildlife-friendly fencing on BLM lands.

### Statutes

#### *Taylor Grazing Act*

The Taylor Grazing Act of 1934 (TGA) was enacted in response to land degradation caused by overgrazing. While this is important regarding private grazing on public lands, it contains nothing substantive regarding fencing other than to state that fences may be constructed by lessees with a permit.

Section 3 of the TGA authorizes the Secretary of Interior to issue grazing *permits* within grazing districts. Section 15 of the TGA authorizes the Secretary to *lease* lands for grazing that do not lie within grazing districts. Consequently, BLM managers will use the

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<sup>162</sup> 43 U.S.C. § 1702(c), emphasis added.

<sup>163</sup> Annual average from 2015 to 2019 from recorded data published in *BLM Public Land Statistics* <<https://www.blm.gov/about/data/public-land-statistics>> (see Table 2-3 in each annual publication).

terms *permit* and *lease* to refer to these different grazing authorizations, but they are practically synonymous for the purposes of this paper.

### *Federal Lands Policy and Management Act*

The Federal Lands Policy and Management Act of 1976 (FLPMA) is the BLM's organizing and foundational statute, providing the rough equivalent of the Organic Act, MUSYA, and NFMA for the USFS. Big picture FLPMA provisions relevant to wildlife-friendly fencing include the multiple-use mandate, planning requirement, and structure for grazing leases/permits and AMPs. Each of these are discussed below.

FLPMA mandates that BLM lands be managed for multiple use, requiring:

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... a combination of balanced and diverse resource uses that takes into account the long-term needs of future generations for renewable and non-renewable 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 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.<sup>164</sup>

This makes clear the need to *consider* wildlife but does little to inhibit agency discretion on the matter. The requirement to avoid permanent impairment of the quality of the environment is more substantive but still allows for significant agency discretion.

More substantively, FLPMA requires that, “[i]n managing the public lands the Secretary shall, by regulation or otherwise, *take any action necessary to prevent unnecessary or undue degradation of the lands.*”<sup>165</sup> This statutory requirement, known as the UUD standard, could be interpreted to compel the Secretary of the Interior to take action to prevent the unintended impacts of traditional fencing on wildlife, which clearly constitutes “unnecessary” and arguably “undue” degradation of the wildlife resource

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<sup>164</sup> 43 U.S.C. § 1702(c), emphasis added.

<sup>165</sup> 43 U.S.C. § 1732(b), emphasis added.

based on the common meanings of both words. While the UUD standard has much potential, the BLM's regulatory interpretation has effectively minimized its effect.<sup>166</sup>

Section 202 of the FLPMA lays out the process for land use planning. Land use plans, or resource management plans (RMPs), developed through this process specify what uses are suitable or unsuitable for specified land areas. It is worth noting that, at two pages long, the planning section in the FLPMA is roughly five percent the length of equivalent statutory planning requirements in the NFMA. In developing or revising RMPs, the Secretary shall “give priority to the designation and protection of areas of critical environmental concern [ACECs],”<sup>167</sup> where ACECs are defined as “areas within the public lands where special management attention is required (when such areas are developed or used or where no development is required) to protect and prevent irreparable damage to important historic, cultural, or scenic values, *fish and wildlife* resources or other natural systems or processes.”<sup>168</sup> While this provision helps support the need for wildlife-friendly fencing, its impact is likely limited to species listed under the ESA or otherwise of concern in the plan area. Additionally, ACECs have historically been underutilized by the BLM.<sup>169</sup> Nonetheless, ACECs are a potentially powerful tool for wildlife advocates for specific, well-defined areas where fence hazards exist (e.g., along known migration routes, wintering grounds, and lek locations).

Regarding grazing leases and permits, Section 402 of the Act generally references the TGA and provides additional stipulations on permit/lease duration and legitimate causes of termination. This section of the Act makes no reference to wildlife or fencing.

The FLPMA defines allotment management plan (AMP) and provides guidance for what must be included in an AMP. AMPs are developed in consultation with lessees and apply to livestock operations on public lands.<sup>170</sup> AMPs typically cover areas with multiple grazing leases and lessees. Each AMP shall prescribe “the manner in, and extent to, which livestock operations will be conducted in order to meet the multiple-use,

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<sup>166</sup> The regulatory definition of *unnecessary or undue degradation* at 43 C.F.R. § 3809.5 provides no additional aid to wildlife advocates arguing this point. In effect, it states that degradation will be considered unnecessary or undue if other laws are violated.

<sup>167</sup> 43 U.S.C. § 1712(c)(3).

<sup>168</sup> 43 U.S.C. § 1702(a), emphasis added.

<sup>169</sup> See Karin P. Sheldon & Pamela Baldwin, *Areas of Critical Environmental Concern: FLPMA's Unfulfilled Conservation Mandate*, 28 COLO. NAT. RESOURCES ENERGY & ENVTL. L. REV. 1 (2017).

<sup>170</sup> AMPs sometimes include state and private land as well.

sustained-yield, economic and other needs and objectives as determined for the lands by the Secretary concerned.”<sup>171</sup> The requirement to meet the multiple-use mandate explicitly means that wildlife must be considered.

AMPs must also describe “the type, location, ownership, and general specifications for the range improvements to be installed and maintained on the lands to meet the livestock grazing and other objectives of land management.”<sup>172</sup> As fences are considered improvements, this means that AMPs must describe where fences will be constructed and the type of fence that will be constructed.

Section 505 of the Act requires that “each right-of-way...contain...terms and conditions which will...minimize damage to...fish and wildlife habitat.”<sup>173</sup> This substantive requirement could and should apply to fencing as fences are often constructed along roadway rights-of-way. This simple statutory requirement appears to compel the use of wildlife-friendly fencing within rights-of-way. Aside from the unrealized potential of the UUD standard, discussed above, the FLPMA does not contain similarly compelling language relevant to rangelands, allotments, or grazing permits/leases.

#### *Public Rangelands Improvement Act*

The Public Rangelands Improvement Act of 1978 (PRIA) contains nothing explicit about fencing. While fences could be considered an improvement under this Act, the Act’s focus is on restoration of degraded lands with an exclusive focus on soil and vegetation. PRIA provides pathways for obtaining funding for range improvements as well as specifying the formula to be used in calculating grazing fees paid by lessees.

#### Regulations

Relevant BLM regulations are codified at 43 C.F.R. Parts 1000 through 5510. Development of resource management plans (RMPs) is codified at 43 C.F.R. § 1600. Regulations that most specifically address fencing and wildlife are contained in the sections and subsections that pertain to grazing administration and management.<sup>174</sup>

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<sup>171</sup> 43 U.S.C. § 1702(k)(1).

<sup>172</sup> 43 U.S.C. § 1702(k)(2).

<sup>173</sup> 43 U.S.C. § 1765(a).

<sup>174</sup> Grazing administration regulations are codified at 43 C.F.R. § 4100 – Grazing Administration - Exclusive of Alaska. Subparts most relevant to fencing and wildlife are: 43 C.F.R. § 4120 – Grazing Management, 43 C.F.R. § 4130 – Authorizing Grazing Use, 43 C.F.R. § 4140 – Prohibited Acts, and 43

Regulations require that planning processes use an “interdisciplinary approach” and that the “disciplines of the preparers [are] appropriate to the values involved and the issues identified during the issue identification and environmental impact statement scoping stage of the planning process.”<sup>175</sup> For example, grazing planning must include input from wildlife specialists where wildlife values are involved. Regulations provide that ACECs “shall be identified and considered throughout the resource management planning process,”<sup>176</sup> which downgrades the statutory language requiring the BLM to “prioritize” ACECs in the planning process. Regulations provide no substantive ACEC requirements beyond this identification and consideration.

Grazing management regulations clarify that the BLM will develop standards and guidelines to manage development projects and activities.<sup>177</sup> While not specifically mentioned, fence construction is one of the most common types of projects/activities on BLM lands managed for grazing. State and regional standards must address “[h]abitat for endangered, threatened, proposed, candidate, and other special status species”<sup>178</sup> and “[h]abitat quality for native plant and animal populations and communities,”<sup>179</sup> providing a fallback standard that “[h]ealthy, productive and diverse populations of native species exist and are maintained.”<sup>180</sup> Standards must also address “[m]aintaining or promoting the physical and biological conditions to sustain native populations and communities,”<sup>181</sup> with the fallback guideline that “[m]anagement practices maintain or promote the physical and biological conditions necessary to sustain native populations and communities.”<sup>182</sup> These standards and guidelines were written by regional resource advisory councils in the late 1990s following regulatory changes in 1994 and have not been updated since.<sup>183</sup> These state/regional requirements suggest the obligation for

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C.F.R. § 4180 – Fundamentals of Rangeland Health and Standards and Guidelines for Grazing Administration.

<sup>175</sup> 43 C.F.R. § 1610.1(c) (1983).

<sup>176</sup> 43 C.F.R. § 1610.7-2.

<sup>177</sup> 43 C.F.R. § 4180.2 (generally) and 43 C.F.R. § 4180.2(c)(3) (specifically).

<sup>178</sup> 43 C.F.R. § 4180.2(d)(4).

<sup>179</sup> 43 C.F.R. § 4180.2(d)(5).

<sup>180</sup> 43 C.F.R. § 4180.2(f)(1)(iv).

<sup>181</sup> 43 C.F.R. § 4180.2(e).

<sup>182</sup> 43 C.F.R. § 4180.2(f)(2)(vi).

<sup>183</sup> I reviewed the *Montana/Dakotas Standards for Rangeland Health and Guidelines for Rangeland Management* prepared by the BLM’s Montana State Office in 1997. The four districts within the Montana/Dakotas each wrote their own standards and guidelines, which are substantially similar and tend

measurable and enforceable commitments on the part of the BLM in the form of standards and guidelines. However, the fallback standards and guidelines articulated in the regulation set a precedent for vague language that does not impose an enforceable commitment on the agency. While these regulations provide an opportunity for substantive fence-related standards and guidelines, they seem to be crafted to retain significant agency discretion.

Regulations address “fundamentals of rangeland health,” which include the requirement that standards and guidelines are consistent with the following statement: “Habitats 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.”<sup>184</sup> Where any of these listed species classifications are impacted by fences, this requirement can be drawn upon to compel agencies to make decisions that contribute to such habitat progress.<sup>185</sup>

AMPs must include terms and conditions that facilitate the above requirements.<sup>186</sup> Importantly, AMPs are to be “prepared in careful and considered *consultation, cooperation, and coordination* with affected permittees or lessees, landowners involved, the resource advisory council, any State having lands or responsible for managing resources within the area to be covered by such a plan, and the *interested public*.”<sup>187</sup> This obligates the BLM to hear the concerns of wildlife advocates, but it does not require that they respond to those concerns in any particular way. Historically, the BLM has tended to use its discretion on this matter to acquiesce to relatively powerful grazing interests.<sup>188</sup>

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to be very generic and lack measurability. For example, “Butte Guideline #11: Grazing management practices should maintain or improve habitat for federally listed threatened, endangered, and sensitive plants and animals.” These standards and guidelines did not mention fencing.

<sup>184</sup> 43 C.F.R. § 4180.1(d).

<sup>185</sup> See *Western Watersheds Project v. Salazar*, 843 F. Supp. 2d 1105 (D. Idaho 2012), where the district court held, in part, that this fundamental of rangeland health constituted a substantive standard that required the BLM to demonstrate that their decision to add exclusion fencing to a riparian area contributed to making significant progress toward improving sage-grouse habitat. Sage-grouse were classified as a candidate species at the time of the case.

<sup>186</sup> 43 C.F.R. § 4120.2(a)(1).

<sup>187</sup> 43 C.F.R. § 4120.2(a) (emphasis added).

<sup>188</sup> See Joseph M. Feller, “The BLM’s Proposed New Grazing Regulations: Serving the Most Special Interest,” *Journal of Land, Resources, & Environmental Law* 24, no. 2 (2004): 241-248 at 242, stating in reference to public land grazers, “The ability of such a small and economically marginal group of people to control such vast public resources is, to this author’s knowledge, unequalled in any other realm of public administration.”

Importantly, AMPs are not required, and many allotments lack plans. In these cases, terms and conditions required in AMPs are relegated to the permit/lease level.

The regulations make clear that permits are required for constructing improvements, such as fences, requiring that permits must specify the type and location of fences;<sup>189</sup> and that wildlife considerations must be taken into account.<sup>190</sup> Beyond this, the regulations provide no guidance for *how* to do this, which relegates the *how* to the domains of directives and planning.

Relevant to funding for fencing projects, funds appropriated through the range improvement fund “are to be used for investment in all forms of improvements that benefit rangeland resources including ... fish and wildlife habitat improvement or protection.”<sup>191</sup>

### Directives

The BLM uses different nomenclature to categorize internal agency policy guidance documents than that used by the USFS. Furthermore, the agency’s use of these terms is inconsistent. The BLM’s website broadly refers to these types of documents as *policy documents*, which include manuals, handbooks, memoranda of understanding (MOU), and directives, where directives include instruction memoranda (IM) and information bulletins (IB).<sup>192</sup> However, the agency’s handbooks implicitly recognize manuals, handbooks, IM, and IB as directives.<sup>193</sup> For the purposes of this paper, I follow the structure suggested in Handbook H-1221-1, in which manuals and handbooks (permanent directives), and IM and IB (temporary directives) all fall under the umbrella of directives. Only permanent directives and executive orders are considered herein.

Whereas Forest Service directives are all available online, only some BLM directives are publicly available. The agency classifies directives as public, internal, and

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<sup>189</sup> 43 C.F.R. § 4120.3-3(a); § 4120.3-4.

