Appendix 5.
Public Comments on Draft Environmental Assessment and Agency Responses

Appendix 5. Public Comments on Draft Environmental Assessment and Agency Responses

Letter	Name	Group Represented	Other Parties Represented
1	Russell Eagle Bear	Rosebud Sioux Tribe – Historic Preservation Office	
2	John Emmerich	Wyoming Game and Fish Department	
3	Jon Davis		
4	Kelly B. Dennis	Crook County Land Use Planning & Zoning Commission	
5	Aaron Everett	Black Hills Forest Resource Association	
6	John Batt	Pope and Talbot Inc.	
7	Suzanne Lewis (submitted by John Nutter)	Biodiversity Conservation Alliance	Prairie Hills Audubon Society, Suzanne Lewis
8	Jean Adams		
9a	Nancy Hilding	Prairie Hills Audubon Society (comments in addition to those of Biodiversity Conservation Alliance on behalf of Audubon Society)	Nancy Hilding
9b	Nancy Hilding	Prairie Hills Audubon Society (additional comments)	Nancy Hilding
9c	Nancy Hilding	Prairie Hills Audubon Society (errata)	Nancy Hilding

Letters are listed in order of receipt.

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1-1	We are responding to your letter dated June 22, 2007 in reference to the Environmental Assessment on the Moskee project of the proposed Amended Forest Plan. As the Tribal Historic Preservation Officer for the Rosebud Sioux Tribe I appreciate notification of this undertaking and the awareness you are demonstrating for the archaeological sites and cultural heritage of Indigenous peoples. In review of the area shown on the accompanying maps of your proposed undertaking we do not have sites listed in our database. This does not preclude the possibility of a site of heritage importance being located by forest personnel or an archaeological contractor that may have an oral reference among the Rosebud people. At this time we have no concerns for this project to proceed as planned. Thank you for your time and consideration of this letter.	Thank you for your comments.
2-1	The staff of the Wyoming Game and Fish department has reviewed the Draft Environmental Assessment for the Moskee Project Area in the Douglass Ranger district *[sic]*. We offer the following comments for your consideration. We are pleased to see the inclusion of uneven-aged management in some timber stands and enhancement of aspen stands under alternatives 3 and 4. Although, it is unfortunate neither patch cuts/clear cuts nor regeneration of aspen stands were included in in any alternatives because "the project biologist did not identify a site-specific need for patch cuts or clearcuts," and "the ID team did not identify specific decedent aspen stands in need of regeneration." In the future, we suggest more interdepartmental coordination of projects during their development, so treatments designed to benefit wildlife can be better identified and included in alternative development.	The Moskee project interdisciplinary team has included a wildlife biologist since project initiation. The biologist did not identify a need for these treatments or additional wildlife habitat improvements. Clearcuts (openings 10-40 acres in size) were not proposed under any alternative in part because these treatments are generally considered most beneficial in winter range. The project area is not considered to provide substantial winter habitat according to Forest Plan management emphasis or the project biologist's assessment. Group selection, which results in three- to five-acre openings similar to patch cuts, is included in Alternatives 3 and 4. Aspen regeneration was considered, but because the biologist did not feel there were areas needing its use at this time, it was not included in any alternative.
2-2	On July 3 and 6, 2007 our personnel observed and contacted Forest Service crews working in the project are marking boundaries, before the NEPA process was complete and an action or no action alternative selected. While it seems reasonable to mark treatment areas similar under all alternatives to save time and meet timber contract deadlines, it appears the Forest has already selected an action alternative prior to completing NEPA analysis.	According to Forest Service Rocky Mountain Regional Office direction issued Feb. 19, 2003, marking of timber is permitted prior to issuance of a timber sale project decision.

