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Comments:

Please see the attached PDF file



SOUTH DAKOTA DEPARTMENT OF AGRICULTURE DIVISION OF RESOURCE CONSERVATION & FORESTRY

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October 30, 2017

Mark Van Every, Forest Supervisor
BHRL Project
Black Hills National Forest
1019 N. 5th St.
Custer, SD 57730

RE: Comments Regarding the BHRL Project

Dear Mr. Van Every:

The staff at the South Dakota Department of Agriculture, Division of Resource Conservation and Forestry (SDDA) have read the Draft Environmental Impact Statement (DEIS) for the Black Hills Resilient Landscapes (BHRL) Project. As the agency responsible for the management and protection of forest and natural resources in South Dakota, our ability to adequately meet the needs and expectations of our constituents can be influenced by the management of federally-owned lands. As such, the SDDA has a strong interest in ensuring that these lands are managed sustainably and provide robust levels of economic, ecologic and social benefits.

We respectfully submit the following comments in response to the *Draft Environmental Impact Statement (DEIS) for the Black Hills Resilient Landscapes (BHRL) Project*.

1 Page 20: Prescribed Fire. We agree that prescribed fire has many beneficial effects on the forest. Prescribed fire can also have detrimental effects, particularly when prescriptions are written to allow burning in conditions that create excessive crown scorch. Even without torching or crown fire, excessive scorch stresses trees in a manner that increases their susceptibility to mountain pine beetle and pine engraver beetle attack. Entire stands can be lost if the upper end of prescriptions are too hot. The upper end of prescriptions should not be based on what can be contained, but rather to ensure stand mortality limits and other environmental constraints are met.

2 The DEIS states that "Low - to moderate-intensity fire increases resilience of mature trees to future fires by causing bark to thicken." This statement is repeated on page 79 of the DEIS. The DEIS cites Graham et al. 2004 as support. It is our opinion that this publication was misquoted in the DEIS. Graham et al. 2004 does say that trees with thick bark are more resistant to fire but does not state that fire causes bark to thicken. There is evidence that low to moderate intensity fire makes the forest more resilient by reducing fuel loading and eliminating ladder fuels. There is also evidence that ponderosa pine produces thick bark which protects the cambium from heat. That bark also tends to flake when exposed to fire, dissipating the heat away from the tree. However, no evidence was cited that fire causes tree bark to thicken. Spruce and aspen stems have very thin bark and are easily killed by ground fire. If there is another study that supports the DEIS' statement regarding trees producing thicker bark in response to fire, then the DEIS should cite that study. If there is no study that supports this statement, then the statement should be deleted from the DEIS.

3 Page 9 & 24: Structure Stage. Photos representing Structural Stage 3C do not show any seedlings as described on page 24. These are photos depict stagnated small trees in “dog hair” thickets. Their only value is as a visual screen or windbreak. There will be very little growth on these trees over the next 10 years because of competition. The stand structure will likely deteriorate due to weather events such as stem breakage and bending from heavy wet snow pack. Under very high, extreme, or red flag fire danger conditions, these stands will support stand replacing crown fire. Because of the height and density of the trees, they also threaten the health of any larger trees that form a partial overstory. These stands are unhealthy and in need of thinning; they should not be depicted as a desirable forest condition. Due to the prolific regeneration that occurs in the Black Hills, most areas of the forest with a low to moderately dense overstory will tend toward this structural stage if neglected and left unmanaged. The Land and Resource Management Plan (LRMP) calls for five percent of managed forest lands to be in Structural Stage 3C. Given the cost of thinning and tight budgets it is likely achievement of this structural stage objective will be unavoidable. The Forest Service should not actively try to achieve 5% of the forest in Structural Stage 3C; it should strive to ensure no more than 5% of the forest is ever in this unhealthy condition.

4 Page 25: Structural State Activities. The list of proposed structural stage modification activities is very limited. As we understand, the database that describes the structural stage for forest stands is inaccurate by as much as 50 percent. Such a narrow range of allowed treatments could greatly limit forest managers’ ability to move stands to desirable structural stages.

5 Page 27: Precommercial and/or Products Other than Logs (POL). The DEIS indicates thinning treatment will leave the largest pine of good form at approximately 130 to 300 trees per acre. It also says residual tree spacing will be approximately 12 to 24 feet. A 24 foot spacing leaves about 81 trees per acre. Spacing of about 18 feet is needed to achieve a residual stand of 130 trees per acre. The 24 foot spacing is reasonable for shaded fuel breaks. The text should reflect the actual trees per acre at this spacing.

6 Page 27: Actions in Late Succession Pine. The DEIS indicates that late succession forest exists on a fraction of the desired acreage. How much late succession forest was lost to the recent MPB epidemic? While large trees are resistant to fire, they will sustain and grow MPB epidemics. The US Forest Service needs to consider that closed canopy well stocked late successional stand structures are not naturally stable components of the forest ecosystem.

7 Page 28: Mechanical Site Preparation. We would suggest the Forest Service consider burning some of the areas currently designated for mechanical site preparation. Burning can be an effective site preparation technique for ponderosa pine, as long as the fire is not so severe that it kills the overstory which provides the seed source.

8 Page 30: Aspen Maintenance and Enhancement. Construction of temporary roads to remove commercial pine should be permissible if it helps achieve aspen restoration objectives.

9 Page 32: Removal of encroaching pine from oak stands. Construction of temporary roads to remove commercial pine should be permissible if it helps achieve oak restoration objectives.

10 Page 32: Removal of encroaching pine. It seems that management options are unnecessarily limited by placing arbitrary restrictions on commercial removal of merchantable pine. The LRMP allows commercial timber harvest in management area 3.7, and 5.1A if it moves the stand toward management objectives. Management area 5.2A is part of the suitable timber base. The DEIS excludes commercial removal for no apparent reason. The DEIS further prohibits commercial timber

harvest on any areas if road construction is necessary. Temporary roads should be permissible if adequate commercial timber needs to be removed to justify a timber sale.

11 Page 32: Uneven-aged Management. On a landscape scale, uneven-aged management can work in the Black Hills, and would serve to break up large areas of homogeneous stand structure. Landscape scale uneven-aged management can be achieved through stand level even-aged management. On a stand level, uneven-aged management is more problematic. Stand level uneven-aged management creates a multi-storied stand structure which is made up of continuous ladder fuels. The Black Hills forest is a disturbance based ecosystem with an annual threat from fire and periodic threat from mountain pine beetle (MPB). Arrangements of continuous horizontal and vertical fuels set the stage for stand replacing wildfire.

12 Pheromone attractant plumes draw MPB to infested trees enabling mass attacks and tree mortality. Open stand structures allow air movement through the stand which can disperse the pheromone plums so beetles cannot find attacked trees. The closed structure of uneven-aged stands will minimize air movement enabling beetles to find attacked trees, causing tree mortality and perpetuating or expanding MPB populations. While the Black Hills is not currently experiencing an MPB epidemic, history indicates they re-occur about every 20 years. The best time to prepare for the next epidemic is now, not after it has begun. Stand level uneven-aged management sets the stand up for risk from MPB.

Given the unstable nature of uneven-aged stands in Black Hills ponderosa pine, uneven-aged silviculture should be used on a very limited basis.

Thank you for the opportunity to comment on this directive. Please feel free to contact Greg Josten, State Forester at 605-394-2395 if you have further questions regarding our comments.

Sincerely,



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Director
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South Dakota Department of Agriculture
605.773.3623

c: Greg Josten, South Dakota State Forester