<sup>190</sup> 43 C.F.R. § 4100.0-5 defines *range improvement* as a “physical modification or treatment which is designed to improve production of forage; change vegetation composition; control patterns of use; provide water; stabilize soil and water conditions; restore, protect and improve the condition of rangeland ecosystems to benefit livestock, wild horses and burros, and *fish and wildlife*.” (emphasis added). § 4120.3-1(a) also requires that range improvements “be installed, used, maintained, and/or modified on the public lands, or removed from these lands, in a manner consistent with multiple-use management,” which includes wildlife and fish.

<sup>191</sup> 43 C.F.R. § 4120.3-8(b).

<sup>192</sup> <https://www.blm.gov/learn/blm-library/policy-resources>

<sup>193</sup> *For example*, see H-1221-1 at I(B)(2).

restricted. Public directives are available on the agency's website.<sup>194</sup> Internal directives are available to all BLM staff, and restricted directives are only available to certain staff. Both internal and restricted directives could possibly be obtained through a FOIA request, but doing so was beyond the scope of this paper. Regardless of directive classification, directives are generally not enforceable and do not compel particular agency actions. Nonetheless, they can provide valuable insight into what factors into agency decisions and how different variables are considered. Considering that this is a public agency managing lands collectively owned by the public, why some directives need to be secretive is cause for suspicion.

BLM Manual 6840<sup>195</sup> concerns the BLM's treatment of special status species. The general policy outlined in the manual reiterates the conservation requirements for listed species under the ESA and extends the concept to proposed and candidate species as well as other species identified by the BLM as sensitive. The manual defines *special status species* as inclusive of "federally listed or proposed and Bureau sensitive species, which include both Federal candidate species and delisted species within 5 years of delisting."<sup>196</sup> *Bureau sensitive species* are defined as "species that require special management consideration to avoid potential future listing under the ESA..."<sup>197</sup> Further, sensitive species are to be "managed consistent with species and habitat management objectives in land use and implementation plans to promote their conservation and to minimize the likelihood and need for listing under the ESA."<sup>198</sup> These definitions are important to keep in mind as planning and implementation documents reference them extensively. The manual does not mention fencing.

The most pertinent BLM directive guiding wildlife-friendly fence construction is BLM Handbook H-1741-1 – Fencing (hereinafter, Fencing Handbook),<sup>199</sup> the most current version of which is from 1989. The handbook's introduction states that "all means

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<sup>194</sup> BLM, *supra* note 192.

<sup>195</sup> BLM Manual 6840 – Special Status Species Management. Dec. 12, 2008.

<sup>196</sup> *Id.* at Glossary 5.

<sup>197</sup> *Id.* at Glossary 5.

<sup>198</sup> *Id.* at .06.

<sup>199</sup> BLM Handbook H-1741-1 (also referred to by the BLM as the fencing manual) is not publicly available. For this paper, I reviewed a version that was posted online at: [https://www.nrcs.usda.gov/wps/PA\\_NRCSCconsumption/download?cid=nrcseprd1080610&ext=pdf](https://www.nrcs.usda.gov/wps/PA_NRCSCconsumption/download?cid=nrcseprd1080610&ext=pdf)

of animal control should be considered before deciding on a specific technique”<sup>200</sup> and emphasizes that “[c]onsideration of all affected resource values is necessary before deciding to use this sometimes controversial management practice.”<sup>201</sup> Regarding grazing management, “[f]ences must be constructed in a manner that ensures adequate control of livestock consistent with achieving wildlife, recreation, vegetation management and other program or resource objectives.”<sup>202</sup> Regarding wildlife, “[f]encing proposals should be reviewed by wildlife program personnel early in the planning process to assure that adverse impacts on wildlife are either avoided, mitigated, or are consistent with management direction.”<sup>203</sup>

The Fencing Handbook provides thorough guidance for constructing fences in ungulate habitat to mitigate barriers to travel and promote connectivity. It goes so far as to state that new fences built across wildlife migration routes or in heavy use areas should be flagged with a temporary material to reduce the negative impact to wildlife while they become accustomed to the new fence location.<sup>204</sup> Wire spacing requirements are very similar to more modern recommendations,<sup>205</sup> with recommended spacing varying based on the dominant wildlife found on the landscape and the livestock to be contained.

The Fencing Handbook also provides guidance for modifying or removing existing fence. It recommends that fence be modified or removed where:

- “Seasonal, daily, or other movement of big game is restricted;”
- “Wild horse, big game, or livestock movement onto highways regularly leads to accidents;”
- “A fence was not constructed to contract specifications or the stipulations of an authorization;” and
- “A fence is no longer needed to achieve management objectives.”<sup>206</sup>

The handbook clarifies that the “principal beneficiary” has maintenance responsibility.<sup>207</sup> In grazing lease/permit situations, the principal beneficiary is typically the lessee/permittee. The handbook concludes with several pages of drawings and

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<sup>200</sup> H-1741-1 at I-1.

<sup>201</sup> *Id.*

<sup>202</sup> *Id.* at II-3.

<sup>203</sup> *Id.* at II-4.

<sup>204</sup> *Id.* at IV-3.

<sup>205</sup> For example, Paige, *supra* note 36.

<sup>206</sup> H-1741-1 at V-1.

<sup>207</sup> *Id.* at VI-1.

specifications for various types of wildlife-friendly fence construction. The fencing manual contains no reference to hazards posed by fences to avian wildlife.

Secretarial Order No. 3362,<sup>208</sup> applicable to bureaus within the Department of Interior, was promulgated to improve big-game habitat in winter range and along migration corridors. Among other things, the order directs the BLM (along with the FWS and NPS) to “[e]valuate and appropriately apply site-specific management activities... that conserve or restore habitat necessary to sustain local and regional big-game populations through measures that may include...working cooperatively with private landowners and State highway departments to achieve permissive fencing measures, including potentially modifying (via smooth wire), removing (if no longer necessary), or seasonally adapting (seasonal lay down) fencing if proven to impede movement of big game through migration corridors.” With respect to big-game, this clearly puts the BLM in a leadership position to coordinate wildlife-friendly fencing across jurisdictions. Along with this responsibility, one could implicitly assume that the BLM would model these same practices on their own jurisdictional lands.

Department Manual 516, Chapter 11<sup>209</sup> clarifies the NEPA process as pertaining to the BLM. Actions qualifying as Categorical Exclusions (CEs) related to fences include:

- Modification of existing fences to provide improved wildlife ingress and egress.<sup>210</sup>
- Placement and use of temporary (not to exceed one month) portable corrals.<sup>211</sup>
- Construction of snow fences for safety purposes or to accumulate snow for small water facilities.<sup>212</sup>
- Construction of small protective enclosures, including those to protect reservoirs and springs and those to protect small study areas.<sup>213</sup>
- Removal of structures and materials of no historical value, such as abandoned automobiles, fences, and buildings, including those built in trespass and reclamation of the site when little or no surface disturbance is involved.<sup>214</sup>

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<sup>208</sup> Ryan Zinke. Secretarial Order No. 3362: *Improving Habitat Quality in Western Big-Game Winter Range and Migration Corridors*. Feb. 9, 2018.

<sup>209</sup> US Department of the Interior (USDI). (2008). Departmental Manual Part 516, Chapter 11 – Managing the NEPA Process—Bureau of Land Management.

<sup>210</sup> *Id.* at 11.9(A)(1).

<sup>211</sup> *Id.* at 11.9(D)(2).

<sup>212</sup> *Id.* at 11.9(J)(7).

<sup>213</sup> *Id.* at 11.9(J)(9).

Importantly, general construction or replacement of fences does not fall under a CE. Most often, an EA is conducted for fence projects, resulting in a finding of no significant impact (FONSI). Fence construction can also be part of a larger project requiring an EIS. NEPA's role in decisions implicating fencing is discussed in more detail in the *Planning and Implementation* section, below.

The BLM has several policy documents outside of the directive structure specific to the greater sage-grouse (hereinafter, sage-grouse). In 2004, the BLM published their National Sage-grouse Habitat Conservation Strategy.<sup>215</sup> This document directs land managers to “avoid surface occupancy by roads, livestock management facilities, well pads, powerlines, fences, or other structures adjacent to occupied leks” whenever feasible and environmentally preferred.<sup>216</sup> It also directs managers to “[d]esign and locate the placement of fences for livestock, wildlife, wild horse and burro, recreation and developed site protection so as not to disturb important sage-grouse habitat areas. Poorly placed or improperly designed fences can provide perches for raptors and cause mortality of birds that fly into wires. Increasing the visibility of new fences can reduce hazards to flying sage-grouse.”<sup>217</sup> While this last part acknowledges sage-grouse-fence collision mortality, it does nothing to compel mitigating measures.

Sage-grouse narrowly avoided ESA listing in 2015 after spending several years as a candidate species.<sup>218</sup> A large part of the reasoning used by the U.S. Fish and Wildlife Service (USFWS) for not listing the species was the conservation measures put in place since the decision to classify greater sage-grouse as a candidate species, which was largely done through RMP amendments. These amendments added species-specific protections for sage-grouse, which created a way for the USFWS to justify the existence of adequate “regulatory mechanisms” per Section 4 of the ESA.<sup>219</sup> The BLM subsequently issued several other documents relevant to sage-grouse and sage-grouse

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<sup>214</sup> *Id.* at 11.9(J)(10).

<sup>215</sup> US Department of the Interior, Bureau of Land Management (USDI BLM). (2004). *BLM National Sage-grouse Habitat Conservation Strategy*.

<sup>216</sup> *Id.* at 16.

<sup>217</sup> *Id.* at 20.

<sup>218</sup> 80 Fed. Reg. 59858-59942, 2015.

<sup>219</sup> Per 16 U.S.C. § 1533(a)(1), the Secretary is to make a listing determination based on five factors, one of which is the “inadequacy of existing regulatory mechanisms.”

habitat, many of which fail to acknowledge fence-related mortality<sup>220</sup> and others which serve primarily to narrowly construe the agency's obligations and maximize agency discretion.<sup>221</sup>

The impact of fencing on wildlife is infrequently acknowledged in other BLM manuals and handbooks related to rangeland health and structural improvements,<sup>222</sup> but these references provide no substantive guidance beyond that provided in the Fencing Handbook.

### Planning and Implementation

The statutes and regulations that require BLM planning are different and less rigorous than those requiring Forest Service planning. However, there are several parallels. The basic BLM planning process includes a scoping period, which includes public participation and commenting and culminates in the preparation of a report known as an Analysis of Management Situation (AMS). Following preparation of the AMS, the

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<sup>220</sup> E.g., Stiver, S. J., Rinkes, E. T., Naugle, D. E., Makela, P. D., Nance, D. A., and Karl, J. W. eds. (2015). Sage-Grouse Habitat Assessment Framework: A Multiscale Assessment Tool. Technical Reference 6710-1. Bureau of Land Management and Western Association of Fish and Wildlife Agencies, Denver, Colorado. and Pyke, D.A., Chambers, J.C., Pellant, M., Knick, S.T., Miller, R.F., Beck, J.L., Doescher, P.S., Schupp, E.W., Roundy, B.A., Brunson, M., and McIver, J.D. (2015). *Restoration handbook for sagebrush steppe ecosystems with emphasis on greater sage-grouse habitat—Part 1*. Concepts for understanding and applying restoration: U.S. Geological Survey Circular 1416, 44 p., <http://dx.doi.org/10.3133/cir1416>  
Pyke, D.A., Knick, S.T., Chambers, J.C., Pellant, M., Miller, R.F., Beck, J.L., Doescher, P.S., Schupp, E.W., Roundy, B.A., Brunson, M., and McIver, J.D. (2015). *Restoration handbook for sagebrush steppe ecosystems with emphasis on greater sage-grouse habitat—Part 2*. Landscape level restoration decisions: U.S. Geological Survey Circular 1418, 21 p., <http://dx.doi.org/10.3133/cir1418>  
Pyke, D.A., Chambers, J.C., Pellant, M., Miller, R.F., Beck, J.L., Doescher, P.S., Roundy, B.A., Schupp, E.W., Knick, S.T., Brunson, M., and McIver, J.D. (2018). *Restoration handbook for sagebrush steppe ecosystems with emphasis on greater sage-grouse habitat—Part 3*. Site level restoration decisions (ver. 1.1, March 2018): U.S. Geological Survey Circular 1426, 62 p., <https://doi.org/10.3133/cir1426>

<sup>221</sup> E.g., U.S. Department of the Interior, Bureau of Land Management (USDI BLM). (2017a). *Gunnison and Greater Sage-Grouse (Including the Bi-State Distinct Population Segment) Habitat Assessment Policy*. IM 2018-021, and US Department of the Interior, Bureau of Land Management (USDI BLM). (2017b). *Implementation of Greater Sage-Grouse Resource Management Plan Revisions or Amendments – Oil & Gas Leasing and Development Prioritization Objective*. IM 2018-026.

US Department of the Interior, Bureau of Land Management (USDI BLM). (2017c). *Implementation of the Habitat Objectives Table from the 2015 Greater Sage-Grouse Approved Resource Management Plans and Amendments*. IM 2018-025.

US Department of the Interior, Bureau of Land Management (USDI BLM). (2017d). *Process for Evaluating Greater Sage-Grouse Land Use Plan Adaptive Management Hard and Soft Triggers*. IM 2018-022.

<sup>222</sup> E.g., MS-4100 – Grazing Administration (2009); Handbook H-4180-1 – Rangeland Health Standards (2001); BLM Natural Resource Damage Assessment and Restoration Handbook (2008); Handbook H-1740 – Renewable Resource Improvements and Treatments (2008); Handbook H-1740-2 – Integrated Vegetation Management (2008); and MS-9100 – Engineering (2008).