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2-3	Within the project area are significant populations of big game and wild turkeys. These animals represent an important recreational and economic resource to the local communities. The project area contains year round habitat for these species, including vital winter survival, reproduction and rearing for young. Plus, this habitat provides a place on public land for these animals to reside, minimizing depredation of private property. The majority of this project area (77 percent) is classified by the Forest as Management Area (MA) 5.1, where management focuses on production of timber and forage, water yield, diversity of wildlife, and a variety of other goods and services. However, due to this area's importance to big game and wild turkeys, we strongly encourage management decisions be made and mitigation measures implemented to ensure this resource is not harmed at the expense of extractive uses.	Analysis indicates the proposed action and alternatives would improve habitat conditions for deer (Draft EA page 86). Summer foraging habitat for turkeys in the project area consists of moderate to open forest stands with an herbaceous understory of grasses and forbs. Proposed actions would thus increase preferred foraging habitat. These actions may also decrease roosting habitat. Due to the dominance of the project area by mature pine forest, however, proposed activities would not cause roosting habitat to become a limiting factor for turkeys.
2-4	We are generally supportive of the use of prescribed fire in alternatives 3 and 4. By setting back plant succession in a mosaic pattern, old decadent shrubs and thick timber stands are replaced by grasses, forbs and young shrubs ensuring a diverse, healthy plant community. This in turn benefits many species of wildlife, enhances diversity on the forest, and better ensures a wide range of species viability over the long run.	Comment noted.
2-5	Timing of prescribed fires is not well delineated in the EA. When possible, spring burns are preferred over fall burns as the produce "cooler" fires, resulting in a mosaic of treated and untreated areas. Soil moisture is also available in the spring resulting in quicker plant growth. Spring burns may also impact hunters and other forest users to a lesser extent than fall burns.	Comment noted. This recommendation has been added to the Final EA. It should be noted, however, that the combination of weather and fuel conditions under which burning may take place often occurs only a few times a year, and it may be necessary to burn in fall to accomplish the work before funding expires.
2-6	Forest Guideline 4107, "Defer prescribed burned areas from livestock grazing for a portion or all of the following growing season to ensure regrowth of forage species," should be followed. It is well established burned areas must be rested the first year following fire and deferred the second growing season to allow maximum plant reestablishment and improve vigor. We are concerned post fire plans under all alternatives do not include rest or deferment. Instead, it is implied range conditions will be evaluated to ensure resource damage is not occurring. This is not adequate, because such management is reactive in nature. The cumulative effects of grazing and browsing by livestock and wildlife of new growth following a fire may not be evident for several years. It is in the best interest of plants, wildlife, and long-term livestock grazing to rest and defer	Implementation of this project would follow Forest Plan direction, including guideline 4107 (see Appendix 2).

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	burned areas.	
2-7	Much of the justification for timber treatments in the project's alternatives are based on reducing risks associated with wildfire although some of the stated conditions on the forest do nor coincide with proposed treatments. As an example, on page 11 it is stated: "Objective 10-01 is to manage for 50 to 75 percent moderate to low fire hazard in the wildland urban interface (WUI) and to manage the remainder of the Forest to 50 percent moderate to low fire hazard (Forest Plan, pages I-35 to I-36). There is no WUI in the project area." However, under alternative 2 on page 16 this is contradicted as follows: "The fuel breaks are intended to reduce the potential for wildfire growth and provide defensible access and egress routes. This treatment would also occur in some of the augmented wildland urban interface (WUI) zone along the private lands in Grand Canyon and Lost Canyon."	According to the National Fire Plan definition, there is no wildland-urban interface in the project area because it is more than 1.5 miles from an At-Risk Community. The "augmented" wildland-urban interface is based on the Amended Forest Plan definition, which includes a 300-foot buffer around private land. The EA has been clarified.
2-8	We generally support travel management plans under Alternatives 3 and 4 as striking a balance between the needs of wildlife and desires of the motoring and OHV using public. But, some consideration should be given to limiting over the snow travel in areas important to wintering big game, not just limiting off road travel in MA 4.1. With respect to MA 5.1, Forest Guideline 5.1-9Ecosystem Health states "Over-the-snow motorized travel is allowed unless restricted by a project decision," and concerning MA 4.1: Guideline 4.1-9Ecosystem Health, "Over-the-snow motorized travel is allowed when compatible with recreation and wildlife management objectives," should be implemented in localized areas. This is important because wintering wildlife, especially elk, are in a state of negative energy balance and disturbance can reduce over-winter survival and negatively affect neonate birth weight and survival the subsequent spring. Plus, disturbance caused by snowmobilers may increase concentrations of wildlife on private property. As a specific example, over the snow travel in the Scott-Hardy Spring area should be curtailed. This area with its prominent aspen stands, provides important winter browse for deer and elk. We have documented significant elk use of this area during initial periods of snow cover, but elk here are soon displaced once snowmobile use becomes regular. When this happens, elk become more concentrated on private lands and areas not frequented by snow machines. In addition, consideration should be given to restricting over the snow travel in all MA 4.1 areas dominated by aspen or 3C or 4C timber stands to	Scoping comments received on this project did not mention or express concern with winter range or snowmobile use in the project area. The project area has snowmobile trails because it is one of two areas on Bearlodge District that generally have enough consistent snow cover for this use. Adjacent private lands are at lower elevation, which could be another reason elk relocate there when the snow becomes deep enough for snowmobiling. Elk populations were most recently addressed in the FY2003 Black Hills National Forest Monitoring and Evaluation Report, which reported state game agency estimates that elk populations were at or above objectives.

