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Comments:
The Black Hills Forest Resource Association and its members appreciate this opportunity to provide comments on the BHRL Draft Environmental Impact Statement (DEIS). Our comments are uploaded separately.

Black Hills Forest Resource Association

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October 29, 2017

BHRL Project
Black Hills National Forest
1019 North 5th Street
Custer, SD 57730

Dear Ms. Davy,

This letter is in response to the request for comments from the Black Hills National Forest (BHNF) on the Black Hills Resilient Landscapes Project (BHRL). These comments are timely pursuant to the comment period described in 82 FR 43359. The Black Hills Forest Resource Association (BHFRA) and its members appreciate this opportunity to provide comments on the BHRL Draft Environmental Impact Statement (DEIS).

Purpose and Need

Structural Stage (SS) objectives are cited within the DEIS as a primary component of the purpose and need for the project. We agree with the purpose and need for the project as it relates to current conditions which have departed from the Forest Plan structural stage (SS) objectives to an extent that requires active vegetation management.

Structural Stages

It is critical for the BHNF to have the flexibility to implement the right forest management prescriptions, in the right places, at the right time. Understanding the BHRL project targets stands with a SS of 4A, on-the-ground conditions are likely to differ from expected on some portion of the commercial treatment areas (CTA). It is important stands are not overlooked despite differences from expected conditions. Unfortunately, the DEIS very clearly states stands would not be entered unless strictly meeting the definition of a 4A stand. This is evident on when discussing previous harvest in SS 4B/4C stand types on page 68: "Remaining dense, mature stands would not be thinned except to create approximately 4,000 acres of shaded fuel breaks" and on page 38 where the DEIS states, "In management areas where mature, moderately dense to dense pine stands (structural stages 4B and 4C) are below Forest Plan objectives, these stands would not be treated in a way that changes overall stand structural stage…" We understand the concern about not reducing the current number of acres mapped as SS 4B/4C. However, applying a silvicultural treatment to 4B/4C stands, not currently mapped as 4B/4C, would not result in a reduction of currently known acres and, thus would not change the analysis and effects of the BHRL project or the expected outcomes pertaining to distribution of structural stages.

1

We recommend removing the above referenced language on pages 68, 38, and other similar language, and replace it with language that provides the flexibility to implement appropriate silvicultural treatments as part of an active program to reduce the future risk of a mountain pine beetle epidemic. An example: "As a result of this project, acres of mature dense stands in SS 4B should not be decreased below the current known amount, and acres of SS 4C should not be reduced below Forest Plan objectives, apart from 4,000 acres of shaded fuel breaks."

Structural Stage 5

Within SS5 stands, the DEIS is more limiting than the current Forest Plan by excluding any commercial thinning activities. Page 38 specifically outlines activities allowed in SS5 stands and fails to include any commercial POL or sawtimber activities. However, page II-17 within the Forest Plan FEIS clearly allows commercial activities by stating, "Active management is allowed, and may be necessary, to provide desired late-successional characteristics in structural stage 5." Additionally, guideline 3.7-2103 pertaining to MA 3.7 (Late Successional Forest Landscapes), states "Timber harvest may be used if necessary to move stands toward late-successional conditions." Late-successional conditions described within the Forest Plan range from open park-like stands to areas with increased canopy cover.

To the extent the Forest has suffered losses of late succession stands as a result of the recent MPB epidemic, we question how excluding management from stands of moderately dense to dense late succession would contribute to the desired conditions for the MAs in the BHRL project. Dense stands of SS5 are not sustainable and have performed as expected ecologically and as described in the Forest Plan, suffering extensive mortality from wildfire events and insect infestations. Withholding moderately dense to dense late succession within the MAs described in the project goes directly against Forest Plan desired future conditions. Excerpts from desired future conditions within the Forest Plan for applicable MAs:

- MA 4.1: "The overall appearance of this management area is reminiscent of a managed forest, and few signs of damage to trees by insects or diseases should be visible."
- MA 5.1: "Few areas show evidence of decadence or old trees. Evidence of insect and disease outbreaks is infrequent."
- MA 5.43: "Forested areas appear managed, without much evidence of damage by insects and diseases."
- MA 5.6: "Forested areas appear managed, without much evidence of damage by insects and diseases."