BLM prepares a draft RMP and draft EIS. After a 90-day comment period on the draft, the BLM prepares a Proposed RMP and Final EIS. The RMP and EIS are published as a single document as required in the C.F.R..<sup>223</sup> After a 30-day protest period the BLM prepares and publishes a record of decision and an Approved RMP. For a more detailed overview of the BLM planning process, see *A Citizens Guide to the Bureau of Land Management's Resource Management Planning Process*.<sup>224</sup>

For this paper, I reviewed the AMS (where available), proposed RMP and final EIS, and the approved RMP for six field offices in areas with known populations of species impacted by fences. My preliminary plan review of a broader set of plans revealed significant variation in plan structure and language, although plans for field offices within the same BLM district were quite similar. For this reason, all six plans selected for this review are from different BLM districts. The RMPs I reviewed and summarize below include those from the following field offices: Missoula (MT), Lewistown (MT), Miles City (MT), Pinedale (WY), Pocatello (ID), and Taos (NM). This is not intended to provide a statistically significant sample, but rather to illustrate representative examples of how BLM policies are incorporated into planning documents in western states where research shows that fences can pose significant risks to wildlife.

#### *Missoula Field Office*

The BLM completed an AMS for the Missoula Field Office in 2016.<sup>225</sup> The AMS clearly articulates the hazards posed by fences to pronghorn<sup>226</sup> and identifies an associated management opportunity to “[c]onstruct and rebuild fences to minimize injury and restrictions to big game movements.”<sup>227</sup> The AMS does not specifically mention fence hazards posed to ungulates other than pronghorn, nor does it mention avian wildlife. The proposed RMP/final EIS indicates that approximately 175 miles of fence

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<sup>223</sup> 43 C.F.R. § 1601.0-6: “Approval of a resource management plan is considered a major Federal action significantly affecting the quality of the human environment. The environmental analysis of alternatives and the proposed plan shall be accomplished as part of the resource management planning process and, wherever possible, the proposed plan and related environmental impact statement shall be published in a single document.”

<sup>224</sup> Erik Schlenker-Goodrich. *A Citizens Guide to the Bureau of Land Management's Resource Management Planning Process*. The Wilderness Society, January 2002.

<sup>225</sup> Bureau of Land Management, Missoula Field Office. *Analysis of the Management Situation*. Aug. 31, 2016.

<sup>226</sup> *Id.* at 118.

<sup>227</sup> *Id.* at 149.

are present on lands administered by the Missoula Field Office.<sup>228</sup> Under the “Management Actions and Allowable Uses” section for livestock grazing and wildlife, it states that the BLM is to “[b]uild new fences to standard specifications to allow safe passage and/or to keep native wildlife out of an area (Appendix P).”<sup>229</sup> On another page, the document states that “[n]ew and old fences would be designed or redesigned according to BMPs (Appendix P).”<sup>230</sup> Appendix P provides no additional insight specific to wildlife-friendly fencing, but does provide guidance for constructing communication towers to reduce hazards to avian wildlife. Appendix J, specific to post-fire emergency stabilization and rehabilitation procedures, says to “[f]ollow BLM Manual Handbook H-1741-1 for fencing specifications.”<sup>231</sup> In response to a public comment suggesting that the document contain language requiring all new fences to be constructed in a wildlife-friendly manner, the BLM responded that “BLM Manual H-17-41-1 and the Montana FWP Fencing Guide are the BLM standards applied when a project involves fencing.”<sup>232</sup> While this is and should be the case, the above quoted comment response is the only place where this requirement is clearly indicated. The Approved RMP includes a big-game specific wildlife management action to “[b]uild new fences to standard specifications to allow safe passage and/or to keep native wildlife out of an area (Appendix P).”<sup>233</sup> As in the FEIS, Appendix P provides no additional clarity and fails to mention Handbook H-1741-1 as the source of fencing BMPs. The RMP is silent on upgrading existing fencing and limiting fence hazards to wildlife other than big game. This serves as a good example of how many RMPs demonstrate an intent to adhere to wildlife-friendly fence standards, but is very clunky, inconsistent, and unclear in how it approaches the issue.

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<sup>228</sup> Bureau of Land Management, Missoula Field Office. *Proposed Resource Management Plan and Final Environmental Impact Statement*. 2 volumes. February 2020 at Vol. 1, 141.

<sup>229</sup> *Id.* at Vol. 1, 45.

<sup>230</sup> *Id.* at Vol. 1, 233.

<sup>231</sup> *Id.* at Vol. 2, J-4.

<sup>232</sup> *Id.* at Vol. 2, S-23.

<sup>233</sup> Bureau of Land Management, Missoula Field Office. *Resource Management Plan*. January 2021, at II-29.

### *Lewistown Field Office*

The BLM completed an AMS for the Lewistown Field Office in 2014.<sup>234</sup> The document summarizes the management decision relevant to wildlife-fence conflict in the existing RMP as follows: “Range improvements generally will be designed to achieve both wildlife and range objectives. Existing fences may be modified and new fences will be built so as to allow wildlife passage.”<sup>235</sup> The analysis concludes that this decision is responsive to current issues. The management decision in the proposed RMP/final EIS<sup>236</sup> for the alternative that was ultimately selected is that “[e]xisting fences may be modified or removed to enhance wildlife movements. Build new fences to allow wildlife passage.” The hazards posed by fences to ungulates and avian wildlife are acknowledged in chapter 4.<sup>237</sup> In the approved RMP,<sup>238</sup> fish and wildlife management action eight (FW-MA-08) mirrors language from the final EIS: “Action: Existing fences may be modified or removed to enhance wildlife movements. Build new fences to allow wildlife passage.”<sup>239</sup> Appendix F mentions that “[r]oad access and fencing should be minimized to reduce or prevent habitat fragmentation and disturbance and to reduce aboveground obstacles to birds in flight,”<sup>240</sup> but this is specific to communication towers. Neither the final EIS nor the approved RMP mention Handbook H-1741-1 nor other standards which might guide fence construction or decisions to modify/replace existing fence.

### *Miles City Field Office*

The BLM completed an AMS for the Miles City Field Office in 2006.<sup>241</sup> The AMS contains very general acknowledgements of hazards posed by fences to wildlife,

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<sup>234</sup> Bureau of Land Management, Lewistown Field Office. *Analysis of the Management Situation*. Sept. 2014.

<sup>235</sup> *Id.* at 346.

<sup>236</sup> Bureau of Land Management, Lewistown Field Office. *Lewistown Proposed Resource Management Plan and Final Environmental Impact Statement*. 4 volumes. February 2020 at 2-17.

<sup>237</sup> *Id.* at 4-61, “Structural range improvements could provide perches for raptors, where they can prey on small mammals and birds. In addition, fences could create barriers for certain wildlife by blocking or hindering movements, seasonal migrations, and access to forage and water.” *Id.* at 4-62, “Range improvements, lack of residual cover, and concentrated livestock use would have the greatest effect on greater sage-grouse, as fences and the absence of cover may provide predation opportunities or may present a collision hazard.”

<sup>238</sup> Bureau of Land Management, Lewistown Field Office. *Record of Decision and Approved Lewistown Resource Management Plan*. January 2021.

<sup>239</sup> *Id.* at II-25.

<sup>240</sup> *Id.* at F-17.

<sup>241</sup> Bureau of Land Management, Miles City Field Office. *Management Situation Analysis*. Feb. 2006.

primarily with respect to special status species. The document points out that “existing RMPs for the Miles City Planning Area and other policies and regulations are intended to maintain and ensure the natural abundance and diversity of wildlife resources on BLM-administered lands.”<sup>242</sup> This is important because it indicates an intent to manage for wildlife health even for species that are not considered special status species by the BLM. Existing livestock grazing standards and guidelines further substantiate the field office’s position on wildlife, with an emphasis on ESA listed species and special status species.<sup>243</sup> The Miles City proposed RMP/final EIS<sup>244</sup> contains a thorough discussion of the habitat needs of greater sage-grouse, including threats and compatibility with other resources.<sup>245</sup> Fencing in sage-grouse habitat is considered as part of this discussion.<sup>246</sup> Objective 3 for all alternatives is to “[s]trive for the restoration of previously disturbed landscapes in a manner which increases or improves the quality and quantity of GRSG habitat.”<sup>247</sup> Conspicuously lacking is any similar discussion of the impact of fences on other wildlife species (e.g., pronghorn, which are common throughout the lands administered by the field office). A key plan component in the approved RMP for the Miles City Field Office<sup>248</sup> is to “[a]llow range improvements that do not impact GRSG or that provide a conservation benefit to GRSG, such as fences for protecting important seasonal habitats.”<sup>249</sup> Interestingly, the example here focuses on using fences instead of minimizing them and mitigating their impact to sage-grouse, but the overarching intent to protect the species is clear. Appendices to the approved RMP provide more specific

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<sup>242</sup> *Id.* at 3-45.

<sup>243</sup> *Id.* at 3-53, “Standard 5: Habitats are provided for healthy, productive, and diverse native plant and animal populations and communities. Populations are improved or maintained for special status species (federally threatened, endangered, candidate, or Montana species of special concern).” *Id.* at 3-54, “Guideline 13: Grazing management practices should maintain or improve habitat for federal listed threatened, endangered, and special status plants and animals...Guideline 14: Grazing management practices should maintain or promote physical, ecological, and biological conditions to sustain native plant and animal communities.”

<sup>244</sup> Bureau of Land Management, Miles City Field Office. *Miles City Field Office Proposed Resource Management Plan and Final Environmental Impact Statement*. 3 volumes. June 2015.

<sup>245</sup> *Id.* at 4-146 to 4-165.

<sup>246</sup> *Id.* at 4-164. For example, “As literature suggests that moderate grazing is compatible with GRSG habitat (Strand and Launchbaugh 2013), closing acres to grazing may not itself benefit or harm GRSG. Possibly equally or more beneficial is properly locating or designing range improvements in GRSG habitat, limiting fencing, and meeting range health standards on grazing allotments in GRSG habitat.”

<sup>247</sup> *Id.* at 2-55.

<sup>248</sup> Bureau of Land Management, Miles City Field Office. *Miles City Field Office Approved Resource Management Plan*. Sept. 2015.

<sup>249</sup> *Id.* at 2-6.

guidance pertaining to fences in sage-grouse habitat, generally adhering to the least conservative recommendations provided by the best available science.<sup>250</sup> Appendix L – Mitigation Measures and Conservation Actions identifies two relevant best management practices (BMPs) to be applied to any BLM authorized activity: “If portions of existing fences or other structures are found to pose a significant threat to wildlife [such] as strike sites, raptor perches, connectivity barriers, etc. mitigate effects through removal, moving or modification; increase visibility of the fences by marking, or through the use of “take-down” fences...[and] Design new structural range improvement and locate supplements (salt or protein blocks) to conserve or enhance wildlife habitat. Structural range improvements in this context include, but not limited to: cattleguards, fences...”<sup>251</sup> These BMPs provide strong guidance while maintaining agency discretion to identify where threats are posed and where and when they choose to apply these BMPs. As in the final EIS, the approved RMP thoroughly considers fencing impacts to sage-grouse but does not address fencing impacts to ungulates.

#### *Pinedale Field Office*

The BLM completed an AMS for the Pinedale Field Office in 2003.<sup>252</sup> The AMS acknowledges the impacts of fences on pronghorn and articulates the BLM’s approach to the issue. In a general sense, “[n]ew range improvements (e.g., vegetation manipulation, water developments, and fencing) will be designed to the extent possible to meet multiple use objectives for all resources.”<sup>253</sup> More specifically,

BLM fence specifications require placing the bottom wire high enough to allow pronghorn to pass without affecting the containment of livestock. Although any new public land fences are constructed to these specifications, older fences are not, and new fences constructed on state or private lands within the RMPPA are not restricted to these specifications. Occasionally, snow may build up in the area between the bottom wire and the ground where it may impede herd movement.

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<sup>250</sup> *Id.* at GRSG BUF-1 (Appendix B). For example, this appendix states that the BLM will assess and address impacts to sage-grouse by applying “the lek buffer-distances specified as the lower end of the interpreted range in the report unless justifiable departures are determined to be appropriate,” followed by the clarification that this includes fences within 1.2 miles of leks. Note that this pertains to assessing and addressing impacts, not to substantive restrictions to BLM actions.

<sup>251</sup> *Id.* at MMCA-7 (Appendix L). This language comes directly from the BLM’s Biological Assessment for threatened and endangered species associated with the RMP.

<sup>252</sup> Bureau of Land Management, Pinedale Field Office. *Pinedale Management Situation Analysis*. Jan. 2003.

<sup>253</sup> *Id.* at 2-13.

When problems with herd mobility are identified, the fences are modified or gates on these fences are opened, especially during severe snow years.<sup>254</sup>

In discussing the environmental consequences of continuing current livestock grazing management direction, the BLM acknowledges that “[m]anagement considerations associated with wildlife can limit the agency’s ability to construct fences or water developments designed to improve grazing management.”<sup>255</sup> There is a strong focus on pronghorn in the Pinedale proposed RMP/final EIS,<sup>256</sup> specifically with respect to migration route challenges. As such, fencing within known migration route corridors is expressly of concern. The preferred alternative takes the approach of designating a bottleneck along a particular migration route as an ACEC, prohibiting construction of additional fencing within the ACEC “except to enhance the viability of the big game migration.”<sup>257</sup> This document also clarifies that “[n]ew fences are designed to reduce impacts on big game animals and comply with BLM Manual H-1741-1.”<sup>258</sup> Appendix 3, which provides mitigating guidelines and operating standards, states that “[e]xisting fences would be reconstructed or modified to meet BLM “wildlife friendly” standards to reduce or offset impacts to wildlife where determined necessary.”<sup>259</sup> While this sounds good, it is fully discretionary and compels nothing. A discussion of fence impacts to other wildlife, including sage-grouse, is missing from all of the above documents. When fence impacts to sage-grouse were brought up in comments to the draft EIS, the agency’s response was telling in that it clearly favored industry over sage-grouse conservation and the best available science.<sup>260</sup> The approved RMP<sup>261</sup> effectively contains the same provisions (and omissions) related to wildlife-friendly fencing as found in the proposed RMP/final EIS.