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	protect big game seeking shelter and food from unnecessary disturbance. In these examples, and similar instances, we recommend, at a minimum, a ½ mile buffer with no over the snow travel between designated habitats closed to this type of travel and open areas.	
2-9	There are few perennial stream reaches in the project area. As such, Forest Guideline 9107, "Prohibit land vehicles from entering perennial streams where resource damage would occur except to cross at specified points," should be followed.	Implementation of this project would follow Forest Plan direction, including guideline 9107 (see Appendix 2).
2-10	We encourage following Forest Guideline 9204, "Reduce the impact of new Forest System and temporary road construction on wildlife. New roads will generally not be located in meadows. When topography allows, roads should not be within 400 feet of the meadow edge." This guideline should be followed as often as possible.	Implementation of this project would follow Forest Plan direction, including guideline 9204 (see Appendix 2).
2-11	The legal description of the project area does not match the accompanying map. For example, sections of the mapped project in Township 49 North, Range 60 West are not included in the legal description.	The legal description has been corrected.
2-12	While it is difficult to measure which alternative offers the greatest benefits to wildlife, Alternative 4 provides the best balance between allowing multiple use of resources and enhancing wildlife habitat. Alternative 3 may accomplish many of the same objectives as Alternative 4, but is a bit over aggressive, and will take wildlife longer to reap the benefits on the project level. Conversely, Alternative 2 will likely degrade the areas value for wildlife, as will Alternative 1 over the long-term, unless regular and sizable wildfires occur in the project area. Thank you for the opportunity to comment.	Comment noted.
3-1	My opinion of all the alternatives is extremely negative The writers and planners appear to have little knowledge of the history of the area, very limited experience in local resource management and even less knowledge of local Wildlife.	The Moskee planning team has extensive local field experience. The silviculturist has worked for the Forest Service on Bearlodge Ranger District for 22 years, the fuels specialist 33 years, and the wildlife biologist six years. Additionally, the biologist conducted his master's thesis research in the northern Black Hills.
3-2	The areas proposed for firebreaks and for the heaviest timber cuts are goshawk nesting sites. The hawks have been through at least three timber sales that I know of an were still harassing us loggers in June of this year.	Known goshawk nesting sites and acreage requiring protection under Forest Plan standard 3108 are not proposed for any type of treatment, including stands associated with a nest found in July 2007 (Final EA, Appendix 4, pages 12-13).

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3-3	The proposed to be reburned have already lost 20 or 30% of the mature pine and 70 or 80% of their pine regen. Burning is the most destructive and least productive management practice in use today.	Mortality in the Adams and Bald-Carnegie burn areas was about 12% of the mature pine, concentrated mostly along NFSR 875. Mortality of seedlings and saplings was one of the objectives of the burns in order to reduce ladder fuels and move the stands toward condition class 1 (Draft EA page 121).
3-4	The new burns proposed in Stanton and Lost Draws are currently well managed timber stands and thick security cover. We have put considerable amounts of time, energy and money into managing these stands. I hate seeing you burn it. The trees in that area are growing well and regen will need to be thinned in about 5 years.	The stands proposed for prescribed fire in the Stanton and Lost Canyon area were treated in either the Stanton, Lost, or Hain timber sales. Harvest resulted in development of relatively large overstory trees that can withstand surface fire, and this is one reason why the stands were selected for prescribed burning. If the project biologist had wanted the stands to be reserved for security cover, underburning would not have been proposed. Burning would help create a landscape-level mosaic of different stand types that may check potential crown fire.
3-5	The rest of the area is Moskee Burn. The pine in the burn was planted by the CCC. The seedlings were shipped from California and were grown from seed collected there. It was genetically unsuited for this area. They were also contaminated with red rust blight, planted too thick and never thinned. The result is some of the finest elk habitat in the Black Hills; useless for timber, but way too valuable as security cover to just burn or clear. It is the only habitat in the area that cannot be hunted effectively from a four-wheeler ATV.	Bearlodge District has no specific records regarding tree planting by the CCC in the Moskee burn. Most of the plantation trees are now 35-50 years old and so were not planted in the 1930s. Pine planted in the Moskee burn area in the early 1970s came from a local seed source (genetically superior trees maintained on the Forest) via the Bessey Nursery in Nebraska. A high percentage of the trees are infected with western gall rust. The source of the rust is not known. A minor amount of thinning (approximately 50 acres) was done annually in the late 1960s and early 1970s. Non-commercial cutting of the pine (i.e., no new roads, log landings, or skid trails would be created) is intended to increase growth of aspen without allowing additional access to the area. This treatment plus burning would be expected to increase density of the aspen.
3-6	Road closures are usless in this area. The terrain, especially in the controlled burn areas is so open and smooth that four wheel drive vehicles can go just about anywhere. Unless you want to put a lot of man-hours into law enforcement, forget the road closures. My short opinion of this plan is that it stinks. Throw it all out and start over from scratch.	Effectiveness of existing road closures varies. In areas where there are few physical barriers to motorized vehicles, both enforcement and changing of public attitudes are necessary to successfully manage motorized use. The Forest Service is currently working on a travel management plan for the Black Hills National Forest that is expected to provide clear direction, consistency across the

