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DEPARTMENT OF WILDLIFE

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12/9/2020

United States Department of Agriculture
Humboldt-Toiyable National Forest
1200 Franklin Way
Sparks, Nevada 89431

Re: Comments on Humboldt-Toiyabe National Forest Forest-wide Prescribed Fire Restoration Project

To Whom It May Concern,

The Nevada Department of Wildlife (the Department) appreciates the opportunity to provide comment on the Scoping Proposed Action for the Humboldt-Toiyabe (H-T) National Forest Forest-wide Prescribed Fire (Proposed Action) Restoration Project. We have included our specific comments in the attached table and offer some overarching questions and concerns below.

In general, the Department greatly appreciates the consideration of management tools for landscape-level range and habitat improvement. In reading the Proposed Action, we find that few specifics on how this tool would be utilized on the landscape are addressed. The Proposed Action does not adequately address where, or under what conditions, prescribed fire is an inappropriate or overly risky management tool and would not be considered for use. The Department is also concerned with a lack of sufficient analysis and sideboards to account for historical and ongoing disturbances, such as utilization by livestock or wild horses and burros that may jeopardize a prescribed fire's success. It is unclear how the USFS will move from a landscape scale analysis to a site-specific determination regarding the appropriateness of prescribed fire as a management tool. The document is largely missing a framework for assessing on the ground conditions and risk that are critical in order to implement a successful project. In addition to being very overly general, we recognize that large-scale and frequent wildfire already occurs across the entirety of Nevada, the H-T included, and we question the need for more fire on the landscape. There are alternative management techniques that may result in similar ecological outcomes while presenting far less risk of undesirable or unplanned negative outcomes.

We would also like to point out that there is a fairly extensive existing body of literature illustrating fire return intervals in big sagebrush shrublands normally exceeds 50-100 years and may be even longer within *A. tridentata* ssp. *wyomingensis* habitats, and low sagebrush shrublands do not deal well with fire whatsoever (Davies and Bates 2020). Sagebrush systems are not considered fire dependent or fire adapted in the sense many forested systems are, although fire may promote diversity in some types of sagebrush. Big sagebrush (*A. tridentata*) in particular, is already losing ground to fire due to decreased return intervals, while there is some emerging evidence that mountain sage communities can benefit from certain types of fire. Statements within the Proposed Action are too broad, and we recommend providing more specificity regarding this. Big and low sagebrush are also overly broad in the context of

the H-T due to the presence of many species and subspecies occupying different soils, elevations, and temperature/moisture regimes. We are concerned that the Proposed Action, as written, provides overly broad latitude for using prescribed fire without conducting an in-depth analysis, and could allow for the misuse of prescribed fire as a management tool. We recommend that the Proposed Action include more specific constraints regarding when and where prescribed fire may be appropriate and could be considered for management use.

Without more specificity in the proposed Project, the Department is not convinced the proposed Project scale is appropriate and suggest prescribed fire might be better as a highly targeted tool for specific, small-scale restoration projects in Nevada. We are also concerned that the Proposed Action could be approved through the use of a Categorical Exclusion, thus reducing the level of planning and analysis that will be completed, and the disclosure of analyses to the public. Given the recent history of wildfire and invasive annual grass in Nevada, use of prescribed fire should be very judicious and used only after extensive analysis, both at the programmatic and site-specific project scale. We recommend this project be analyzed as an Environmental Assessment and additional coordination and communication with the Department occur given the potential for prescribed fire to conflict with wildlife resources.

We greatly appreciate the opportunity to participate in the review and development of this proposed Action, and genuinely look forward to further discussions with the Forest Service on this project. Should you have any questions regarding our comments, please do not hesitate to reach out to me directly.

Sincerely,



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HUMBOLDT-TOIYABE NATIONAL FOREST FORESTWIDE PRESCRIBED FIRE RESTORATION PROJECT

Comments on Scoping Proposed Action

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Cmt #	Page #	Line #	Reviewer Name	Comment	A/R/M ¹	Remarks / How Resolved (Reviewers: Leave this column blank)
1.	2	Desired Condition	NDOW	Due to significant ecological changes in Nevada, driven primarily by invasive annual grasses and large wildfires, since the mid-1980s, we question the reliance of LRMPs as justification for prescribed burning at the scale identified in the Proposed Action.		
2.	1	Introduction	NDOW	The comparison of historic and current fire return intervals may provide a baseline for the number of acres that are departed from historic fire return intervals, however it does not directly translate to a number of acres and vegetation types that should be targeted for prescribed burning. Further, the cited 4 million acres that are departed from reference does not address variation in departure from historic fire regimes—in some cases return intervals have actually increased (for instance in many sagebrush systems) and it is unclear how this is accounted for here. In the case of shortened returned intervals additional fire is not warranted as an acceptable tool to increase ecosystem values.		

