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Comments: Recently, I attended the USDA Forest Service open house events to discuss the new Hermits Peak-Calf Canyon Recovery Project, which includes four main areas of focus: Forestry, Watershed, Engineering, and Recreation. I want to express my gratitude to the USDA Forest Service-Santa Fe National Forest, Pecos-Las Vegas District-for giving citizens of Las Vegas, NM, and the Hermits Peak-Calf Canyon area the opportunity to participate in the future management of our national forests.

As a faculty member at New Mexico Highlands University (NMHU) with eight years of experience in the Forestry Department, and as a fire ecologist, I am eager to contribute my expertise to this process. Additionally, I serve on the board of the Southwest Fire Science Consortium (SWFSC), an organization that connects scientists, land managers, and the public to ensure emerging fire science is applied on the ground. By fostering these connections, SWFSC helps address pressing management questions and ensure cutting-edge science is integrated into efforts to protect communities and natural resources.

From this perspective, I offer my expertise, resources and connections through the SWFSC to support the Hermits Peak-Calf Canyon recovery efforts. The Forestry Department at NMHU is specifically interested in monitoring and research projects related to soil and vegetation recovery dynamics in both natural and managed areas. In fact, we are in the process of applying for a National Science Foundation grant to establish the New Mexico Wildland Fire Science Lab (NMWFSL) at NMHU over the next five years. This lab aims to leverage international fire science knowledge and technology to enhance understanding of wildland and prescribed fires in New Mexico's ecosystems under changing climate conditions. We look forward to collaborating with you in the future.

Regarding the Hermits Peak-Calf Canyon Recovery Project, I understand that the focus within the Forestry area is primarily on post-fire recovery, particularly addressing hazard trees, pests, and risk mitigation. However, I am surprised that the use of prescribed fire has not been included in the recovery and future management plans. Fire is a natural disturbance in Southwest ecosystems, and a vast body of literature supports prescribed fire as one of the most efficient and cost-effective management tools. It is a keystone disturbance that recycles nutrients, regulates plant succession, maintains diversity, reduces biomass, controls pests, and supports overall ecosystem health. Most importantly, prescribed burns reduce fuel loads, which helps prevent future catastrophic wildfires.

While I recognize the challenges of reintroducing fire as a management tool in this region, given the trauma caused by the Hermits Peak-Calf Canyon wildfire and the continuos stress and frear with the post fire flooding, scientific evidence demonstrates that using prescribed fire in communities affected by such events is crucial for rebuilding trust in the tool and in the managing agencies. Just as people overcome trauma by confronting their fears-such as driving again after an accident-communities can regain confidence and control by safely reintroducing prescribed fire. This process can help both ecosystems and people heal, reducing future risks and fostering resilience. New Mexico offers successful examples of how prescribed fire programs can continue and thrive even after devastating wildfires. Following the El Cerro Grande and Las Conchas wildfires, the prescribed fire (Rx fire) program in the region not only persisted but has become one of the most active and effective in the state today.

In northern New Mexico, the Hermits Peak-Calf Canyon fire presents a paradoxical opportunity. In the areas of low and medium fire severity (approximately 60% of the affected landscape), as well as adjacent territories, we have a chance to maintain healthier landscapes and watersheds by respecting natural fire intervals (mean fire intervals in ponderosa are arond 10.5 years in this area, and 17 years in douglas fir)

Therefore, I strongly encourage the USDA Forest Service, particularly the Pecos-Las Vegas District, to pursue resources and develop more collaborative projects with other agencies and private landowners since I think our communities will benefict from them. Examples like the Mayordomo Program in the Taos-Carson National Forest and the Southwest Jemez Mountains Collaborative Landscape Restoration provide successful models of how fire can be safely reintroduced as a management tool. These efforts will help restore a culture of fire use in communities impacted by catastrophic wildfires.

Finally, I have attached a summary of key findings from the "Wildlife and Fire: Impacts of Wildfire and Prescribed Fire on Wildlife and Habitats in Southwestern Coniferous Forests" report by the Restoration Institute at Northern Arizona University, along with other relevant papers. Please feel free to contact me or the Forestry Department at NMHU if you have any questions.

Research suggests forests in the southwestern U.S. should be managed for a range of conditions that take into account the natural range of variability, past land use, a range of fire severities, and overall landscape heterogeneity that provides multiple seral stages including early seral, mid seral, and old growth habitats for multiple wildlife species (Fulé et al. 2004, Noss et al. 2006b, Kotliar et al. 2007, Kennedy and Fontaine 2009). The amount and distribution of these habitat types will vary within the ecosystem, and fire management that includes a broad range of variability and severity, including areas of severe fire, is more likely to preserve a broad range of wildlife habitat than restoration objectives based on narrowly defined historic fire regimes (Allen et al. 2002, Fulé et al. 2004, Schoennagel et al. 2004, Noss et al. 2006b, Kotliar et al. 2007, Kennedy and Fontaine 2009). Fire has both positive and negative impacts on wildlife species depending upon the severity of the burn, spatial extent, post-fire structural and compositional elements, and the resulting habitat mosaic. Many species of wildlife inhabit forests that have evolved with structural conditions that depend on fire as a disturbance agent. Some species have evolved with fire and increase their abundance in burned areas whereas others have neutral or negative responses.
The habitat mosaic is important, and fire can maintain ecosystem function and biodiversity. Early successional habitat created by fire is important to multiple species of wildlife and is limited in many forests across the western U.S. (Noss et al. 2006b). Overall, the impact of fire as a disturbance agent on wildlife habitat and consequently species abundance and density is ultimately species-specific, and there will always be some species that respond positively, some that respond negatively, and others that have neutral responses.
Given that most landscapes support specialists that require either early seral or mature older forests, as well as species that require multiple seral stages throughout their life cycle, it is likely that a mosaic of successional stages is needed in the landscape to maximize biodiversity (Fontaine et al. 2009, Roberts et al. 2010).

Management Implications
*Low to moderate-severity fire can benefit multiple species of wildlife by altering understory conditions, while high-severity fire can immediately alter habitat structure and available resources.
*A fire's patch size, shape, and severity can influence wildlife distributions across a burned landscape and post-fire vegetation structure and composition are important in determining species response.
*Explicitly defining fire severity as a percent of basal area loss or more descriptive severity categories other than low, moderate, and high is needed in order to provide more informative insights in to species response.
*High-severity fire most negatively affects canopy nesting and foliage foraging bird species, while many insectivores and cavity nesting birds increase due to the open conditions and snags created post-fire.
*Time since fire is important to species response. Often there is an increase in insects and seeds in the short term (0-4 years post-fire) that many species exploit, while others respond to overall structural characteristics over the long term.
*Many small mammal species respond positively to increased food sources post-fire such as forbs, grasses, seeds, and fungi. Squirrels are negatively affected when their middens or nests are destroyed and overstory is removed.
* Many avian species in the Southwest respond positively in terms of density and abundance to low and moderate-severity fire (e.g. western bluebird, hairy woodpecker, Steller's Jay, plumbeous vireo, darkeyed junco).

*Many insectivores rapidly colonize burned areas and then experience a decrease in density as time since fire increases.
* In some areas, prescribed fire and/or thinning may be used to mimic the role of wildfire; however, at the landscape scale these effects are not well understood and need more research.