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		forest, and increased public awareness. There is a need to manage motorized use on public lands despite the challenges inherent in this task.
4-1	We appreciate the opportunity to comment on the Moskee Project Area Draft EA. Overall, the EA appears to incorporate appropriate references and adherence to Phase 2 Forest Plan direction.	Comment noted.
4-2	We support various components of the action alternatives. Since Alternative 3 offers the most treated acres (13,397), it would provide the best opportunity to reduce the risk of mountain pine beetle infestation and wildfire hazard, and to improve structural diversity in the project area. Regeneration harvest, through the use of shelterwood seedcut and/or group selection, is deemed desirable for the project area, and Alternatives 3 and 4 propose the most acres of those treatments. We strongly support the use of commercial timber harvest ot reduce the risk of catastrophic wildfire and insect infestation, but also support the use of prescribed fire to reach management objectives, as long as prescribed fire is not chosen when viable timber harvest opportunities exist. When prescribed fire is used, we expect those treatments will be kept within prescription, and private resources within the Forest will be safeguarded.	Private land inside the project area and adjacent to proposed burns is generally open meadow. Burn prescriptions, safety measures, and contingency plans would be implemented as specified in detailed, site-specific prescribed burn plans to be prepared if an action alternative is selected.
4-3	We again voice our concern over proposed modifications to the existing road system and would like to see travel management decisions within the project area be based in on-the-ground information. We see that all the action alternatives propose year-round closure for off-road motorized travel in all areas classified as MA 4.1 (23 percent of the project area). Is this blanket closure for the entire MA 4.1 necessary, or is there a possibility of tailoring, where feasible and appropriate, travel management to user needs in the area?	Amended Forest Plan direction for MA 4.1 includes standard 4.1-9101, “Off-road motorized travel is prohibited.” Deviation from this standard would require a Forest Plan amendment.
4-4	Although the scoping document for this project specifically highlighted the potential for using stewardship contracting to accomplish management activities, we did not see stewardship contracting mentioned in the Draft EA. We just wondered why it was no longer being considered. Stewardship contracting seems like a good way to keep management dollars on the ground and in use at a	Use of stewardship contracting is still proposed, as described on draft EA page 28.

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	local level.	
4-5	Crook County officials have expressed concern over the "wear and tear" on county roads from timber sale log hauling operations and other activities on the Forest that significantly impact the condition of the roads. The county is in the process of developing a master road plan. Crook County strongly supports timber harvest and other multiple uses of the Forest and wants to see impacts from those activities mitigated in a way that helps promote the continuation of those uses. Thank you for your consideration of our comments.	The Forest Service will continue to work with the County to address road maintenance issues.
5-1	This letter is in response to the District's request for comments on the Moskee Project Draft EA. The Black Hills Forest Resource Association's members appreciate this opportunity to participate in project development, and we hope you find our comments helpful. Purpose and Need: We concur with the District's assessment of purpose and need for the project. Widespread and severe disturbances continue to threaten important forest resources, wildlife habitat, private homes and private land, and scenic qualities. The Moskee project and surrounding area are experiencing a significant increase in mountain pine beetle mortality, and the project rightly prioritizes reducing current outbreaks and reducing stand conditions that encourage further infestations. As the purpose and need statement accurately notes, 90 percent of the project area's pine acres are in SS4, and increasing the distribution of young forest condition goes hand-in-hand with accomplishing wildfire and forest health goals.	Comment noted.
5-2	Purpose and Need: We do not, however, concur with the identified opportunity to remove pine from stands already aspen-dominated within the Moskee burn area. Forestwide Objective 201 specifies that the highest priority for aspen restoration is areas adjacent to riparian systems that have the potential to support beaver where conifers have encroached upon historic aspen sites. The Moskee burn does not generally meet this priority, although we cannot be sure where the proposed treatments are actually located given that they do not appear on the maps. Furthermore, as the District notes, the area is already dominated by aspen and, at present, aspen are out-competing pine. We fail to see how stands already	The purpose of pine removal from aspen in the Moskee burn area is not aspen restoration (returning aspen to areas where it is now absent). Pine is encroaching on aspen in these areas, and the forest plan includes an objective to maintain or enhance existing aspen habitat. Pure aspen stands tend to have greater diversity of bird species than pine or mixed pine/aspen stands, in the Black Hills and elsewhere (Mills et al. 2000, Rumble et al. 2001). The proposed treatments have been added to the maps.