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3.	1	Purpose, Need, and Objective lines 1:4	NDOW	Shrublands as used here is an overly broad term that covers a series of ecologically and functionally differing systems which are generally not considered “fire adapted” in the sense this term is applied to serotinous forests, for instance. There is a fairly extensive body of literature that fire return intervals in big sagebrush shrublands normally exceeds 50-100 years and may be even longer within <i>wyomingensis</i> habitats. Low sagebrush shrublands do not deal well with fire whatsoever. Please see Davies and Bates 2020. “Re-introducing fire in sagebrush steppe experiencing decrease fire frequency: does burning promote spatial and temporal heterogeneity?” International Journal of Wildland Fire 29(8) 686-695. for further discussion.		
				Sagebrush systems are not considered fire dependent or fire adapted in the sense many forested systems are, although fire may promote diversity in some types of sage. Big sagebrush (<i>A. tridentata</i>) in particular, is losing ground to fire due to decreased return intervals, while there is some emerging evidence that mountain sage communities can benefit from certain types of fire. The statement provided here is too broad and we recommend providing a more specificity. Big and Low sagebrush are also overly broad in the context of the HT due to the presence of many species and subspecies occupying quite different soils, elevations, and temperature/moisture regimes.		

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4.	1	Purpose, Need, and Objective		Document states "...severity of wildfires coupled with invasive species dominating post-fire." What will be done to ensure that post-fire conditions after a prescribed fire do not succumb to the same situation where invasive species become dominant?		
5.	1	Purpose, Need, and Objective		Please provide more detail on what the document means when it states "...increasing density of... brush is limiting movement and forage growth for species." What species is this referring to? Loss of brush species is likely not favorable to mule deer or sage grouse, which are referenced in the previous line.		
6.	1			Although fire is an important dynamic in Pinyon-Juniper systems and changes to fire regime have been shown to have altered encroachment and stand dynamics, fire return intervals in Pinyon-Juniper systems are often guestimates based on the lack of soil carbon charcoal records. Fire may often not be the best tool to address changes associated with Pinyon-Juniper encroachment which should be addressed in potential alternatives to fire here. Please see Tausch, R.J., R.F. Miller, B.A. Roundy and J.C. Chambers. 2009. Piñon and juniper field guide: asking the right questions to select appropriate management actions. U.S. Geological Survey Circular 1335, 96 pages as well as the body as work from Dr. Bruce Roundy of BYU and others.		

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7.	2-3			Regarding the Landfire analysis: multiple disturbance events and anthropogenic impacts outside historic variation are present in the ecosystems of Nevada and California. These dynamics compound impacts from changes to historic fire regime; therefore, analysis of departure from reference based on analysis of Landfire datasets is a starting point for analysis of <i>potential</i> acres that may be departed, but on the ground conditions must be used to determine final acres and specific projects where prescribed fire is warranted and likely to increase ecosystem function and associates values. The analysis presented here does not support the statement that "This information provides an approximation of how many acres should be targeted for burning on an annual basis to restore a more resilient stand composition and structure". Please see for further support: Urza, Alexandra K., et al. "Post-fire vegetation response at the woodland–shrubland interface is mediated by the pre-fire community." <i>Ecosphere</i> 8.6 (2017): e01851.		