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<sup>254</sup> *Id.* at 3-94.

<sup>255</sup> *Id.* at 4-9.

<sup>256</sup> Bureau of Land Management, Pinedale Field Office. *Proposed Resource Management Plan and Final Environmental Impact Statement for the Pinedale Field Office*. Aug. 2008.

<sup>257</sup> *Id.* at 2-106.

<sup>258</sup> *Id.* at 3-32.

<sup>259</sup> *Id.* at A3-10.

<sup>260</sup> *Id.* at A27-555: “Many of these mitigation standards are currently being implemented. Industry is currently contesting peer-reviewed research on the effects of energy development to sage-grouse populations. BLM is committed to working with the grazing permittees on implementing strategies that are ecologically sound and will increase sage-grouse nesting success.”

<sup>261</sup> Bureau of Land Management, Pinedale Field Office. *Record of Decision and Approved Pinedale Resource Management Plan*. Nov. 2008.

### *Pocatello Field Office*

The BLM completed a scoping report for the Pocatello Field Office in 2003.<sup>262</sup> I was unable to locate or confirm the existence of an AMS. The scoping report mentions neither fences nor wildlife-fence conflicts. The proposed RMP/final EIS<sup>263</sup> has a strong focus on the conflict between livestock grazing and sage-grouse habitat given that “[a]pproximately 185,900 acres (96%) of key habitat, 235,700 acres (94%) of breeding habitat, and 70,900 acres (96%) of winter habitat for the greater sage-grouse overlaps grazing allotments within the [Pocatello Field Office].”<sup>264</sup> The document references both the BLM fencing handbook H-1741-1 as well as the Conservation Plan for Greater Sage-grouse in Idaho.<sup>265</sup> The Idaho plan summarizes GSG-fence conflict research, provides multiple recommendations to mitigate risks to sage-grouse caused by fences, and calls for continued research and monitoring to mitigate observed impacts. Mitigation recommendations include the identification of lek locations and determination of greatest risk fences, flagging fences where collisions are documented or likely, avoiding placing new fences within 1 km of leks, locating perchable structures as far away from leks as possible, and considering local conditions to reduce impacts to GSG.<sup>266</sup> Most relevant language in the approved RMP<sup>267</sup> appears to be copied verbatim from the final EIS. The approved RMP does contain a supplemental information report specific to the GSG as an attachment, which directly incorporates recommendations from the Idaho plan with respect to fences. The approved RMP also contains some language relevant to ungulate-fence conflict, such as Action FW-1.1.3: “Big game movement and safety will be enhanced through fence modifications using approved BLM fence designs,”<sup>268</sup> and the livestock grazing management guidelines to “[c]arefully consider the effects of new management facilities (e.g., water developments, fences) on healthy and properly

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<sup>262</sup> Bureau of Land Management, Pocatello Field Office. *Scoping Report for the Pocatello Resource Management Plan and Environmental Impact Statement*. Sept. 2003.

<sup>263</sup> Bureau of Land Management, Pocatello Field Office. *Proposed Resource Management Plan and Final Environmental Impact Statement*. April 2010.

<sup>264</sup> *Id.* at 4-198.

<sup>265</sup> Idaho Sage-grouse Advisory Committee. *Conservation Plan for the Greater Sage-grouse in Idaho*. 2006.

<sup>266</sup> *Id.* at 4-63 – 4-64.

<sup>267</sup> Bureau of Land Management, Pocatello Field Office. *Record of Decision and Approved Pocatello Resource Management Plan*. April 2012.

<sup>268</sup> *Id.* at 28.

functioning rangelands prior to implementation,” and “[d]esign management fences to minimize adverse impacts, such as habitat fragmentation, to maintain habitat integrity and connectivity for native plants and animals.”<sup>269</sup>

### *Taos Field Office*

The BLM completed a preliminary RMP/final EIS<sup>270</sup> for the Taos Field Office in 2011. I was unable to locate an AMS document associated with the plan. One of the wildlife goals is to “[e]nsure optimum populations and a natural abundance and diversity of wildlife resources on public lands by restoring, maintaining and enhancing habitat conditions.”<sup>271</sup> The EIS lists the two goals of the livestock grazing program as (1) “Manage the public rangelands to provide for a sustainable level of livestock grazing consistent with the principles of multiple use and sustained yield,” and (2) “Manage livestock grazing on the public rangelands to provide maintenance or enhancement of the natural resources.”<sup>272</sup> In the same section, the document references BLM Fencing Handbook H-1741-1 as a source for “Continuing Management Guidance”<sup>273</sup> to accomplish these goals. Alternative A, the preferred alternative, addresses both new and existing fences by stating that “[f]ences would be built to standard BLM wildlife specifications to allow for wildlife passage, with the exception of fences built specifically to keep native ungulates out of an area (i.e., forage monitoring plots). Fences identified as barriers to wildlife movement would be considered for removal or reconstruction.”<sup>274</sup> In discussing the existing environment, it is clear that the Taos Field Office has previously modified existing fences in big game migratory corridors.<sup>275</sup> The approved RMP<sup>276</sup> includes the same relevant information as the preliminary RMP/final EIS. Neither document mentions the impacts of fences on avian wildlife.

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<sup>269</sup> *Id.* at A-22.

<sup>270</sup> Bureau of Land Management, Taos Field Office. *Proposed Taos Resource Management Plan and Final Environmental Impact Statement*. Nov. 2011.

<sup>271</sup> *Id.* at 34.

<sup>272</sup> *Id.* at 57.

<sup>273</sup> *Id.* at 58.

<sup>274</sup> *Id.* at 101.

<sup>275</sup> *Id.* at 208, 213.

<sup>276</sup> Bureau of Land Management, Taos Field Office. *Taos Resource Management Plan*. May 2012.

### *BLM Plan Summary*

It is clear that ESA listed and special status species receive significantly more attention in BLM RMPs than other species. Relevant to the impacts of fences on wildlife in the American West, this generally means that RMPs consider impacts to greater sage-grouse with little to no attention paid to impacts to ungulates. It is worth noting that, as a result of the U.S. Fish and Wildlife Service's decision not to list the GSG under the ESA, many BLM plans were amended to help protect sage-grouse habitat and the BLM also issued regional Greater Sage-Grouse Approved Resource Management Plan Amendments (GRSG ARMPAs).<sup>277</sup> The Idaho-Western Montana GRSG ARMPA includes two management directions (MDs) and four required design features (RDFs) relevant to fencing:

- MD LG 11: Design any new structural range improvements, following appropriate cooperation, consultation and coordination, to minimize and/or mitigate impacts on GRSG habitat.<sup>278</sup>
- MD LG 13: Prioritize removal, modification or marking of fences or other structures in areas of high collision risk following appropriate cooperation, consultation and coordination to reduce the incidence of GRSG mortality due to fence strikes.<sup>279</sup>
- RDF-60: Restrict the construction of tall facilities and fences to the minimum number and amount needed. (Lands and Realty)<sup>280</sup>
- RDF-81: Require sage-grouse-safe fences. (Fluid Mineral Leasing)<sup>281</sup>
- RDF-105: Avoid building new wire fences within 2 km of occupied leks... If this is not feasible, ensure that high risk segments are marked with collision diverter devices or as latest science indicates. (Grazing)<sup>282</sup>
- RDF-107: Utilize temporary fencing (e.g., ESR, drop down fencing) where feasible and appropriate to meet management objectives. (Grazing)<sup>283</sup>

Through this and similar regional and field-office-level amendments, these directions and requirements effectively apply to all GSG habitat under the BLM's jurisdiction. These 2015 amendments have encouraged at least some shift in the BLM's

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<sup>277</sup> A good example of a GRSG ARMPA is the *Idaho and Southwestern Montana Greater Sage-Grouse Approved Resource Management Plan Amendment* prepared by the BLM's Idaho State Office, Sept. 2015.

<sup>278</sup> *Id.* at 2-24.

<sup>279</sup> *Id.* at 2-25.

<sup>280</sup> *Id.* at C-7.

<sup>281</sup> *Id.* at C-8.

<sup>282</sup> *Id.* at C-10.

<sup>283</sup> *Id.* at C-10.

multiple-use priorities away from extractive industry and toward wildlife conservation in sage-grouse habitat.

As demonstrated by the consideration of pronghorn in the Pinedale RMP, the BLM clearly has discretion to address the needs of non-special status species at the field office planning level. The ease of doing this is significantly aided by the existence of BLM's Fencing Handbook H-1741-1. While this reference needs to be updated to include avian species and the most current science, RMPs can simply state that all fences will be constructed in a wildlife-friendly manner in accordance with Handbook H-1741-1 (the Taos RMP comes close to doing this). As simple as this might be, not all plans make such a clear statement. This task is significantly more difficult for the Forest Service, which has no document comparable to the BLM's fencing handbook.

Because many RMPs leave decisions impacting fencing for allotment-level planning, I attempted to review a sample of BLM AMPs. These documents are generally not publicly available, unlike their associated NEPA documents. As with RMPs and their associated EISs, the NEPA documents associated with AMPs tend to contain more information than what would be provided in the AMP. In light of this, I reviewed a sample of seven EAs associated with BLM AMPs. I attempted to select documents from a random sample of allotments across the western U.S. written within the last 10 years. Due to availability and the difficulty of locating these documents, my sample ended up being somewhat opportunistic.<sup>284</sup> These EAs are from seven different field offices in seven different western states, all completed between 2015 and 2020.

All EAs reviewed acknowledge that fences can negatively impact wildlife. Each assessment also requires the use of wildlife-friendly fencing for new fences, although one study only required this in reference to sage-grouse and another simply prohibited new fencing due to wildlife considerations. Two documents directly referenced the BLM's Fencing Handbook (H-1741-1), while three others clearly used the manual to specify fence types or referenced BLM standard specifications. None of these plans contained a provision or requirement to replace existing fence with wildlife-friendly fence. While this

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<sup>284</sup> I located these documents using the BLM National NEPA Register at <https://eplanning.blm.gov/eplanning-ui/home> and searching for projects containing the word "allotment" in various parts of the western U.S. I ultimately selected geographically dispersed projects completed within the last ten years that included EAs available for download.

is not a systematic study of AMPs, this small sample illustrates the variability found in AMPs with respect to wildlife considerations in fencing. In comparison to the USFS AMPs reviewed (summarized previously), BLM AMPs tend to contain stronger wildlife-friendly fence language. Table 3 shows a summary of the relevant information gleaned from these documents.

State	Field Office	Allotment Name	Year	Acknowledgement of Wildlife-Fence Conflict	Requires WFF	Remove/Replace Provision	References BLM Handbook H-1741-1
CO	Gunnison	Big Draw, Vouga Reservoir, Barrett Creek, and Coyote Hill	2017	Yes	Yes	No	Yes (indirectly)
ID	Bruneau	DCC	2020	Yes (GSG only)	Yes (GSG only)	No	No
MT	Miles City	Pumpkin Creek	2020	Yes	Yes <sup>(1)</sup>	Replace to BLM specs	No
NV	Sierra Front	Paiute Canyon	2015	Yes	Yes	No <sup>(2)</sup>	Yes (indirectly)
OR	Burns	Alder Creek	2018	Yes	Yes <sup>(3)</sup>	No	Yes (indirectly)
WA	Wenatchee	Duffy Creek	2017	Yes	Yes	No	Yes
WY	Casper	Pathfinder, Granite Ridge, & Steamboard Lake	2019	Yes	Yes	Modify <sup>(4)</sup>	Yes
<p>✓ (1) Explicitly precludes new fences due to wildlife considerations.</p> <p>✓ (2) States that pasture fences will be considered for removal.</p> <p>✓ (3) New fence type spelled out in great detail, in accordance with Handbook H-1741-1.</p> <p>✓ (4) Includes provision to modify all fences determined to be strike or entrapment hazard.</p>							

The final level where fence types and specifications might be found is within grazing permits. Grazing permits are generally not publicly available. According to the Range Management Specialist for the Missoula Field Office,<sup>285</sup> fence language found in permits typically requires permittees to maintain fence functionality but does not provide specifications or standards, which are more likely to be articulated in the AMP. The BLM does not have an equivalent to the USFS’s annual operating instructions (AOIs) attached to permits or leases.

### Analysis

Multiple examples exist of statutory language requiring BLM managers to *consider* the needs of wildlife when making decisions affecting BLM-administered lands. While none of this language addresses fencing explicitly, there is ample room in the generalized phrasing for wildlife advocates to argue that wildlife-fence conflicts must be

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<sup>285</sup> Phone conversation with Steve Bell on August 26, 2021.

assessed and considered. One important statutory example includes the FLPMA's multiple use mandate, that considers *wildlife and fish* a renewable resource to be managed for the "long-term needs of future generations...without permanent impairment of the productivity of the land and the quality of the environment."<sup>286</sup> In situations where fences are likely to cause "irreparable damage to important...fish and wildlife resources," ACECs may be drawn upon to compel BLM managers to consider and prioritize protection of the resource.<sup>287</sup> The FLPMA also mandates that AMPs describe the "type, location...and general specifications"<sup>288</sup> of range improvements, but requires nothing similar of RMPs. Of a more compelling nature, and specific to rights-of-way, the FLPMA requires that "each right-of-way...contain...terms and conditions which will...minimize damage to...fish and wildlife habitat."<sup>289</sup> Applied to fencing, ROW terms and conditions must require that all fences be constructed in a wildlife-friendly manner.