2 *We recommend including commercial activities as an allowed activity in SS5 to create, or maintain, stands at a lower density with decreased risk of loss from wildfires and insects.*

The DEIS describes an action of evaluating acres of mature trees, which may be within CTAs, to be set aside and managed as candidates for future SS5. This action is proposed despite acknowledgment by the BHNF that there is uncertainty regarding the amount of SS5 currently existing on the BHNF, and the likelihood of additional acres already in existence but currently unknown. This is illustrated on page 24 with, "Conduct additional field review to identify

existing, unmapped late succession stands", on page 11 by describing "Other stands or parts of stands with late succession characteristics [that] are likely to exist", and on page 27 with the statement "The proposed action would retain old growth characteristics in all known late succession stands, work toward identification of unrecorded stands…" Managing for increased SS5 (late succession) despite a lack of knowledge regarding the amount of SS5 on the landscape is illogical and arbitrary.

Curiously, the DEIS indicates all MAs are below the 5 percent objective for SS5 but page 61 of the DEIS reports MAs 4.1, 5.1, and 5.6 all have more than 10 percent of the mature pine acres designated as stands with "very large" average diameter, while MA 5.4 has 8.8 percent. Looking closer, this equates to "very large" average diameter stands accounting for 14, 11, and 22 percent of *all* pine acres within MAs 4.1, 5.1, and 5.6 respectively. Because stands classified with an average diameter as "very large" have a QMD of greater than 16" DBH (same as SS5), the current known amount of SS5 is likely an underrepresentation of the actual Forest conditions.

3 *We recommend not setting aside additional stands of mature pine as future SS5 until a complete field review of the BHNF is conducted to determine the actual need for additional acres of SS5 stands.*

Prescribed Fire

The DEIS is insufficient in many areas relating to prescribed burning. This includes a lack of specific objectives, description of current stand conditions within proposed areas, desired conditions, acres proposed in each Management Area, how prescribed burning will promote forest plan objectives for those MAs, and a lack of discussion of cumulative effects due to more than 200,000 acres of prescribed burning already approved through NEPA and more than 33,000 acres within current burn plans already developed. It is unacceptable to describe the objectives and desired conditions of the proposed prescribed fire activities with the statement of: "Prior to implementation of each burn, fire managers would prepare a detailed prescribed burn plan."

4 *We recommend describing, with detail, the specific objectives and desired conditions associated with any proposed prescribed burning on the BHNF to provide for adequate public comment opportunities and measurable metrics for Forest monitoring.*

Any overstory mortality in moderately dense or dense stands resulting from prescribed burning would be in direct conflict with the purpose and need of the BHRL project. As described in the purpose and need of the BHRL DEIS, this project is implementing forest management actions to comply with Forest Plan SS objectives. Within the DEIS, it is clear the BHNF has a desire to retain acres of SS 4B/4C stands and that no commercial activities would take place in these stands because of the necessity to preserve the stand structure with no losses to the overstory. However, page 55 of the DEIS describes overstory mortality as a result of "moderate intensity" prescribed burns that would stimulate understory vegetation where it is "lacking due to shade". Moderate severity fire has often been associated with 50 percent or greater overstory mortality (Keyser et al. 2008). We find no rationale to support implementation of prescribed burning activities in moderately dense to dense stands as part of the BHRL project.

5, 6 *We recommend removing all proposed prescribed burning activities within moderately dense to dense stands as part of the BHRL project and to also provide strict overstory mortality limits of less than five percent in all other stand structures.*

Unsupported statements appear in the DEIS when discussing prescribed burning activities. One example, found on page 55 is, "Prescribed fire would cause a short-term increase in tree growth due to the nutrients released into the soil." This unsupported statement seemingly ignores a wealth of previous research studying the effects of prescribed fire on ponderosa pine tree growth. The overwhelming consensus on this topic is that prescribed burning reduces tree growth (Landsberg et al. 1984, Grier 1989, Sutherland et al. 1991, Landsberg 1992, Busse et al. 2000). Other unsupported statements, such as on page 20, reference low to moderate intensity fires increasing resiliency in mature pine trees to future fires by causing the bark to thicken.

7 *We recommend providing supporting citations to scientific publications within the prescribed burning sections and throughout the final environmental impact statement.*

Overstory Removal

Although we support removing the overstory in stands to meet the purpose and need of the BHRL project, the DEIS is lacking critical specifics to describe overstory removal actions. Namely, the DEIS describes leaving some undetermined amount of reserve trees in "groups of varying size". Further, the DEIS states this action will remove "most" of the mature pine from a stand. Again, there is no quantification of "most" within the DEIS. Further, we question the use of reserve trees when the DEIS describes, at length, the problem of ubiquitous regeneration present in the potential CTAs. Leaving residual overstory trees will only compound the problem.