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8.	2-3		NDOW	The analysis and acres presented here (80,000 to 100,000 acres of prescribed fire needed annually) assumes that prescribed fire is the correct tool to achieve objectives, but in some cases an alternative treatment method may yield more desired results with less risk. Hand thinning, mechanical thinning, or other non-fire fuels treatments combined with herbicide use and re-seeding may often better achieve localized objectives with decreased risk of post-treatment issues related to cheatgrass and other potential problems. Many of the areas identified here are likely sagebrush communities, which are not ideal candidates for prescribed fire based on multiple publications from the Rocky Mountain Research Station, SageSTEP, and other projects across the Great Basin and Sierra Front. Please see as an example of current literature synthesis: Miller, Richard F., et al. "A review of fire effects on vegetation and soils in the Great Basin Region: response and ecological site characteristics." <i>Gen. Tech. Rep. RMRS-GTR-308. Fort Collins, CO: US Department of Agriculture, Forest Service, Rocky Mountain Research Station. 126 p. 308 (2013).</i>		
9.	2-3		NDOW	If not already considered in the 4 million acre estimate, it would be good to include an assessment that takes areas not suitable for prescribed fire (sage grouse habitat <12" precip, low R/R, sensitive species habitats, etc.) as defined in Table 1 and compares this with the 4 million acres identified in the document and the target of 80-100k acres/year. A GIS analysis that presents a more defined number of acres suitable for prescribed burning would help put context into the objective of burning 80-100k acres/year.		

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10.	2-3	Need for the Project	NDOW	We would encourage in-depth discussion and consideration of how presence and density of invasive annual grasses or weeds may be more important than if habitats or specific areas are departed from natural fire regimes. While we would not argue that certain areas are departed from a natural fire regime, we would also offer that the introduction and expansion of invasive plant species is an essential consideration and may make fire less desirable.		
11.	3		NDOW	"Proposed Action"; a discussion of alternatives to prescribed fire based on the literature should be presented to establish a framework that supports or identifies fire as a best practice as compared to other available treatments.		
12.	5		NDOW	In general, an adequate discussion of risks associated with prescribed fire in specific habitat types that are overlain by the Landfire departure analysis is not presented. This discussion is necessary for more adequately delineating targeted areas where fire may be warranted and beneficial.		
13.	5		NDOW	Please add specific language about including NDOW as part of the interdisciplinary team.		
14.	5		NDOW	Pile burning: Including a soil profile table, and fuel types that could be pile burned related to that table, would aid the USFS in limiting soil sterilization and increases in noxious weed and winter annual densities.		

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15.	5		NDOW	If it is the intent of the USFS to utilize Resistance & Resilience modeling to help better inform a decision of whether a site is suitable for prescriptive burning, would it also not be in the best interest of the USFS to monitor other sites with similar ecological site descriptions, precipitation zones, and resistance & resilience modeling scores that have burned in wildfires to determine if the modeling exercise is accurate? As an example, precipitation is key in any restoration projects success however it is increasingly more variable in the Great Basin and models that incorporate historical precipitation data (that was historically more consistent) may not produce an accurate real time data set. An additional exercise to monitor existing wildfire sites and the associated vegetative response, then comparing it to the decision-making matrix described in this document to determine if the results of the wildfire are congruent with the modeling exercise would offer a far more robust and defensible analysis.		
16.	5		NDOW	Elevation is a variable that is likely considered when planning burn treatments as it plays a large role in how an ecological site description is defined. Though elevation can generally be utilized as a good variable in projecting how a site will respond to treatment ecologically, and that 6,500-7,000 feet is fairly well accepted benchmark of the upper limits of where cheatgrass can exist, several observations in northern Nevada would counter that benchmark. Consider using pre-treatment vegetation monitoring before treatment and setting winter annual density limits for where burn treatments can be implemented.		

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17.	7	Bullet Point #2	NDOW	What avenue does the Forest Service have to ensure reseeding, if deemed appropriate through monitoring? Would prescribed Fire be held to the same standards of the BAER process? NDOW has been told repeatedly that reseeding after wildfire is not a component of BAER funds. NDOW suggests that before the FS implements prescribed fire, that funds are <u>obligated pre-project</u> for reseeding efforts.		
18.	11	14	NDOW	Here and elsewhere in the document there is little information provided on the inclusion of seeding after treatment. Seeding should be a major consideration in any habitat restoration activity especially for those that targeted areas with depleted understories. What pre-project monitoring standards and benchmarks will be used to determine if reseeding is warranted?		
19.	11	14	NDOW	Seeding with 100% native species is an unrealistic expectation due to limited availability and often high costs of native seed. Additionally, use of native seed given site conditions often lead to extremely low rates of success, negating the restoration management actions. We strongly recommend the inclusion of non-natives in consideration for seed mixes given the lack of commercially available native ecotypes from Nevada and California.		