The most compelling statutory requirement is that the Secretary of Interior must "take any action necessary to prevent unnecessary or undue degradation of the lands." This UUD standard is not statutorily defined, and current regulations fail to interpret the standard in a way that gives it any substantive meaning, only requiring that existing laws not be violated, which was already the case. Whether or not wildlife is considered part of the "lands" in the context of the UUD standard is unclear. Although there is relatively little case law interpreting the UUD standard,<sup>290</sup> the 10<sup>th</sup> Circuit Court of Appeals upheld the application of this standard to wilderness study areas in *Sierra Club v. Hodel*.<sup>291</sup>

BLM regulations expand on these statutory requirements in a few important ways. First, the BLM must develop state and regional standards that address habitat quality to support "[h]ealthy, productive and diverse populations of native species."<sup>292</sup> Note that this does not require that these standards prioritize wildlife, only that the BLM develop them on a state and regional level. Secondly, the land management planning process must

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<sup>286</sup> 43 U.S.C. § 1702(c).

<sup>287</sup> 43 U.S.C. § 1712(c)(3) and 43 U.S.C. § 1702(a).

<sup>288</sup> 43 U.S.C. § 1702(k)(2).

<sup>289</sup> 43 U.S.C. § 1765(a).

<sup>290</sup> See Roger Flynn, "Daybreak on the Land: The Coming of Age of the Federal Land Policy and Management Act of 1976," *Vermont Law Review* 29, no. 3 (Spring 2005): 815-846.

<sup>291</sup> *Sierra Club v. Hodel*, 848 F.2d 1068 (10th Cir. 1988), holding that the "unnecessary or undue degradation" standard provided "law to apply" and does not, as the BLM contended, "breath discretion at every pore."

<sup>292</sup> 43 C.F.R. § 4180.2(f)(1)(iv).

use an interdisciplinary approach appropriate to the values involved.<sup>293</sup> This means that range management decisions must necessarily involve wildlife biologists, ensuring wildlife values are considered. Lastly, BLM regulations require that range improvements “be installed, used, maintained, and/or modified on the public lands, or removed from these lands, in a manner consistent with multiple-use management.”<sup>294</sup> For range improvements to be consistent with multiple-use management, they must consider wildlife needs and accommodate them if it is reasonable to do so. This essentially requires new range fences to be constructed in a wildlife-friendly manner but leaves fence removal and modification in a gray area when available funding and resources are considered.

BLM Handbook H-1741-1 provides the guidance necessary for the BLM to construct fences in a wildlife-friendly manner. The handbook also provides guidance for when to modify or remove existing fences. However, as a directive, use of the handbook is neither required nor enforceable without a statute or regulation mandating its use. While the mere existence of the BLM’s fencing handbook is a great improvement over the Forest Service’s lack of clear standards, it has two major shortcomings. First, it was written in 1989. In the decades since, biologists have learned a considerable amount about wildlife-fence interactions and how to minimize hazards to wildlife while fences continue to serve their primary purpose. Secondly, while the handbook duly considers ungulate species, it is silent with respect to avian species.

When species listed under the ESA are involved, the Act’s prohibitions on (1) the take of listed species<sup>295</sup> and (2) federal actions that are likely to “jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat of such species”<sup>296</sup> provide a sufficient hook to compel the use of wildlife-friendly fencing to avoid the need to obtain an incidental take permit or prepare an incidental take statement. While the ESA makes clear that “take” includes “harm,” ESA regulations make clear that harm includes “habitat modification or

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<sup>293</sup> 43 C.F.R. § 1610.1(c).

<sup>294</sup> 43 C.F.R. § 4120.3-1(a).

<sup>295</sup> 16 U.S.C. § 1538(a)(1)(B).

<sup>296</sup> 16 U.S.C. § 1536(a)(2).

degradation” that “actually kills or injures fish or wildlife.”<sup>297</sup> Advocates should be prepared to link fences with habitat modification and show that a fence actually killed or injured an animal classified as a threatened, endangered, or candidate species under the Act. Practically, the threat provided by the ESA and the relative ease of constructing wildlife-friendly fencing should be sufficient to persuade BLM managers to construct new fences in a wildlife-friendly manner.

Similar to forest plans, BLM RMPs vary considerably in terms of their treatment of wildlife-friendly fencing, many of them leaving fence considerations to be covered by AMPs. The AMPs reviewed for this paper generally did a good job of requiring wildlife-friendly fencing for proposed fences (likely due to the FLPMA provision requiring AMPs to articulate the type and location of proposed fences).<sup>298</sup> However, the fact that this issue is omitted from some RMPs is problematic because not all allotments have AMPs, not all fence constructed on BLM lands is on a designated allotment, and wildlife-friendly fencing is a landscape-level issue that should be guided by policy at a similar scale.

Also, similar to forest plans, BLM plans seem to carry the same central theme in that they tend to lack meaningful, enforceable standards and guidelines. Relevant to fencing, RMPs are generally written to take full advantage of the discretion afforded to the BLM by law. This does not mean that the BLM fails to construct fences in a wildlife-friendly manner, but it does demonstrate that significant room exists for plans to contain more meaningful and enforceable language on the subject.

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<sup>297</sup> 50 C.F.R. § 17.3.

<sup>298</sup> 43 U.S.C. § 1702(k)(2).

## VI. Conclusions and Recommendations for Wildlife Advocates

### Conclusions

Perhaps as obvious as it is important, “[e]ffective conservation ... requires coordinated work by researchers, lawyers and policy makers, and natural resource managers.”<sup>299</sup> The topic of wildlife-friendly fencing does not need to be adversarial among these groups and should be viewed in a cooperative light. Given the nature of policy related to wildlife-friendly fencing and the combined authority and discretion of both the USFS and BLM, wildlife advocates are more likely to be effective if they view their relationships with these agencies as cooperative and helpful.

Based on my conversations with land managers from both agencies, it seems that rangeland managers support the use of wildlife-friendly fencing. Consequently, the use of wildlife-friendly fencing for new fences appears to be the new norm (although not universal) despite the muddled nature of agency policies and general lack of compulsory policy language. Additionally, grazing permittees are incentivized to support the use of wildlife-friendly fencing because it reduces maintenance costs (i.e., when elk become entangled in fences, damage to both the elk and fence result, so a reduction in these types of incidents benefits all).<sup>300</sup> All of this indicates that the timing is right for agency decisionmakers across the BLM and USFS to use the best available scientific information to develop and implement consistent, holistic, and enforceable fencing requirements that reduce threats to wildlife and support landscape-scale connectivity.

Both agencies have ample statutory and regulatory authority to require that fences constructed on their jurisdictional lands are built in a wildlife-friendly manner. While neither agency has explicitly done so on an agency-wide level, policy language relating to wildlife and infrastructure could be interpreted as requiring new fences to be constructed in a way that minimizes harm to wildlife. Throughout the course of my research, I got the impression that most new fencing constructed on these lands is done so in a wildlife-

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<sup>299</sup> Vicky J. Meretsky, Jonathan W. Atwell, and Jeffrey B. Hyman. "Migration and conservation: Frameworks, gaps, and synergies in science, law, and management." *Environmental Law* (Northwestern School of Law) 41, no. 2 (2011): 447-534 at 451.

<sup>300</sup> Based on conversations with Shawn Heinert, *supra* note 64 and Floyd Thompson, *infra* note 309. Both BLM range managers concurred that there is widespread general support for wildlife-friendly fencing among permittees within their jurisdiction, while acknowledging that some permittees do push back in favor of traditional 5-strand barbed wire fences.

friendly manner. New stretches of fence that fail to meet wildlife-friendly standards typically deviate from these standards due to ground conditions and the convenience of constructing an alternate form of fence (e.g., constructing jack-leg fence over rocky soils instead of a wire fence with driven posts and wildlife-friendly wire spacing).

Even though the agencies and agency personnel may be likely to support the use of wildlife-friendly fencing, wildlife advocates should anticipate significant resistance to a voluntary waiver of discretion on the matter. Both agencies have a pattern of writing policy in a manner that retains the maximum level of discretion afforded by law, so while everyone may generally agree on best fencing practices, best fencing policy in some ways is a separate issue.

While the cost of constructing wildlife-friendly wire fence compared to a traditional 5-strand wire fence is similar, the cost of removing or replacing existing fence that does not meet wildlife-friendly standards is significant compared to the alternative of doing nothing. Given the amount of existing, older fence on these public lands, this is a bigger issue for wildlife and one that existing policies and funding mechanisms are ill-equipped to remedy. Legally, there is not much that can be done to compel either agency to remove or replace existing fence that fails to meet wildlife-friendly standards. Section 706(1) of the APA permits courts to “compel agency action unlawfully withheld or unreasonably delayed,”<sup>301</sup> but as demonstrated by the U.S. Supreme Court’s decision in *Norton v. SUWA*,<sup>302</sup> the judiciary is reluctant to compel agency action without a clear and substantive violation of a statutory or regulatory requirement. Such a requirement does not exist for either agency with respect to wildlife-friendly fencing.

It is one thing to require wildlife-friendly fencing and another altogether to articulate what this means and how, precisely, to construct fences in this manner. The level of detail required to do this is generally beyond that typically included at the statutory and regulatory levels. The BLM has addressed this through Handbook H-1741-1. While outdated and missing important consideration of avian species, this is a great step in the right direction and far better than having no such clear guidance, as is the case with the USFS.

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<sup>301</sup> 5 U.S.C. § 706(1).

<sup>302</sup> *Norton v. Southern Utah Wilderness Alliance*, 542 U.S. 55 (2004).

At the planning level, some Forest Service and BLM land management plans contain language supporting the use of wildlife-friendly fencing while others ignore the issue. This variability underscores the need for clear, agency-wide policies that (1) minimize new fences, (2) require new fences to be constructed in a wildlife-friendly manner, and (3) provide guidance for removing and modifying existing fencing that fails to meet wildlife-friendly fence standards. Such agency-wide policies would help avoid the current piecemeal approach to public land fencing, which is inappropriate for addressing wildlife-fence conflict as a landscape-scale issue. Allotment management plans prepared by both agencies are also variable in their treatment of wildlife-friendly fencing, but there was some consistency among BLM AMPs reviewed for this study in that they acknowledged wildlife-fence conflict and required new fences to be constructed in a wildlife-friendly manner.

### Recommendations

The following recommendations for wildlife advocates are divided into three sections. The first, *Policy Changes*, includes recommendations for modifications or additions to statutes, regulations, and directives. The second, *Planning Involvement*, includes recommendations for working within the existing policy structure to best advocate for wildlife-friendly fencing during Forest Service and BLM plan revision processes. The final section, *Partnerships*, includes recommendations for how wildlife advocates can help agency decisionmakers make sound decisions about fencing and otherwise ensure that all new fences are wildlife-friendly and existing fences not meeting these standards are removed or modified.

#### *Policy Changes*

At the directive level, wildlife advocates should encourage, nudge, assist, and otherwise cajole both agencies to articulate in a detailed and comprehensive fashion how to construct wildlife-friendly fences for a variety of scenarios. For the BLM, this means updating and amending BLM Handbook H-1741-1 to account for the best available science. As part of this process, the BLM will need to add information about avian wildlife known to be impacted by fences, such as the greater sage-grouse and other low-flying birds. Much of this information is already included in other BLM guidance documents, but it should be incorporated into the directive structure to consolidate fence-

related guidance in a single location. It is imperative that this directive incorporate clear guidance for removing and modifying existing fence that fails to meet the document's standards. Following this thorough revision, the directive should be periodically updated as new information about wildlife-fence interactions is generated.

For the USFS, this means developing or adopting a directive similar to that described above for the BLM. The Forest Service would not need to develop such a directive from scratch, relying on readily available guidance in existing documents.<sup>303</sup> The USFS and BLM could even collaborate on a modernized version of BLM Handbook H-1741-1, which could be formally adopted by both agencies. In addition to encouraging agencies to engage in this work, wildlife advocates with available resources could offer to assist in the process, ensuring that the best available science is incorporated. As a practical matter, these directives should allow some flexibility and discretion similar to USFS guidelines (i.e., follow the directive's guidance unless the purpose of the guidance can be met in another way). With this constrained amount of wiggle room, language in plans or even updated regulations can simply mandate adherence to the directive without the need to incorporate additional discretionary language.

With modern wildlife-friendly fence directives in place for both agencies, advocates should fight for regulatory language that requires adherence to the directives. Without this change at the regulatory level, adherence to wildlife-friendly fence directives will likely remain discretionary and unenforceable. Wildlife advocates can use the existing statutory and regulatory language summarized in this paper to justify the need for this regulatory change.

For both agencies, wildlife advocates should seek windows of opportunity to advocate for improved fence policy. Such opportunities include regulation revisions (particularly those pertaining to rangeland management), unit level plan revisions, directive revisions, AMP development/revisions, and grazing permit/lease development/revisions. While the first two opportunities require a structured public involvement process, the latter three may or may not include a formal public involvement process. Regardless, advocates can use these windows to work with local federal land

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<sup>303</sup> E.g., Hanophy, *supra* note 36; Paige, *supra* note 36.

managers, offer assistance, comment, and further build relationships with these decision makers.

One such window of opportunity may be opening up related to the Biden administration's adoption of "30 by 30" under its "America the Beautiful" initiative, the goal of conserving 30 percent of U.S. lands and waters by 2030. Uncertainty exists regarding exactly what lands are to be considered "conserved" for the purposes of this goal. The main question of relevance here: should public lands leased for livestock grazing be counted toward this goal? While some would argue that all public lands should be counted as protected, others see this as much more nuanced, particularly with respect to grazed public lands. BLM officials have indicated that grazing practices may need to change in order for these lands to be counted.<sup>304</sup> Advocates have pointed out that much of these grazed lands have been severely compromised by grazing, and "[c]ounting lands that aren't meeting even the minimum standards of ecological resilience defeats the purpose of 30×30's goals to address the biodiversity crisis. The agencies are fooling themselves if they think most grazed landscapes even come close to being adequately protected."<sup>305</sup> In light of the fact that fully a third of BLM land fails to meet the agency's own land health standards, "[l]andscapes that fail to meet the agency's own minimum standards for ecological health as a result of overgrazing cannot be considered to be conserved, and should not be counted toward attainment of the new '30 x 30' conservation goals."<sup>306</sup> Advocates should continue to pressure the administration to adopt meaningful protection standards for 30 by 30 as a way to promote larger range reform measures designed to improve the health of public rangelands, and fencing on these lands should be explicitly considered. Advocates should insist that all fences on lands counted toward this goal be wildlife friendly, and all fences on lands retired from grazing be removed.