8 *We recommend providing specific objectives and desired conditions in the analysis to better measure and monitor terms such as "most". Additionally, we recommend not leaving reserve trees as that would only contribute to the extensive regeneration problem on the BHNF.*

The term "overstory removal" may not be applicable to the actions described within the DEIS. Referencing FSM 2400 Ch. 2470, the term "overstory removal" is applied when removing all of the overstory trees and is often associated with clearcut actions. It is unclear whether use of the term "overstory removal", as opposed to Shelterwood Removal Cut (with or without reserves), holds any implications relating to the Regional Watershed Conservation Practices Handbook (RWCPH) and the proposed amendment.

9 *We recommend use of terminology that may be more applicable to the BHRL project, such as "Shelterwood Removal Cut".*

Plan Amendment

We see no reason to for the BHNF to amend the Forest Plan at this time nor do we see any reason to support the amendment as proposed. The DEIS cites the RWCPH, as revised in 2006, as the impetus for proposing the plan amendment. However, we find the language found within the current BHNF Forest Plan already in compliance with the RWCPH. Also, there is no

specific direction within the RWCPH that indicates the measures should be guidelines, standards, or otherwise within Forest Plans.

Importantly, changing from a guideline to a standard, as proposed, is counter to the intent of the amended RWCPH. Within the amended RWCPH, the language referenced for the proposed amendment is changed from a "standard" to a "measure". However, the proposed amendment in the DEIS changes the language from a guideline to a standard and continues to cite the RWCPH as a "standard". This appears to be in conflict with the 2006 amendment to the RWCPH. The RWCPH also contains specific language providing latitude to Forests to not be forced into rigid compliance with the "measure" by stating, "However, total-tree harvest may be necessary to reduce fuel loadings, prevent soil damaging high severity fires and restore natural disturbance regimes." and "Exceptions may occur when high fire hazard overrides the need to leave slash onsite." The proposed amendment makes no reference to these exceptions and, instead, strengthens the existing guidelines into standards.

10 *We recommend not amending the Forest Plan as proposed.*

Roads

There is a lack of clarification within the DEIS as to what constitutes a new road (permanent or otherwise). For instance, it is not uncommon for a previous road to be moved from a draw and placed upslope to protect soil and water resources. However, there is no indication that these types of occurrences have been considered.

We find the limitations for roads as part of the proposed management activities within oak, aspen, and grasslands unnecessary. We see no rationale in identifying areas with resource management needs and then limiting activities to only areas where no roads would be needed. The specific language used within the DEIS differs among cover types and it is unclear whether the DEIS is recommending no new road construction or no general construction and maintenance. If there is a need for resource management, then all activities necessary to meet those needs should be included as part of the analysis.

11 *We recommend clarifying what constitutes a new road and what specific restrictions, if any, exist on roadbuilding or maintenance activities as part of the proposed actions in oak, aspen, and grasslands.*

Uneven-aged management

Uneven-aged management likely plays a role in managing forested stands in the BHNF. However, there are questions regarding the scale of uneven-aged management given expert concerns over fire hazard and mountain pine beetle risk in stands of uneven-aged management. The DEIS appears to put an emphasis on uneven-ages management by stating, on page 32, "The following activities *would* occur in CTAs…". The two activities described on page 32 are uneven aged single tree selection and group selection. Because of the long-term commitment necessary for uneven-aged management and concerns regarding wildfire hazards and MPB risks,

any decision to implement uneven-aged management should be made on a case by case basis and without obligation within the DEIS.

12 *We recommend changing the wording on page 32 to, "The following activities may occur in CTAs (page 25) and would involve the commercial harvest of timber."*

13 *Because of the ambiguity to what scale the BHNF intends to implement uneven-aged management as part of the BHRL project and the hazards associated with uneven-aged management, we recommend stating a maximum of 10 percent of the acres treated as part of the BHRL project will be uneven-aged management.*

Future Stand Structure

Within the DEIS, it is estimated that in 20 years, at least 40 percent of the BHNF will be at moderate to high forest density. We are acutely aware that the SS objectives within the Forest Plan likely contributed to the current mountain pine beetle (MPB) epidemic and future forest management will be required to reduce the risk of another mountain pine beetle epidemic

14 *We recommend the BHNF continue active forest management projects beyond the BHRL project to prevent the dense forest conditions that lead to the mountain pine beetle epidemic in the first place.*

Northern Long-Eared Bat

We agree with the Programmatic Biological Assessment (BA), as described on page 102, that, "On the landscape scale, activities to make forested stands more resilient to catastrophic wildfires and insect and disease epidemics are likely to have an overall positive effect…" However, the research by Cryan and others is understated in the DEIS by simply stating "…timber harvest and tree thinning are not expected to decrease the long-term suitability of these areas as long-eared bat roosting habitat." The BA discusses Cryan's research and others with the following statements:

- "Cryan et al. (2001) found evidence of timber harvesting, often heavy, within all but three of the roost plots used by the northern long-eared bat in the southern Black Hills."
- "Studies have found that female bat roosts are more often located in areas with partial timber harvesting than in random sites, which may be due to trees located in more open habitat receiving greater solar radiation and therefore speeding development of young." (also found within 78 FR 61060)
- "Ponderosa pine snags are the preferred summer roosting habitat in the Black Hills. (Cryan 2000)."
- "Northern long-eared bats roosted primarily in crevices in late-decay stage snags… The mean decay stage of roost trees was 5.5 ±2 [1=alive 7=decomposed]." (Cryan 1997, Cryan et al. 2001).