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	dominated by aspen are a priority for expending appropriated or KV dollars on noncommercial pine removal.	
5-3	Alternatives: We appreciate the District having constructed alternatives to the proposed action that respond to significant issues raised in scoping. We encourage the Responsible Official to select Alternative 4, with the modifications discussed below. Alternative 4 should be selected because it best responds to the purpose and need and significant issues in that it treats a larger number of acres than the proposed action, provides a greater distribution of structural diversity, displays more favorable fire hazard ratings, and fares similarly on mountain pine beetle hazard reduction. The incorporation of a significant number of uneven-aged management treatments enhances structural and habitat diversity at the stand level in addition to its contribution to MA objectives for SS1, much more than does the proposed action.	Comment noted.
5-4	Alternatives: We recommend the modification of Alternative 4 in the following respects. First, incorporate the overstory removal and overstory removal/shelterwood seedcut treatments from Alternative 3 that were changed to "understory mulching" in Alternative 4. This would further reduce the total SS4 acres in the project area and contribute more to MA objectives for SS2 and 3. These treatments have the added benefit of additional mountain pine beetle hazard reduction. The project area is already well endowed with trees in the "large diameter" category, and increasing younger age classes is consequently a greater need than perpetuating stands of large trees with little understory. Particularly is this true when one considers that MA 5.1 is not lacking SS4A. (Note: the vegetation effects analysis (pg. 71) should note that, in addition to fire and MPB objectives, the current overage of SS4A in MA 5.1 is necessary for recruiting younger structural stages in the future; otherwise, large-scale clearcutting would be required.) As a related modification, we recommend the application of precommercial thinning treatments proposed in Alternative 3, where they overlapped overstory removal and OR/SC treatments	Request noted. The decision notice for this project will describe what, if any, actions will occur. The deciding official has the discretion to incorporate elements of various alternatives in the selected action.

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5-5	Alternatives: Second, there appears to be a conflict between the 'connected action' for activity fuels management (pg. 17) and design criteria for snags (p. 21). The activity fuels portion discusses requiring whole-tree logging systems while the snags design criteria references leaving 50 or more linear feet of downed woody material. This seems to invite a situation where the District is requiring whole-tree systems, and then making the purchaser drag slash back out into the woods. The easiest remedy would seem to be identifying stands that do not meet the 50 linear foot requirement and ensuring that whole-tree systems are not required in the timber sale contract for these stands. Also, the extent of broadcast burning the alternatives propose seems to be in conflict with whole-tree requirements and with the 50 linear foot standard. We encourage the District to revisit these requirements to better coordinate snag and fuels objectives with timber sale operations in Alternative 4.	Page 17 of the draft EA states, "Depending on individual site characteristics, commercial harvest may use whole-tree yarding," and goes on to explain what would be done with slash piles resulting from this type of yarding. This statement is not intended as a blanket prescription for whole-tree yarding. Yarding systems would be determined at the time of timber sale preparation depending on a variety of factors, such as fuel loading, presence of pine regeneration, operability, and soils.
5-6	Alternatives: Finally, with respect to our comments on the Moskee burn area aspen proposal, we recommend that the 1,000 acres of pine removal be deleted from Alternative 4. Thank you for your time and consideration of these issues. Please do not hesitate to contact me should you have any further questions.	Recommendation noted.
6-1	This letter is in response to the District's solicitation of comments on the Moskee Project Draft Environmental Assessment. Pope and Talbot continues to play an integral role in active forest management within the Black Hills of South Dakota and Wyoming. We appreciate the opportunity to comment on this EA and hope that our comments will be helpful. As you know, Pope and Talbot has had considerable experience working with the forest resources in and around the Moskee Project Area. We hold the two timber contracts with the Forest Service inside the project area as well as a large timber contract on the adjacent private land.	Comment noted.
6-2	Treat More Acres: Given the rapidly increasing mountain pine beetle activity on adjacent Forest Service lands to the east of the project area and other nearby areas it is difficult to understand why Alternative 2 has become the "proposed Action" Alternative. Alternative 2 does not propose treating nearly enough acres to properly address forest health issues. Alternatives 3 and 4 do much more to reduce wildland fire hazard and mountain pine beetle infestation risk. Yet even these two alternatives leave many stands with medium and high ratings for both	Note: Following receipt of these comments, the Bearlodge District planner contact Mr. Batt to clarify that Alternative 2 is the "proposed action", as distinguished from the "preferred alternative" that would be designated in the case of an Environmental Impact Statement. For an EA, no preferred alternative is designated. Mr. Batt indicated that the document made more sense with this clarification.

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	wildland fire hazard and mountain pine beetle infestation risk untreated.	
6-3	Treat More Acres: Goal 10 of the Forest plan has to do with reducing the occurrences of catastrophic fires and insect and disease events. Alternative 2 would move the conditions on the project area only very slightly in the direction intended by this Forest Plan Goal. Alternatives 3 or 4 would do better but much more could and should be done.	See Draft EA page 118. Currently 17% of the project area has a fire hazard rating of very high and 26% has a rating of high. Alternatives 3 and 4 would reduce very high to 7% of the area and high to about 10%. Stands remaining in the high and very high fire hazard categories are those set aside for other resource considerations such as late succession forest, and are scattered across the project area in a way that would be expected to reduce their effect on spread of potential crown fires.
6-4	Treat More Acres. As stated on page 9 of the Draft EA, "Goal 2 of the Forest Plan is to manage for biologically diverse ecosystems. The Moskee project can contribute toward meeting this goal by addressing needs related to forest structure, hardwood communities, and meadow communities." Alternative 2 makes little use of the opportunities that exist to contribute toward this goal.	See note on comment 6-2.
6-5	Goal 10 of the Forest plan addresses providing sustained commodity uses in an environmentally acceptable manner. Again Alternative 2 fails to take full advantage of the opportunities to contribute to this Forest Plan goal. Alternatives 3 and 4 do a little better.	Comment noted.
6-6	Fuels Management: In areas planned for commercial harvest whole tree yarding should be required only where ground conditions (fuel loading/soils issues) make it necessary. In recent years there has been a tendency to require whole tree yarding nearly everywhere. Although this can cause some biological problems as mentioned in the Draft EA, the timber industry also needs to be as free as possible from unnecessary restrictions in order to continue to develop innovative ways to achieve the results on the ground desired by the Forest Service.	See response to comment 5-5.