Wildlife advocates could also push for a new executive or secretarial order requiring wildlife-friendly fences on public lands and articulating how existing,

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<sup>304</sup> Jennifer Yachnin. "Biden officials: Grazing lands could count for conservation goals." E&E News, September 28, 2021.

<sup>305</sup> *Id.*, quoting Greta Anderson, Western Watersheds Project Deputy Director.

<sup>306</sup> Jennifer Yachnin. "Could conservation plan prompt tougher grazing oversight?" E&E News, November 1, 2021, quoting Tim Whitehouse, executive director of Public Employees for Environmental Responsibility..

noncompliant fences should be addressed. This could expand on the relevant language in Secretarial Order No. 3362 to make the requirements more clear, enforceable, and applicable to all wildlife (not just big game). Such an Order could be couched in the broader need for landscape-level conservation and the role of federally managed lands in providing connectivity. Work completed by the Western Governors' Association (WGA) through their National Forest and Rangeland Management Initiative<sup>307</sup> (and continued through the WGA Working Lands Roundtable<sup>308</sup>) could be drawn upon and included in a new Order. This initiative targets landscape-scale solutions to natural resource issues in the West, with a focus on how states and federal agencies can best collaborate to develop healthy, resilient landscapes.

The funding necessary to create new, enforceable standards and to adhere to them when new fences are constructed should be minimal.<sup>309</sup> Relatively, the cost of modifying and/or removing thousands of miles of existing fence would be high (i.e., the cost of fence removal/modification compared to the cost of doing nothing). Wildlife advocates should fight for the budgetary processes within both agencies to allocate funds to specifically deal with existing fences that do not meet wildlife-friendly fence standards. Requested funding levels could be based on removing/modifying a certain percentage of public land fences annually to meet a goal of 100 percent wildlife-friendly fencing by a specified date.

### *Planning Involvement*

Others have previously identified that the BLM's decentralized structure leads to inconsistent policy implementation.<sup>310</sup> Even with the Forest Service's more centralized structure, USFS implementation of fencing policy is no more consistent (largely because

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<sup>307</sup> Western Governors' Association. "National Forest and Rangeland Management Initiative," 2017 <https://westgov.org/initiatives/overview/National-Forest-and-Rangeland-Management-Initiative>.

<sup>308</sup> Western Governors' Association. "WGA Working Lands Roundtable," 2021, <https://westgov.org/initiatives/overview/wga-working-lands-roundtable>.

<sup>309</sup> Phone conversation with Floyd Thompson, BLM Rangeland Management Specialist, Montana-Dakotas State Office, October 21, 2021. Relative costs of traditional and wildlife-friendly fence based on the roughly equivalent cost/length of smooth wire and barbed wire. Fences in sage-grouse habitat may be slightly more expensive due to the need to "flag" the top wire, whereas fences in ungulate habitat may be less expensive owing to the fact that wildlife-friendly fences often use fewer strands of wire. Regardless, material and installation costs are not significantly different.

<sup>310</sup> Kelly Nolen. "Residents at Risk: Wildlife and the Bureau of Land Management's Planning Process." *Environmental Law* 26 (1996): 771.

USFS policy lacks explicit consideration of wildlife-friendly fencing). For this reason, and within the existing policy framework, wildlife advocates may stand the best chance of successfully advocating for wildlife-friendly fences on public lands through unit-level planning processes. Public involvement in planning processes is statutorily required by FLPMA<sup>311</sup> and NFMA<sup>312</sup> as well as NEPA regulations.<sup>313</sup>

Within the existing policy structure for both the USFS and BLM, as summarized in this paper, wildlife advocates can substantively argue that Forest Service LRMP revisions and BLM RMP revisions incorporate plan components that minimize new fences, require new fences to be constructed in a wildlife-friendly manner, and provide guidance for removing and modifying existing fencing that fails to meet wildlife-friendly fence standards. Plans should identify the source of the standards and articulate how priority fences within the planning unit will be identified for removal or replacement. Given the landscape-scale of the issue, unit-level plans are the last appropriate place to implement wildlife-friendly fence policy. Advocates should insist that this is not relegated to lower-level decision making processes (e.g., AMPs and permits).

The importance of early involvement in the planning process cannot be overemphasized. Specific to the Forest Service, wildlife advocates should ensure that the BASI relevant to wildlife-fence conflict is available to managers and being considered during the assessment phase. Then ensure that this information continues to be appropriately considered and articulated in documents associated with each subsequent planning phase (e.g., need for change, revised plan, and EIS). Failure to ensure that such information is considered at the outset (assessment phase) makes consideration at later phases much more difficult.

Appendix A contains recommended language to be included in plan revisions for both the BLM and USFS. Appendix B contains additional information specific to Forest Service plan involvement, and Appendix C contains additional information specific to BLM plan involvement.

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<sup>311</sup> 43 U.S.C. § 1712(a).

<sup>312</sup> 16 U.S.C. § 1604(d).

<sup>313</sup> 40 C.F.R. § 1501.5(e), § 1501.9(b).

## *Partnerships*

It is important to recognize that agencies and agency managers are generally not opposed to wildlife-friendly fencing. Any apparent opposition likely comes from a financial/budgetary/resource perspective, in that managers want to prioritize spending in other areas. Chronic low levels of funding in both the BLM and Forest Service create an opportunity for organizations to step in and help where funding or resource restrictions prohibit the agencies from following through with their goals, objectives, or even mandates. This is true for wildlife-friendly fencing in a couple of ways.

Perhaps the most obvious way for outside organizations to assist is by volunteering to physically remove/modify existing fence that fails to meet wildlife-friendly standards. Some organizations are already involved in such efforts on both public and private lands.<sup>314</sup> In addition to physically assisting in fencing efforts, this is a great way to foster strong, collaborative relationships with agency managers.

A growing number of local and national organizations now focus on wildlife-friendly fencing.<sup>315</sup> Many of these are member-based organizations with the ability to contribute significant labor resources to the cause. Organizers can also tap the potential within the for-profit sector as companies dependent on wildlife are increasingly interested in conserving the resource on which their businesses depend.<sup>316</sup> While these resources are available in many areas, the challenge is in connecting, partnering, and organizing them effectively. Organizations with a strong local presence should consider spearheading an organizing effort to connect all interested groups with local Forest Service and BLM managers. Additionally, advocates can aid land managers simply by bringing specific problem fences to their attention.

Beyond the physical labor resource issue, partnering among organizations, institutions (e.g., universities), and local forests (USFS) and field offices (BLM) can help match the best available scientific information with agency decisions about fencing.

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<sup>314</sup> *E.g.*, The National Wildlife Federation is spearheading an effort in Southwest Montana to remove and modify fencing in pronghorn habitat. <https://www.nwf.org/Northern-Rockies-and-Pacific-Region/Conservation/Wildlife-Connectivity/fencingforwildlife>

<sup>315</sup> *E.g.*, Rocky Mountain Elk Foundation, Backcountry Hunters and Anglers, Theodore Roosevelt Conservation Partnership, National Wildlife Federation (NWF), NWF affiliates, Absoroka Fence Initiative, and Tangle Free Montana.

<sup>316</sup> *E.g.*, First Lite (<https://www.firstlite.com/collections/commitment-to-conservation>) and Stone Glacier (<https://www.stoneglacier.com/pages/conservation>)

These types of partnerships can also help to match research with agency needs, helping ensure that new information is relevant to challenges the agencies are facing. Even without major policy changes or supportive language in land use plans, strong partnerships at the local level can have a significant impact on reducing the fence hazard posed to wildlife on Forest Service and BLM lands.

Partnering with state and tribal wildlife agencies could also be an effective way to leverage the wildlife management authorities held by such agencies, especially considering the privileged role of states in planning processes.<sup>317</sup> State and tribal wildlife agencies are required to develop State Wildlife Action Plans, or SWAPs, in order to receive funding through the State and Tribal Wildlife Grants Program. SWAPs must identify and focus on species with the greatest conservation need and also address the “full array of wildlife” and wildlife-related issues, making the state and tribal wildlife grant program the “only federal program that directly supports states in keeping common species common.”<sup>318</sup> Integrating information obtained through this SWAP requirement into USFS and BLM unit-level plans could be used as a powerful partner tool to the ESA by helping to keep species from becoming listed or added as a candidate species. Such plan integration is statutorily mandated for both agencies.<sup>319</sup> As with all forms of planning involvement, this will be most effective when initiated during the assessment phase and continued throughout the planning process.

Congress requires that SWAPs contain, among other things: (1) information on the distribution and abundance wildlife species, (2) descriptions of locations and condition of key habitats and community types, (3) descriptions of wildlife and habitat

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<sup>317</sup> The USDA and BLM are statutorily mandated to coordinate their planning processes with state, tribal, and local governments. The NFMA stipulates that “the Secretary shall develop, maintain, and, as appropriate, revise land and resource management plans for units of the National Forest System, coordinated with the land and resource management planning processes of State and local governments and other Federal agencies.” 16 U.S.C. §1604(a). The FLPMA stipulates that “[i]n the development and revision of land use plans, the Secretary shall...coordinate the land use inventory, planning, and management activities of or for such lands with the land use planning and management programs of other Federal departments and agencies and of the States and local governments within which the lands are located” 43 U.S.C. §1712(c)(9). *See* Andrea Rieber, “A Beginner’s Guide to Coordination.” Public Lands Council, 2012 for a thorough discussion of the coordination process with both the USFS and BLM.

<sup>318</sup> The Wildlife Society. “State and Tribal Wildlife Grant Program,” Policy Brief, updated July 2017, [https://wildlife.org/wp-content/uploads/2014/11/Policy-Brief\\_STWG\\_FINAL.pdf](https://wildlife.org/wp-content/uploads/2014/11/Policy-Brief_STWG_FINAL.pdf).

<sup>319</sup> *Supra*, note 317.

threats, and (4) descriptions of conservation actions proposed to address these threats.<sup>320</sup> Consequently, a comprehensive SWAP should contain an abundance of information useful and relevant to those advocating for wildlife-friendly fencing, including on federally managed lands. At present, land management plans do not appear to integrate relevant information from these SWAPs. Thorough integration would increase consideration of all wildlife and help align the perceived habitat management-species management division that frequently frustrates wildlife management.<sup>321</sup> Working with state and tribal agencies as they revise their SWAPs can help ensure those plans contain information pertinent to the effects of fencing on wildlife. States and tribes can then independently advocate for improved fence policy on federal lands when they collaborate with federal agencies (primarily the USFWS, USFS, and BLM). State and tribal voices added to the wildlife advocate voice and backed by the robust science included in SWAPs would significantly increase the likelihood that wildlife-friendly fencing is taken seriously by federal agencies, in planning processes and elsewhere.

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<sup>320</sup> University of Michigan Natural Resources and Environment, Ecosystem Management Initiative. "Origins of the State Wildlife Action Plans," About the State Wildlife Action Plans, 2008, accessed October 8, 2021, [http://seas.umich.edu/ecomgt/swap/About\\_SWAPs.html](http://seas.umich.edu/ecomgt/swap/About_SWAPs.html).

<sup>321</sup> Martin Nie, Christopher Barns, Jonathan Haber, Julie Joly, Kenneth Pitt, and Sandra Zellmer. "Fish and wildlife management on federal lands: debunking state supremacy." *Envtl. L.* 47 (2017): 797.

## Appendix A

### Suggested Plan Component Language for USFS Forest Plans and BLM Resource Management Plans

National forest LRMP and BLM RMP revisions are one of the most impactful areas for advocates to affect change in USFS and BLM management. This is the level of decision making where often vague statutes and regulations can be given substantive meaning. Agencies tend to write plan components to preserve agency discretion and not bind future decisions, which is simultaneously understandable from an agency perspective and antithetical to the purpose of land use plans. Informed and persuasive arguments made by members of the public have the potential to influence plan language, which is arguably the last level in the tiered decision-making structure where decisions can have a landscape-scale impact. Given the duration that most plans are operational, a plan that includes clear, substantive, and enforceable language pertaining to wildlife-friendly fencing will positively impact that management area for many years and hopefully set a precedent throughout the agency and beyond.

While Forest Service LRMPs and BLM RMPs vary in their requirements, wildlife advocates can promote similar wildlife-friendly fence language in both plan types as it is within the authority of each agency to include such provisions. Below are some guiding questions to think about when reviewing plans. Table A-1 presents example and suggested plan component language for consideration during the comment period, along with comments pertaining to the strength of the aforementioned language. Some components are excerpted from existing plans and others have been written specifically for the purpose of this paper. While these are organized per the plan component structure required of the Forest Service,<sup>322</sup> the same language can be adapted to BLM plans.

*Does the EIS articulate the potential hazards posed to wildlife by fences within the plan area?*

A plan is unlikely to adequately address an issue that is not covered in the EIS for the plan. An EIS that acknowledges the threats posed to specific fauna present in the plan area by fences will be set up to best address those threats somewhere within the plan. Importantly, this should go beyond fence-related threats posed to ESA-listed species to include all species known

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<sup>322</sup> Regulatory definitions for plan components are provided in Table 1.

to be adversely impacted by fences. These hazards may also be articulated in the plan itself, either in the introduction section or wherever present conditions and existing threats to wildlife are discussed.