15 *We recommend including research that has clearly linked active forest management with benefits to northern long-eared bats in analysis completed as part of the BHRL project.*

Importantly, we find the DEIS has mischaracterized the findings from Abernathy (2015). Within that study, acoustic surveys were used almost exclusively to characterize habitat use by various bat species detected. It is important to note that Abernathy cautioned use of the results pertaining to NLEB in that publication. From the publication:

> "Additionally, echolocation calls of Northern Myotis are similar to those emitted by other Myotis species such as Long-legged Myotis. As a result, discretion should be used when evaluating echolocation recordings of these species. Also, our acoustic survey locations were randomly selected and it is likely that not all survey locations occurred in habitat suitable for Northern Myotis… Results from occupancy analyses presented in this report are preliminary and require further evaluation. As [sic] result, conclusions drawn from these models should be viewed with caution."

Later findings from Abernathy (2016), as part of research in Devils Tower National Monument, support the previous findings from Cryan. Abernathy found roost sites were located in snags of ponderosa pine and oak, and rock crevices. Below is an excerpt from the publication:

> "…most roosts were located in snags occurring in forested drainages on the northwest side of the tower (Figure 3). Most roosts were moderate to large ponderosa pine snags, but several were in small burr oak snags and one was in a rock crevice (Table 3, Figure 4). To our knowledge, this is the first evidence of MYSE roosting in rock crevices. Bats seemed to show fidelity to roosting areas, roosting in the same one or two locations for the duration of the tracking period. MYSE often switched between roosts every few days, but this seemed to differ by individual, with some individuals staying in the same roost for the entire tracking period. This pilot study proved the efficacy of radio tagging and roost location, and we recommend expansion of this effort in coming years. To make analyses meaningful, we would need to double or triple the sample size of the current pilot effort."

Also 15 *We recommend deleting the language currently in the DEIS discussing the findings from Abernathy (2015) and replacing it with, "Research (Abernathy 2016) conducted in Devil's Tower National Monument found NLEB prefer snags and rock crevices as roosting sites."*

Goshawk

When discussing nesting habitat, we find that the DEIS has not adequately captured the findings from Reynolds and has not adequately addressed the findings from Graham et al (2015). Graham, with Reynolds, (2015) writes,

> "Also, Reynolds and others (1992) recognized that high forest canopy cover was an essential component of goshawk habitat, especially in the older structures. As such, their canopy

> recommendations only applied to older vegetative structures, which, at fine scale, could be less than 0.25 acres (.01 ha) in size. This is an important concept when designing ponderosa pine forest conditions that are resilient to mountain pine beetle activity and yet capable of supporting goshawks and their prey."

Graham (2015) goes on to recommend a silvicultural system that, "Using Reynolds and others (1992) as a template,… create[s] and maintain[s] forest conditions for the goshawk and its prey…" Over a period of 100 years, the stand conditions associated with that recommendation never exceed 80 sq. ft. basal area (BA).

16 *We recommend the BHNF revise the characterization of the research that "Dense, mature pine stands (SS4C and 5) at least 30 acres in size likely best met these conditions in the Black Hills." and replace it with a more accurate characterization from the research where dense stands play a role on scales less than 0.25 acres and recommended stand structures never exceed 80 ft^2 BA.*

Fire Hazard

There is apparently an error within the DEIS on page 77 when summarizing the acres of current fire hazard on the BHNF. The DEIS indicates 23 percent of the BHNF is at "low" fire hazard rating. However, immediately above that summary, table 12 indicates only SS1 is assigned a fire hazard rating of "low". Given the proportion of SS1 acres to others, it seems unlikely such a high portion of the BHNF would be assigned a "low" fire hazard rating.

17 *We recommend updating the fire hazard ratings to reflect table 12 and the acres associated with those structural stages.*

We appreciate this opportunity to comment on the BHRL DEIS and look forward to continuing dialogue with the BHNF.

Thank you,

Ben Wudtke

Forest Programs Manager

References

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