Black Hills Forest Resource Association

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Chris Stores
Project Lead
2014 N Main St
Spearfish, SD 57783

Dear Mr. Stores,

This letter is in response to the request for comments from the Black Hills National Forest (BHNF) on the Draft Environmental Analysis (EA) for the Zeppelin Forest Health Project (ZFHP). The Black Hills Forest Resource Association (BHFRA) and our members appreciate this opportunity to provide comments on this important project.

Purpose and Need

BHFRA supports the purpose and need of the project. Although spatial patterns of forest density have shifted on the landscape since the forest plan was signed, there are still extensive areas of BHNF in critical need of density reduction to increase resistance to mountain pine beetle (MPB) infestation and stand replacing wildfires.

Prescribed Fire

BHFRA has long supported prescribed fire on the BHNF and encouraged the BHNF to conduct more prescribed fire operations – with the caveat that those operations would be primarily located in areas that have undergone mechanical treatments that reduce residual stocking. We believe conducting burning operations post-harvest increases the margins of safety along with the likelihood for successfully meeting prescribed fire objectives.

BHFRA recognizes and appreciates the language in the EA that specifies prescribed fire activities will only be conducted post-harvest/treatment.

We also encourage the BHNF to include overstory mortality guidelines in the EA in line with limits described in past direction (ie Feb 15,2018 letter).

In General

Recognizing the threats to ponderosa pine forests without harvest/management actions is crucial to analyzing potential affects from the no-action alternative. In this regard, we support the efforts the BHNF has put in to the EA to describe the ongoing threats and impacts within the project area related to the no-action alternative.

BHFRA also recognizes and appreciates the efforts to describe potential beneficial impacts to the spectrum of resources as a result of implementing the ZFHP. Here, again, it is critical to recognize all impacts (positive and negative) to completely analyze and describe the effects of the project.

BHFRA believes the BHNF is making correct interpretations and decisions regarding the structural stage objective and how it relates to the broader goals in the Plan pertaining to reducing wildfire hazards and risk of insect mortality. We encourage the BHNF to continue reducing wildfire hazard and risk of insect related mortality across other portions of the BHNF – treatments such as those proposed in the ZFHP are the most effective and efficient means to increase resiliency/resistance to disturbance agents.

In-text citations seem to be sporadic throughout the EA and make it difficult to determine which statements are based on research, opinion, or other. Although some statements contain an in-text citation, the BHNF should ensure that in-text citations are utilized consistently.

Sensitive Species (Plants)

When discussing meadow enhancement, the EA does a good job recognizing historic conditions on the BHNF and references the 2006 Plan amendment and states that "Early seral constituents such as meadows persisted historically across the Black Hills landscape..." We believe the EA is referencing the table below from the Phase II Amendment.

Table 3-7. Historical Tree Size – Estimated Percent Across The Forest

Year	Sawtimber	Pole Timber	Sap/Seed	Nonstocked and Meadow
1875	20.0%	40.0%	0.0%	40.0%
1953	48.9%	19.7%	17.9%	13.5%
1963	62.1%	33.2%	3.3%	1.5%
1973	63.8%	22.0%	13.9%	0.3%
1976	66.2%	22.2%	11.4%	0.2%

The 1875 data are from the Dodge Expedition (Dodge 1875). The 1953, 1963, 1973, and 1976 data are from the 1976 Timber Management Plan (USDA Forest Service, 1976).

However, when discussing sensitive species, the EA seems to arrive at different conclusions than the previous statement, different than previous BHNF analysis, and different than research looking back at historical conditions on the BHNF. Here, when discussing fire suppression, the EA states "The result of these efforts, combined with selective harvesting of larger, older fire-resilient trees, was a shift from open ponderosa pine stands comprised of mostly large trees to denser closed-canopy stands consisting of smaller diameter trees that are less resilient to high

intensity wildfires." That statement is in contrast to the prevalent descriptions of historic conditions and should be removed.

Within the EA, we note that only three sensitive plant species and one species of local concern are known to occur in the project area. We recommend the BHNF consider the very low risk of impacts to plant species when considering design criteria and restrictions for potentially suitable plant habitat.

Goshawk

The EA does a good job listing the Standard that applies to goshawk management within the project area. BHFRA takes special note of the phrasing in the Standard of, "Vegetation management activities within nest areas shall be limited to those that maintain or enhance the stand's value for goshawk."

Here, we encourage the Forest to include the findings from Graham et al (2015) in any potential discussions of goshawks that may be located in the project area. Big picture, Graham (2015) aims to correct long-running assumptions that goshawks require buffer areas of high density forest. 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 (emphasis added). This is an important concept when designing… 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 under that developed recommendation never exceed 78 sq. ft. basal area.