*Does the plan require that all new fences constructed within the plan area be constructed in a wildlife-friendly manner? Does the plan address existing fences that do not meet wildlife-friendly standards?*

Requiring new fences to be constructed in a wildlife-friendly manner is relatively low-hanging fruit compared to dealing with existing fences that are not wildlife-friendly. The main reason for this boils down to economics, in that constructing a new fence costs about the same regardless of its level of friendliness to wildlife. Suggested plan language related to these questions is provided in Table A-1 with references to existing plans, where applicable, and comments on the strengths and weaknesses of each component. Not all suggested language will be applicable in all areas.

**Table A-1: Wildlife-Friendly Fence Language for Consideration in USFS and BLM Plans**

Component	Example	Source	Comments
Desired Condition [DC-1]	Fences in the plan area are minimized. All unnecessary fences are removed. All necessary fences, both new and existing, meet the wildlife-friendly standards per _____.		The BLM can reference Handbook H-1741-1, whereas the Forest Service will need to define to which standards they will adhere. While there is significant discretion in determining what is "necessary," this makes a clear statement that the wildlife-fence conflict is to be mitigated to the maximum extent practicable.
Desired Condition [DC-2]	"New and replacement improvements are designed to benefit aquatic and terrestrial species."	Rio Grande N.F. LRMP, 2020, p. 21	Strong intent, but too general and unnuanced to be meaningful. As a DC, however, it opens the door for standards and guidelines that are more specific.
Desired Condition [DC-3]	"[M]aintain and ensure the natural abundance and diversity of wildlife resources on BLM-administered lands."	Miles City F.O. Management Situation Analysis, 2006, p. 3-45	Good focus on both "natural abundance" and "diversity" to capture all species, regardless of status, but neither concept has a definition to give this any substance.
Desired Condition [DC-4]	"Forest boundaries are permeable to animals of all sizes and offer consistent, safe access for ingress and egress of wildlife. In particular, segments of the national forest boundary identified in [the wildlife linkages interface] remain critical interfaces that link wildlife habitat on both sides of the boundary. Fences, roads, recreational sites and other man-made features do not impede animal movement or contribute to habitat fragmentation."	Coronado N.F. LRMP, 2018, pp. 65, 67	Focuses on the <i>impact</i> of infrastructure on wildlife. Unclear if this applies across the forest or only at forest boundaries.
Objective [O-1]	Identify priority areas of fence removal/replacement/modification based on the level of hazard posed to wildlife within one year of plan approval.		Concise and time-specific, but leaves significant discretion in measurement (i.e., hazard level required for prioritization). This is at least partially alleviated when paired with Objective O-2.
Objective [O-2]	Remove or modify all existing fencing within the plan area not meeting wildlife-friendly standards within 10 years of plan approval or as the budget allows.		Work with land managers to determine a reasonable schedule for removal and creative funding strategies to eliminate the wiggle room inherent in "as the budget allows."
Goal [Go-1]	Partner with local and national organizations to remove unneeded fencing.		This should include a list of relevant organizations applicable to the plan area (e.g., National Wildlife Federation [and NWF affiliates], Rocky Mountain Elk Foundation, Backcountry Hunters and Anglers, Tangle Free Montana, Absaroka Fence Initiative, etc.).

**Table A-1: Wildlife-Friendly Fence Language for Consideration in USFS and BLM Plans**

Component	Example	Source	Comments
Standard [S-1]	“No new tall structures, which could serve as predator perches, will be authorized within 4 miles of an active lek in suitable habitat. If structures are needed within this area then anti-perching devices shall be installed. During the permit renewal process, existing powerlines and other utility structures within 4 miles of active leks in suitable habitat will be retrofitted with perch-detering devices.”	Inyo N.F. LRMP, 2018, p. 38	Strong, substantive standard specific to sage-grouse. Addresses both new and existing structures. Does not specifically address wooden fence posts as potential predator perches.
Standard [S-2]	“All fences and other barriers constructed or replaced within 1.2 miles of a known lek in suitable habitat must be let-down fences and/or marked with fence markers.”	Inyo N.F. LRMP, 2018, p. 38	Clear requirements for new fences and fence reconstruction. Does not address the marking of existing fences.
Standard [S-3]	All new fences constructed in pronghorn habitat will have a smooth bottom wire at least 16 inches above the ground.		Generally a clear and strong standard, however, substance and enforceability hinges on how well the plan defines "pronghorn habitat."
Standard [S-4]	Wildlife-friendly fencing requirements, as specified herein, shall be directly incorporated into all new Allotment Management Plans, permits, and leases and into existing AMPs, permits, and leases upon renewal.		Ensures that wildlife-friendly fencing requirements at the plan level are not lost in the lower level plans, permits, and activities that tier to the plan.
Standard [S-5]	“Design management fences to minimize adverse impacts, such as habitat fragmentation, to maintain habitat integrity and connectivity for native plants and animals.”	Pocatello F.O. ROD/ARMP, 2012, p. A-22	Positive intent, but not worded in a clear and concise manner. Agency discretion fully maintained as the lack of anything measurable means nothing here is enforceable.
Standard [S-6]	“Fences would be built to standard BLM wildlife specifications to allow for wildlife passage, with the exception of fences built specifically to keep native ungulates out of an area (i.e., forage monitoring plots). Fences identified as barriers to wildlife movement would be considered for removal or reconstruction.”	Taos F.O. PRMP/FEIS, 2011, p. 101	This is combined with a reference to Handbook H-1741-1 as the source of standards. Any reference to standards or BMPs needs to make the source clear. Standards should articulate how to construct wildlife exclusion fencing that is safe for wildlife, making the noted exception unnecessary. The final sentence could be made substantive by saying that fences identified as barriers <u>will be</u> removed or reconstructed and clearly indicating a threshold for a fence to be considered a barrier.
Standard [S-7]	“If portions of existing fences or other structures are found to pose a significant threat to wildlife [such] as strike sites, raptor perches, connectivity barriers, etc. mitigate effects through removal, moving or modification; increase visibility of the fences by marking, or through the use of “take-down” fences.”	Miles City F.O. RMP, 2015, p. MMCA-7	Good attempt to address existing fences in GSG habitat. Significant discretion in defining "significant threat," which is somewhat constrained by the examples that follow. More definition/description could make this stronger.

**Table A-1: Wildlife-Friendly Fence Language for Consideration in USFS and BLM Plans**

Component	Example	Source	Comments
Standard [S-8]	All new, modified, or reconstructed fences will be cited, designed, and built in a wildlife-friendly manner in accordance with _____.		This is similar to [DC-1], but written as a standard that places clear, mandatory constraints on projects and activities. A suitable and comprehensive guidance document must be referenced. Guidance documents typically contain enough flexibility that this should be written as a standard and not a guideline.
Guideline [G-1]	“To reduce the probability of wildlife entanglement, new fences and reconstruction of existing fences should allow for free movement and distribution of wildlife.”	Custer Gallatin N.F. LRMP, 2020, p. 74	This is basically a watered-down version of [S-8] with an unnecessarily narrow focus on entanglement.
Guideline [G-2]	New fences “should not be constructed in priority or general sage-grouse habitat unless the development results in a net conservation gain to the species and its habitat.”	Custer Gallatin N.F. LRMP, 2020, p. 60	This is a good example of an appropriate modifier to something like [S-8], adding constraints that may not be included in the referenced guidance document.
Guideline [G-3]	“[N]ew range management structures (such as fences, stock tanks, etc.) should be designed and located to be neutral or beneficial to greater sage-grouse.”	Custer Gallatin N.F. LRMP, 2020, p. 61	Similar to [G-2], but includes all range management structures.
Guideline [G-4]	“New fencing installation or reconstruction should be sited and designed to minimize hazards to wildlife and barriers to wildlife movements.”	Helena-Lewis and Clark N.F. LRMP, 2020, p. 51	A guideline like this would not be necessary with the inclusion of something like [S-8].
Guideline [G-5]	“Existing fences would be reconstructed or modified to meet BLM “wildlife friendly” standards to reduce or offset impacts to wildlife where determined necessary.”	Pinedale F.O. PRMP/FEIS, 2008, p. A3-10	While this looks like an attempt to address existing fencing that does not meet wildlife-friendly standards, the language is 100% discretionary and, therefore, lacks substance.

## Appendix B

### Condensed Summary for USFS LRMP Involvement

This appendix summarizes the most relevant aspects of this paper for individuals and organizations involved with national forest plan revisions. While the commenting process and suggested plan component language presented in Appendix A is an important piece of this involvement, the most effective involvement begins much earlier in the planning process. Key considerations at each stage of the planning process (assessment, development, and monitoring) are highlighted below. Readers are referred to *A Citizens' Guide to National Forest Planning*<sup>323</sup> for a thorough explanation of the planning process.

Assessment Phase: The Forest Service will notify the public when it begins the assessment phase. During the assessment phase, wildlife advocates should encourage the Forest Service to assess the impacts of the forest's fences on wildlife. Build an argument that the agency's regulations obligate it to do this based on the 2012 Planning Rule's requirements for assessments to "identify and evaluate existing information" relevant to terrestrial ecosystems, threatened, endangered, proposed, candidate, and other species of conservation concern, the benefits people obtain from the planning area (e.g., wildlife watching, hunting), economic contributions of wildlife, and infrastructure, which includes fences.<sup>324</sup> To take full advantage of the Forest Service's requirement to "use the best available scientific information (BASI) to inform the planning process,"<sup>325</sup> public participants in the planning process may need to provide relevant information (the more specific to the plan area, the better) to ensure that it is considered *available*. Information not submitted for consideration during the assessment phase will likely be more difficult to have considered later in the process. It is also important to begin building relationships with key planners during this phase.

Development Phase: Following the assessment, the Forest Service will develop a "need for change" document based on the assessment and noted deficiencies of the existing plan. The public will have an opportunity to comment on the draft need for change. The need for change guides the focus for the rest of plan development, so it's important that one or more of these needs pertains to wildlife, infrastructure, or a combination of the two. Ensure that the relevant

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<sup>323</sup> USDA Forest Service. (2016). "A Citizens' Guide to National Forest Planning."  
[https://www.fs.usda.gov/Internet/FSE\\_DOCUMENTS/fseprd509144.pdf](https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/fseprd509144.pdf)

<sup>324</sup> 36 C.F.R. § 219.6(b).

<sup>325</sup> 36 C.F.R. § 219.3.

BASI submitted during the assessment phase is reflected in the need for change determination. These documents are typically fairly short and generalized, so language pertaining to wildlife health and abundance and habitat connectivity may be more appropriate than specific language regarding wildlife-friendly fencing. Review the draft need for change and ensure the language includes the need to better address wildlife needs compared to the existing plan.

As the Forest Service proceeds to develop the draft plan, engage as time and resources allow to ensure that wildlife needs are being fully considered, that fences are a part of that consideration, and that the relevant BASI continues to track through the process. Note that this phase will likely overlap with the NEPA EIS process so involvement during plan development has the potential to impact both the LRMP and the EIS. There will be a 90-day public comment period following release of the draft plan. Use the guidance provided in Appendix A to assess and advocate for substantive and compelling language relevant to wildlife-friendly fencing. Insist that the plan reference a wildlife-friendly fence construction document, which will likely need to be a state-specific guide as the Forest Service does not have its own internal document. Reinforce your requests and recommendations by connecting them with statutory and regulatory requirements as well as agency and departmental policy. These are discussed in the main text with the most pertinent portions of statutes, regulations, and directives summarized in Table B-1.

The Forest Service will then issue a final plan. Those who submitted substantive comments on the draft plan will have the ability to object to portions of the plan relevant to their comments during the planning phase. This will be the final opportunity to ensure that wildlife-friendly fence considerations are incorporated into the forest plan. The agency must respond to and address all objections.

Monitoring Phase: The monitoring phase is not completely distinct from the plan development phase because plan development includes development of the monitoring program. Monitoring is typically tied back to desired conditions and objectives, so it is important that these plan components include language pertinent to wildlife-friendly fencing. The monitoring plan must include monitoring questions related to focal species, ESA-listed species, visitor use/recreation, and progress toward meeting desired conditions and objectives.<sup>326</sup> Use these requirements during the planning phase to encourage the Forest Service to include monitoring provisions related to wildlife-friendly fencing across the forest. If included, wildlife advocates

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<sup>326</sup> 36 CFR § 219.12(a)(5)

can remain engaged well after the plan is written to help monitor the effects of fencing on wildlife and the agency's progress toward meeting its wildlife-friendly fence desired conditions and objectives (if applicable) and hold the Forest Service accountable (e.g., by forcing any necessary plan revisions, updates, and amendments). Strong fence monitoring provisions in plans could help compel data collection about wildlife-fence conflict (by both the agency and grazing permittees); data which could simultaneously support the 2012 Planning Rule's adaptive management goals and the need for fences to be wildlife-friendly. Because the agency generally wants to promote wildlife-friendly fencing, one way advocates can help is by bringing specific hazardous fence conditions to the agency's attention. Plan monitoring requirements related to wildlife-fence conflict would help obligate managers to respond to such conditions.