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6-7	Understory mulching as described in Alternative 4 would seem to be a viable way of reducing prescribed burning in some cases. Fuels Management: However, using understory mulching to replace commercial treatments (as Alternative 4 would do--as stated on page 68 of the Draft EA) makes no sense. Why should a treatment that generates revenue be replaced by a treatment that generates no revenue?	Comment noted.
6-8	Although the goals for prescribed burning on this project area seem very ambitious, especially in Alternatives 2 and 3, Pope and Talbot does support the use of prescribed fire to achieve specific well defined objectives. Wherever possible timber harvest rather than (or in conjunction with) prescribed fire should be the preferred management tool	Comment noted.
6-9	Pine Removal From Hardwoods: It is a little difficult to comment on the plans for removing pine from hardwoods as well as reducing meadow encroachment as mentioned in Alternatives 3 and 4 when there are no maps showing where these treatments would be applied. In the case of pine removal from aspen the Draft EA does mention that there is a lot of opportunity to do this on the area of the 1936 Moskee Burn.	These treatments have been added to Alternative 3 and 4 maps.
6-10	We have on file several air-photos of the 1936 Moskee Burn area taken over the last thirty years which clearly show how the area has progressed from grasses to hardwoods and then to pine (where seed sources are present). Since this area is entirely within MA 5.1 which is supposed to emphasis (among other things) timber production, this natural progression should be allowed to continue at least in areas where the pine is well on its way to challenging the hardwoods for dominance. In areas where the presence of pine is minimal, managing for hardwoods may be appropriate.	The intention of the pine from aspen treatment is primarily to remove stunted plantation stock rather than the healthy, naturally regenerated pine that has become established in some areas. In some areas, pine saplings that are encroaching on aspen would be removed as well.
6-11	Alternative Selection: Alternative 2 is simply inadequate. I encourage the district to consider Alternatives 3 or 4 with some modifications if possible. It would be great to treat more acres and to use commercial treatments as much as possible. Also, I would discourage removing pine from hardwoods where it is well on its way to challenging the hardwoods for dominance Thank you for considering these comments.	See response to comments 6-2 and 6-10.
7-1	Thank you for sending me the Environmental Assessment for the Moskee	Request noted. Notice of availability of the Draft EA was

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	Project. I understand that the reason we hadn't received a copy earlier was because we had not submitted scoping comments. As we were making the transition last year from Jeremy Nichols to myself as point person for the Black Hills National Forest (BHNF), there were some projects that slipped through the cracks. We appreciate the opportunity to be able to submit comments to the Environmental Assessment (EA). In the future, if we fail to submit comments at any stage of a project, we would very much appreciate receiving a copy of the EA or EIS anyway. Biodiversity Conservation Alliance, Prairie Hills Audubon Society, and Suzanne H. Lewis submit these comments in response to the June 2007 environmental assessment prepared for the Moskee timber sale.	published in the newspaper of record (Rapid City Journal) as required under 36 CFR 215.5 and copies were sent to those who had requested it or participated in project planning.
7-2	In the future, we would find it very helpful in providing comments to an EA if the pages are numbered. It is extremely difficult to reference statements in the EA without page numbers	Due to a printing error, page numbers were not included in the draft EA. They have been added to the Final EA and were available on-line during the comment period in the electronic version of the draft EA.
7-3	Need for an Environmental Impact Statement: An EIS is required for "major Federal actions significantly affecting the quality of the human environment. . . ." 42 U.S.C. § 4332(2)(C). The agency first prepares an EA to determine whether an action will have a significant impact, thus requiring preparation of an EIS. 40 C.F.R. § 1508.9. If the agency concludes there is no significant effect associated with the proposed project, it may issue a FONSI in lieu of preparing an EIS. 40 C.F.R. § 1508.9(a)(1). The critical term here is "significantly." Whether a project is "significant" depends on the project's "context" and its "intensity." 40 C.F.R. § 1508.27. Context refers to the scope of the action and includes both short-term and long-term impacts. Intensity refers to the severity of the impact. Id. The regulations include a list of ten factors the agency must consider regarding intensity, the following of which—at a minimum—apply to the Moskee project: (1) Impacts that may be both beneficial and adverse. A significant effect may exist even if the Federal agency believes that on balance the effect will be beneficial. (3) Unique characteristics of the geographic area such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas.	The deciding official will determines whether the analysis shows that the project would have significant impacts. If the analysis shows that the project would not have significant impacts, this would be documented in a Finding of No Significant Impact at the time of decision. The intensity factors would be addressed in that document.