NLEB

Recent discussions and the EA seem to reach very different conclusions about what constitutes quality NLEB habitat and the need (or lack thereof) for summer restrictions. Many of the recent conclusions by the BHNF stand in stark contrast to previous conclusions by BHNF biologists as concluded in previous documents produced as part of the consultation process with USFWS. Those prior documents are available upon request.

Extensive documentation shows NLEB benefit from forest management activities, such as those proposed in the ZFHP.

Among other things, peer reviewed literature, along with FWS and FS analysis find:

- "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 . . . ." Black Hills National Forest Draft BA at p. 76.

- "Vegetation management activities that lower tree density may have some positive effects on the bat (78 FR 61055)."

- "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 (78 FR 61060)."

- 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. Black Hills National Forest Draft BA at p. 78.

- Broders and Forbes (2004) discusses the negative correlation between roost sites and conifer cover and goes on to state, "A roost site was 24 times more likely to be in a shade-tolerant deciduous tree than a coniferous tree, and trees in the mid-decay classes were 5.2 times more likely to be used than live or recently dead trees."

- "Silvicultural practices could meet both male and female roosting requirements by maintaining large-diameter snags, while allowing for regeneration of forests. (78 FR 61060).

o "Fewer trees surrounding maternity roosts may also benefit juvenile bats that are starting to learn to fly". (78 FR 61055, italics added)

- "Cryan et al. (2000) found the relative abundance of reproductive females decreased as elevation increased in the southern Black Hills . . . . reproductive females may be constrained from roosting and foraging in high elevational habitats . . . ." Black Hills National Forest Draft BA at pp. 57-58.

- 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).

- Cryan et al. (2001) concluded that timber harvest and tree thinning activities are not expected to decrease the long-term suitability of these areas as northern long-eared bat roosting habitat.

- "The effects from ground disturbance and habitat modification resulting from vegetation management treatments are likely to be insignificant in relation to prey availability or foraging habitat." Black Hills National Forest Draft BA at p. 79.

Additional benefits to the NLEB from timber harvest activities have been detailed in other research. Timber harvest directly benefits NLEB prey through habitat improvement which is

likely to indirectly benefit NLEBs during the summer roosting season through similar mechanisms as described for prescribed burning (80 FR 18004, Lacki et al 2009).

Illustrating the suppressive effect from dense forest on understory plant communities, many peer-reviewed publications have found understory production and diversity are negatively related to overstory density (Smith 2011, Uresk et al 2000, Uresk and Severson 1989). Because of the limitations imposed on understory plant communities under dense forests, it follows that many other peer-reviewed publications have found understory production and diversity respond positively to forest management activities that reduce forest tree and canopy density (Stoddard et al 2011, Smith 2011, Dodson et al 2008, Logar 2007, Moore et al 2006, Griffis et al 2001, McConnell and Smith 1970). The scientific literature generally concludes that reducing forest canopy cover through mechanical removal reduces competition for resources and, at the same time, increases the abundance of certain critical resources including sunlight and water. These findings follow the described effects from prescribed burning where understory production, abundance, and richness are increased which, in turn, directly benefits prey species of the NLEB. Although it is difficult to quantify the positive effect from timber harvest on NLEB fitness resulting from increased prey availability, NLEB individuals will benefit from increased prey availability during the summer roosting season in areas where forest canopy cover has been reduced.

Other research point to increased insect abundance following implementation of ponderosa pine restoration (harvest/treatment) operations (Zhong et al 2006). Zhong concluded, "Creating a mosaic of heterogeneous landscape through mechanical fuel reduction treatments is an important management strategy to maintain high invertebrate species diversity in ponderosa pine forest ecosystems..."

The abundance of research pointing to increased herbaceous diversity and abundance along with insect abundance and diversity following density reduction makes certain statements in the EA all the more peculiar. As an example, the EA states "A reduction of forest density will create less favorable conditions for insects and thus impact the NLEB and TCB." This statement does not have a citation and runs counter to the plethora or other research from the BHNF and elsewhere. Similarly, the statement "The increase of invasive plants will reduce some insect populations that rely on native plant species." is not cited and does not align with other research. We recommend removing the aforementioned statements in the EA.

Moreover, we strongly recommend removing summer restrictions on forest management operations within the project area. The stand structure targeted for treatment does not align with habitat ideally suited to pup rearing, or desirable roost selections. The proposed summer restrictions will make it impossible to implement the project, accomplish the objectives, and meet the purpose and need. Companies can not remain viable with the summer restrictions. This has been evidenced by recent no-bids on contracts with similar restrictions in them. Despite

companies starving to death in need of material, the contracts went no-bid because the end result is the same as not having a contract for harvest/management work.

We urge the BHNF to consider the positive effects along with any potential negative affects and to reconsider restrictions on summer operations.

BHFRA appreciates the opportunity to comment on the ZFHP and also appreciates the BHNF implementing projects of this nature to the benefit of forest health in the Black Hills.

Thank you,

Ben Wudtke

Executive Director

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