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20.	13	Table 1, ID's 23-25	NDOW	Identified in the Proposed Action of this document, prescribed fire treatments would range in size of 500-100,000-acre treatments. With this scale in mind, how does the USFS plan to mitigate for and treat large scale invasive annuals not having aerial application of herbicide analyzed for on USFS status lands? Ground treatment of winter annual species such as cheatgrass are both cost prohibitive and very difficult at best and is largely terrain limited especially in mountainous lands administered by the USFS.		
21.	14	24	NDOW	Please provide additional information on how a "high probability of increasing invasive annual grass" will be determined? Please provide a citation of as to where the use repeated of prescribed burning in areas of high invasive cover has been a useful method to achieve restoration. In our experience repeated burning of annual grasses only perpetuates the annual grass fire cycle.		
22.	14	25	NDOW	Creosote and blackbrush communities are not fire adapted and should not be considered for prescribed burning.		
23.	14	25	NDOW	"sleep" should read "slope"		
24.	16	28	NDOW	What parameters would be used to determine if the area has recovered sufficiently to permit grazing?		

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25.	19	Table 1, ID40	NDOW	If it is the intent of the USFS to burn after mastication in pinyon juniper woodlands, the NDOW would suggest that "burning after mastication" be analyzed as a stand alone treatment type, and recommends using a disc head rather than a drumhead to produce a more coarse fuel type. The coarser fuel type would ensure that the fire would carry faster and with less intensity than that finer fuel type that is produced by a drumhead and could smolder for long periods of time. In some instances, drumheads can produce chip depths over ≥12"		
26.	19	Table 1, ID 41	NDOW	Though a three-inch chip depth appears to be a reasonable stipulation, experience in these treatments would show that this chip depth is unreasonable. Adding some flexibility to this stipulation will allow for easier contracting and implementation into the future while still achieving ecological goals.		
27.	19	38	NDOW	The use of mechanical equipment/activities should be prohibited anytime that they would cause excessive ground disturbance. This would include anytime the ground is saturated including after snowmelt.		
28.	22	Table1, ID 50	NDOW	We recommend this measure also be considered in all bighorn sheep habitat. Nevada has more bighorn sheep than other state in the lower 48 and this stipulation may be appropriate in Nevada bighorn habitat as well.		

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29.	23	Table 1, ID 51	NDOW	Given the number of acres of sage grouse habitat that has burned in the last 20-30 years and general loss of habitat from fire, we question the inclusion of GRSG habitat as habitat available for prescribed burning. Please include citations that support prescribed burning in sage grouse habitats. Should a similar design element be added for GRSG winter habitat during fall/winter months?		
30.	23	Table 1, ID 52		Does this mean that prescribed fire will not occur in areas of low resistance-resilience? What about areas of moderate resistance-resilience? There are certainly cases in Nevada where existing wildfire in moderate and even high R/R areas has resulted in increases of invasive annual grass. How will these situations be assessed and analyzed prior to implementing a prescribed fire project?		
31.	23	Table 1, ID 49-54	NDOW	An additional consideration in planning in any prescriptive burn treatment, mule deer and their critical habitats should also be avoided. As this species is on a precipitous west-wide decline, not restricting the manipulation of a critical browse and thermal cover component in both migration and winter habitats could have devastating impacts on a herd. Many of these habitats are already compromised constricting use to even smaller patches of existing habitat making it all that much more important.		

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32.	26		NDOW	Coordination with NDOW should not only include big game species but all wildlife including state protected and sensitive wildlife species. NDOW understands that USFS is not legally obligated to consider or analyze all State protected or sensitive wildlife; however, analysis or consideration of these species provides a stronger approach for landscape/habitat management and/or restoration.		
33.	23 & 31-38		NDOW	The maps (and related analyses) presented here show departure class from historic fire interval, but these departures are not overlaid with Landfire Existing Vegetation Type or Potential Vegetation Type. As such, they are not functionally useful for identifying acres/areas or habitat types where prescribed fire is warranted based on existing vegetative conditions, habitat potential/Ecological Site Description/ or Disturbance Response Group. Acres of departure classes based on overlay with existing R&R layers should also be presented to represent high priority areas based on language included in pages 4-5.		
34.	31-38		NDOW	Critical habitat for sage-grouse and other species that may be impacted should be explicitly addressed in the modeling exercise to identify areas that should be proactively removed from consideration for prescribed burning.		
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