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	(5) The degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks. (7) Whether the action is related to other actions with individually insignificant but cumulatively significant impacts. . . . (9) The degree to which the action may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species Act of 1973.	
7-4	Need for an Environmental Impact Statement: Based on the length of the EA alone (145 pages) it is clear that an Environmental Impact Statement (EIS) is required for the Moskee Project.	There are no page limits set for EAs by regulation, policy, or direction. The majority of the EA consists of chapter 3, which includes information often requested by BCA and other commenting parties.
7-5	Need for an Environmental Impact Statement: It is unsupportable that with a proposed action which would implement commercial thinning, shelterwood seedcut, overstory removal, mechanical fuel treatments, precommercial thinning, prescribed burning, road construction, road reconstruction, road maintenance, and weed control measures on 25,515 acres, the Forest Service (FS) could conclude that there will be no significant impact on the human environment and an EIS is not warranted. The Moskee project is significant both in terms of context and intensity.	None of the alternatives propose actions on the full 22,445 acres of NFS lands in the project area. Alternative 3, which proposes treatment on the largest area, would take action on 13,214 acres, including 7,442 acres of commercial timber harvest. See Final EA pages 24-25 for acreage and mileage affected by alternative.
7-6	Need for an Environmental Impact Statement: This project is clearly one which normally requires the preparation of an EIS, as well as being closely similar to other timber sale projects in the BHNF, such as the Dean, Citadel, Norwood, and Mitchell, timber sales which include fuel reductions, road construction and reconstruction, commercial and pre-commercial timber harvest, etc. If the FS believes the Moskee timber sale and actions proposed in the Moskee area are not similar proposals, we ask that the FS explain how the proposals are dissimilar, how the proposals pose dissimilar impacts, and why an EIS is necessary for actions in the other timber sale areas and not for the Moskee timber sale.	The project is also similar to the Planting and Burner projects on Bearlodge District, completed in 2006 and 2007, respectively, documented in EAs. The recent Mineral and Geranium timber projects on other ranger districts were also completed under EAs. None of these projects was found to have significant impacts. Unlike the Dean project, Moskee does not propose a Forest Plan amendment requiring documentation in an EIS. Norwood, Mitchell, and Citadel do not propose Forest Plan amendments, but due to their size or complexity were deemed more likely to have significant effects. Therefore EISs were prepared for these projects without going through the step of first preparing an EA.

Letter/ Comment Number	Comment	Response
7-7	Need for an Environmental Impact Statement: As mentioned above, the total project area is 25,525 acres, 22,445 of which are National Forest lands. This is a significant area which will undergo intense activities for many years. Road construction, reconstruction and maintenance under Alternative 2 (the proposed action) will involve nearly 83 miles of roads. Weed treatments will be conducted on a minimum of 4525 acres under Alternative 2. The impacts from the project will be long-term, potentially spanning decades. Short-term impacts will include direct wildlife habitat loss, potential direct impacts to sensitive wildlife and plant species, potential impacts to waterways from increased sedimentation, impacts to the soundscape, impacts to air quality, etc	See response to comment 7-5. Weed and release, proposed on 4,525 acres under Alternative 2, consists of cutting cull trees from commercially treated stands. Treatment of noxious weeds is proposed as needed at log landings, along roads, skid trails, and prescribed fire control lines, and in other areas where soils may be disturbed (Draft EA page 18).
7-8	Need for an Environmental Impact Statement: The EA discloses that bald eagles have been documented within ½ mile of the project area. A number of Region 2 Sensitive Species occur in the project area, including (but not necessarily limited to) the northern goshawk, yellow-billed cuckoo, flammulated owl, Lewis' woodpecker, black-backed woodpecker, northern leopard frog, Black Hills redbelly snake, and Cooper's Rocky Mountain snail	Statement of fact.
7-9	Need for an Environmental Impact Statement: Although the EA states fringed myotis and Townsend's big-eared bat (both Region 2 Sensitive Species) do not occur on the project area, the Biological Assessment/Biological Evaluation at page 10 states that these species may use any of the forested or open habitats in the project area. This is disturbing because it would lead one to believe that the FS doesn't really know whether the species occur in the project area. Nonetheless, the EA reveals that under the three action alternatives there could be direct mortality to the species from the project, as well as the loss of day or maternity roost habitat. "Loss of potential roost snags would add to cumulative effects of other timber harvest and burning actions, though snag density would not be expected to decrease below Objective 211 levels . . ." Id. Does the FS mean to imply that because snag density would meet forest plan objectives there would be no cumulative impacts to these species? Is it not possible to meet FS objectives for snag density, yet still have negative impacts to the species? We ask the FS to address this issue in an EIS.	The EA states that these species are not known to occur in the project area (not that they "do not occur") and that the potential for presence of the most important bat habitat (caves and mines) is small because there are no known caves or mines in the project area (Draft EA page 105). This is consistent with the wildlife BA/BE (Appendix 4). The BE means that Alternatives 2, 3, and 4 may decrease snag density, and this would add to effects of other activities, though the cumulative effect on snags would be that snag density would remain above Objective 211 levels. The BE discloses the potential for negative effects on individual bats, but concludes that cumulative effects on these species would not result in loss of viability across the Forest or a trend toward federal listing.