**Table B-1: Statutes, Regulations, and Directives Pertinent to the USFS and Wildlife-Friendly Fencing**

Document	Language	Comments
<b>Statutes</b>		
16 U.S.C. § 528	MUSYA "...national forests are established and shall be administered for outdoor recreation, range, timber, watershed, and wildlife and fish purposes."	"Wildlife and fish" is one of five congressionally designated uses of national forest surface resources that are to be "utilized in the combination that will best meet the needs of the American people..." (16 U.S.C. § 531(a))
16 U.S.C. § 1604(g)(3)(B)	NFMA "provide for diversity of plant and animal communities based on the suitability and capability of the specific land area in order to meet overall multiple-use objectives..."	This is known as NFMA's wildlife diversity mandate. Authoritative NFMA scholars have pointed out that this provision was meant to require "Forest Service planners to treat the wildlife resource as a controlling, co-equal factor in forest management..."(1)
<b>Regulations</b>		
36 C.F.R. § 219.1(c)	The 2012 Planning Rule's purpose "is to guide the collaborative and science-based development, amendment, and revision of land management plans that promote the ecological integrity of national forests... Plans will guide management of NFS lands so that they are ecologically sustainable and contribute to social and economic sustainability; consist of ecosystems and watersheds with ecological integrity and diverse plant and animal communities; and have the capacity to provide people and communities with ecosystem services and multiple uses that provide a range of social, economic, and ecological benefits for the present and into the future. These benefits include clean air and water; habitat for fish, wildlife, and plant communities; and opportunities for recreational, spiritual, educational, and cultural benefits."	This purpose statement combines multiple high-level themes (ecological integrity; sustainability; wildlife diversity; ecosystem services; social, economic, and ecological benefits) that all support the use of wildlife-friendly fencing and the agency's duty to manage lands in a way that provides the wildlife habitat necessary to meet these broad objectives.
36 C.F.R. § 219.3	The 2012 Planning Rule's requirement to "use the best available scientific information [BASI] to inform the planning process."	As wildlife biologists continue to add to our understanding of how fences impact wildlife, this information must be used to inform the planning process. Advocates should provide relevant studies to agency planners during the assessment phase to ensure it is considered "available."

36 C.F.R. § 219.9(a)(1)	The Planning Rule’s requirement that “the plan must include plan components, including standards or guidelines, to maintain or restore the ecological integrity of terrestrial ... ecosystems ... including plan components to maintain or restore their structure, function, composition, and connectivity.”	Restoring ecological integrity explicitly includes restoring connectivity. Plan components, therefore, must address fences that inhibit connectivity.
16 U.S.C. Chapter 15	Endangered Species Act (ESA)	The focus of this paper is on species not protected by the ESA. However, it is important to remember the substantive and compulsory hooks provided by this statute where listed species are known to be impacted by fences (e.g., jeopardy and consultation (16 U.S.C. § 1536(a)(2)) and prohibitions on take (16 U.S.C. § 1538)).
<b>Directives</b>		
USDA Departmental Regulation 9500-004	“It is the policy of the Department to assure that the values of fish and wildlife are recognized, and that their habitats...are recognized, and enhanced, where possible...”	While this policy is not likely binding, it can bolster an argument for the inclusion of wildlife-friendly fencing in plans simply by reminding planning officials of the department's policy to enhance wildlife habitat where possible.
USDA Departmental Regulation 9500-004	“Consideration will be given to fish and wildlife and their habitats in developing programs for these lands. Alternatives that maintain or enhance fish and wildlife habitat should be promoted. When compatible with use objectives for the area, management alternatives which improve habitat will be selected.”	This is specifically pertinent to grazing and wildlife resources. Because wildlife-friendly fences improve habitat (relative to traditional fencing) and are also compatible with grazing needs, it is the department's policy to use wildlife-friendly fencing.
FSM 2630.3(2)	It is the agency's policy to coordinate habitat management “with other uses and activities to accomplish habitat management objectives and to reduce detrimental effects on wildlife and fisheries.”	This policy appears to encourage wildlife-friendly fencing because it reduces detrimental effects on wildlife.
FSM 2630.3(3)	It is the agency's policy to “[m]itigate the negative effects of other resource projects on wildlife...”	Similar to the above policy, but more specifically applicable to the effects of "other resource projects" (i.e., grazing related fence construction) on wildlife.
FSH 1909.12-23.23l	"The central consideration in land management planning for infrastructure is that the integrated desired conditions and other plan components set a framework for the sustainable management of the plan area’s infrastructure and mitigation of adverse impacts."	Fences, as one type of infrastructure, are clearly supposed to be designed and constructed to mitigate the adverse impacts on wildlife.

Note: (1) Charles F. Wilkinson and H. Michael Anderson, *Land and Resource Planning in the National Forests*, 296 (1987).

## Appendix C

### Condensed Summary for BLM RMP Involvement

The intent of this appendix is to summarize the most relevant aspects of this paper for individuals and organizations involved with BLM plan revisions, which are typically completed at the field office level. While the commenting process and plan component language presented in Appendix A is an important piece of this involvement, the most effective involvement begins much earlier in the planning process. Key considerations at each stage of the planning process providing for public involvement are discussed below. Readers are referred to *A Citizens Guide to the Bureau of Land Management's Resource Management Planning Process*<sup>327</sup> for a more thorough explanation of the BLM planning process.

The aforementioned resource outlines nine stages of the planning process: (1) *Issue Identification (Scoping)*, (2) *Develop Planning Criteria*, (3) *Collect Inventory Data*, (4) *Analyze Inventory and Identified Issues*, (5) *Formulate Alternatives*, (6) *Estimate the Effects of Each Alternative*, (7) *Select a Preferred Alternative*, (8) *Select a Proposed RMP*, and (9) *Maintain, Amend, and Revise the RMP*. This process is closely integrated with the EIS process and the documents are typically combined (e.g., Draft RMP/EIS, and Proposed RMP/EIS). Italicized stages above indicate stages where the BLM must provide for public involvement, each of which are discussed below in the context of advocating for wildlife-friendly fencing. While no formal public involvement exists in the other stages, advocates can still work with BLM decision makers and submit information during these other steps of the process.

(1) Issue Identification (Scoping): During the scoping phase, members of the public have 30 days following the BLM's publication of a Notice of Intent (NOI) to prepare an RMP to convey to the BLM what they think should be considered in the planning process. This is a great time to encourage the BLM to consider the effects of fences on wildlife. This stage is about bringing up issues to consider, but it is still important to make reasoned arguments so that it is difficult for the agency to ignore public requests and input. Involved members of the public should cite studies pertinent to wildlife-fence conflict in or near the planning area. If none exist, research pertinent to the same species of concern from other areas should be cited. References and information submitted during this stage will be used by the BLM in future stages where there

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<sup>327</sup> Erik Schlenker-Goodrich. *A Citizens Guide to the Bureau of Land Management's Resource Management Planning Process*. The Wilderness Society. January 2002.

is no requirement to involve the public. Note that the FLPMA’s multiple use mandate requires the BLM to manage for “wildlife and fish,” along with other uses, in a manner that best meets the needs of present and future generations, and that minimizing fence hazards is one way to do this. Other details may be better suited for future phases, but it is important that the BLM identify wildlife habitat and wildlife health as an issue to further address. The BLM is statutorily obligated during this phase to coordinate planning with relevant state, tribal, and local agency plans, including SWAPs.<sup>328</sup>

(2) Develop Planning Criteria: Again, the BLM will issue a NOI for this stage, and the public will have at least 30 days to review and comment. Planning criteria guide BLM data collection and analysis, so it is important that wildlife-fence conflict is considered somewhere in the criteria. If no criteria link to this issue, the BLM may refuse to address it at later stages of the planning process.

(7) Select a Preferred Alternative: At this stage, the BLM publishes a draft RMP and EIS with the preferred alternative identified. The public has at least 90 days to review and comment on the draft document. This detailed document should include specific language about the effects of fencing on wildlife as well as language in the plan that requires new fences to be constructed in a wildlife-friendly manner and existing fences to be removed, reconstructed, or modified to meet these same standards (see Appendix A). If such language is not included in the draft RMP/EIS, advocates should request the addition of such language and argue that it is required based on specific statutes, regulations, and agency policy, connecting each directly to wildlife-friendly fencing. These are discussed in the main text with the most pertinent portions of statutes, regulations, and directives summarized in Table C-1.

(8) Select a Proposed RMP: In this stage, the BLM reviews, incorporates, and responds to public comments on the draft RMP/EIS prior to issuing a proposed RMP/final EIS. The public has 30 days to protest any part of the proposed plan. Importantly, protests must relate to comments submitted during the previous phase. Language short of requiring all new fences to be constructed in accordance with BLM Handbook H-1741-1 should be protested. Advocates may also protest the agency’s plan for existing fencing that does not meet wildlife-friendly standards if deemed inadequate. Once all protests are resolved, the BLM will issue a record of decision

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<sup>328</sup> 43 U.S.C. §1712(c)(9).

(ROD) and approved RMP. All project- or activity-level decisions made after the approved RMP is operational must be consistent with the plan.

(9) Maintain, Amend, and Revise the RMP: The approved RMP is a living document, meaning that it can be altered after approval based on new or changing information and policies. Amendments and revisions trigger the NEPA process along with the nine-step planning process, although potentially in abbreviated form depending on the scale of change being considered. Even for existing plans, new studies of the effects of fencing on wildlife or documentation of death/injury caused by fencing may be brought to the attention of the BLM for consideration of plan changes. If successful, this could lead to a plan maintenance action completed by the BLM with little fanfare, or, less likely, a minor plan amendment that includes public involvement.

**Table C-1: Statutes, Regulations, and Directives Pertinent to the BLM and Wildlife-Friendly Fencing**

Document	Language	Comments
Statutes		
43 U.S.C. § 1702(c)	FLPMA's multiple use requirement to manage "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...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 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."	Wildlife is one of many resources on BLM lands to be managed in a "harmonious and coordinated" way. While this language leaves considerable, if not total, agency discretion, the BLM is clearly charged by Congress to manage wildlife in a way that does not permanently impair the resource.
43 U.S.C. § 1712(c)(3)	The Secretary shall "give priority to the designation and protection of areas of critical environmental concern [ACEC]" when developing or revising land use plans.	This mandate and the accompanying ACEC definition show congressional intent to prioritize the protection of wildlife where irreparable damage to the resource may occur. ACECs, which have historically been underutilized, can and should be designated in land use plans where fencing impacts on wildlife are significant. Likely areas where ACECs should be employed in the wildlife-fence context include migration corridors, winter range, and other important habitat. Any ACEC designated for this purpose should contain stringent wildlife-friendly fence provisions or exclude fencing entirely.
43 U.S.C. § 1702(a)	ACEC Definition: "areas within the public lands where special management attention is required (when such areas are developed or used or where no development is required) to protect and prevent irreparable damage to important historic, cultural, or scenic values, fish and wildlife resources or other natural systems or processes, or to protect life and safety from natural hazards."	
43 U.S.C. § 1732(b)	FLPMA's UUD standard: "In managing the public lands the Secretary shall, by regulation or otherwise, take any action necessary to prevent unnecessary or undue degradation of the lands."	As a surface resource, wildlife should be considered part of the land, so this clause appears to prohibit unnecessary or undue degradation of wildlife. Regulatory definitions of "unnecessary" and "undue" do not further the connection to wildlife or fences, but a single animal harmed or killed by a fence that is not wildlife friendly is unnecessary (based on the common definition of the word) given that we know how to mitigate these impacts.
16 U.S.C. Chapter 15	Endangered Species Act (ESA)	The focus of this paper is on species not protected by the ESA. However, it is important to remember the substantive and compulsory hooks provided by this statute where listed species are known to be impacted by fences (e.g., jeopardy and consultation (16 U.S.C. § 1536(a)(2)) and prohibitions on take (16 U.S.C. § 1538)).

Regulations		
43 C.F.R. § 1610.1(c)	"An interdisciplinary approach shall be used in the preparation, amendment and revision of [RMPs]... The disciplines of the preparers shall be appropriate to the values involved and the issues identified during the issue identification and environmental impact statement scoping stage of the planning process."	Grazing interests can no longer unilaterally make decisions about BLM land management. Where wildlife is concerned, which is pretty much everywhere, experts in relevant wildlife disciplines, both inside and outside the agency, must be included in the planning process. This does not compel a particular outcome, only that these interests are included and considered.
43 C.F.R. § 4180.2(d)	The BLM must develop state and regional standards that address "[h]abitat for endangered, threatened, proposed, candidate, and other special status species," and "[h]abitat quality for native plant and animal populations and communities."	Standards and guidelines (S&Gs) were written at this level in the late 1990s following regulatory changes in 1994. While there is potential for substantive S&Gs that provide some landscape-scale consistency, these tend to be written in very generic and unenforceable terms.
Directives		
BLM Handbook H-1741-1	Handbook describing guidelines for constructing wildlife-friendly fencing.	Provides comprehensive guidelines for fence construction in ungulate habitat. No consideration of avian wildlife. 1989 Handbook needs to be updated to reflect modern biological knowledge. Nonetheless, this is the most thorough policy document within either agency pertaining to wildlife-friendly fencing. Strong reference to this document in the plan could move its use from discretionary to more compelling.
BLM Manual 6840	This manual provides definitions for ESA-listed species, BLM special status species, and bureau sensitive species. It reiterates the agency's ESA obligations for listed species and emphasizes its policy to manage sensitive species to prevent the need for future listing.	If BLM special status species are known to be impacted by fences in the plan area, this manual provides additional directive-level guidance that may encourage the use of and conversion to wildlife-friendly fencing.
Secretarial Order 3362	This order directs the BLM (along with the FWS and NPS) to "[e]valuate and appropriately apply site-specific management activities... that conserve or restore habitat necessary to sustain local and regional big-game populations through measures that may include...working cooperatively with private landowners and State highway departments to achieve permissive fencing measures, including potentially modifying (via smooth wire), removing (if no longer necessary), or seasonally adapting (seasonal lay down) fencing if proven to impede movement of big game through migration corridors."	The language in Secretarial Order 3362 demonstrates the Department of Interior's desire to help protect big-game migration corridors, along with an explicit acknowledgement that fencing can be a serious impediment. While neither compulsory nor enforceable, this departmental-level order seems to strongly encourage the affected agencies to take wildlife-fence conflict seriously in big-game migration corridors.