Letter/ Comment Number	Comment	Response
7-10	Need for an Environmental Impact Statement: For the sensitive northern goshawk, the project would reduce potential nesting habitat by 5062 acres (or by 53% of the current nesting habitat) under the Proposed Action. "Commercial harvest is proposed in 752 acres of known nest stands, which would not meet Standard 3108." BA/BE at 12. Forest Service Standards are mandatory; that is, they require compliance of all projects to which the standard applies. Standard 3108 is not discretionary guidance which the FS can ignore. It must be complied with and failure to comply is a violation of the forest plan and the National Forest Management Act (NFMA). Additionally, Alternative 2 would not contribute to achievement of Objective 221. If Alternative 2 (and the other action alternatives are implemented they will violate the forest plan and NFMA. Therefore, the FS must propose substantial modifications in a draft EIS which will ensure that Standard 3108 will be followed	Treatments in goshawk nesting habitat have been omitted from Alternative 2 (Final EA, Appendix 4, pages 12-13). No activities would take place under any alternative in protected acreage as specified in Standard 3108. In addition, no activities would take place in areas associated with a nest found in July 2007 (Final EA, Appendix 4, pages 12-13).
7-11	Need for an Environmental Impact Statement: Although Alternatives 3 and 4 as described in the BA/BE would likely comply with Standard 3108, they would still substantially reduce nesting habitat by 58% and 55%, respectively. This is unacceptable. Even though the BA/BE claims foraging conditions and habitat may be improved, this will not be sufficient to offset the loss of nesting habitat and/or nest stands. The FS has failed to consider Factor 1 of the intensity factors identified above, where "a significant effect may exist even if the Federal agency believes that on balance the effect will be beneficial."	As stated in the BE, the Phase 2 Forest Plan Amendment FEIS determined that goshawks are likely to persist on the Forest over the next 50 years if standards and guidelines are followed and if conditions move towards management objectives. The EA shows that all alternatives would comply with standards and guidelines and contribute toward meeting objectives. Therefore, these alternatives would not be expected to have significant effects on northern goshawk.
7-12	Need for an Environmental Impact Statement: There would be similar significant and negative impacts to other sensitive species—both fauna and flora—in the project area. As demonstrated above, the impacts to the environment will be significant and an EIS is therefore required.	See response to comment 7-11.
7-13	Failure to Consider a Range of Reasonable Alternatives: For instance, all action alternatives propose similar levels of timber harvesting. Alternative 2 proposes to commercially harvest 22.6 million board feet ("MMBF"), Alternative 3 proposes to harvest 28.8 MMBF, and Alternative 3 proposes to harvest 28.0 MMBF—a difference of only .8 MMBF between Alternative 2 and 3. While there is some difference between Alternatives 2, 3 and 4, the difference is far from substantive and does not represent a "range" of reasonable alternatives. Indeed, Alternative 3 can best be described as very close to the maximum	The difference in projected timber harvest between Alternatives 2 and 3 is 6,200,000 board feet; the difference between Alternatives 3 and 4 is 800,000 board feet, still a substantial amount. 40 CFR 1502.14 requires that agencies "rigorously explore and objectively evaluate all reasonable alternatives, and for alternatives which were eliminated from detailed study, briefly discuss the reasons for their having been eliminated." NEPA

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<tr><td></td><td>harvest alternative. Where is the intermediate alternative (i.e., alternative that harvests an intermediate amount of timber)? Where is the low-end alternative (i.e., alternative that harvests a low amount of timber)?</td><td>regulations require that a range of reasonable alternatives be considered based on the results of scoping and the determination of issues to be analyzed in detail. The alternatives must meet the purpose of and need for action. The proposed action was based on a comparison of existing conditions and Amended Forest Plan objectives, which resulted in identification of needs and opportunities (Draft EA pages 9-12). Alternatives studied in detail were based on the proposed action with modifications resulting from public scoping (Draft EA pages 13-14, 15); BCA did not submit scoping comments. Alternatives not studied in detail are described on Draft EA pages 28-29. What the commenting party terms “intermediate” and “low-end” alternatives were not suggested, nor did comparisons of existing and desired conditions show a need for development of these alternatives.</td></tr>
<tr><td>7-15</td><td>Failure to Consider a Range of Reasonable Alternatives: While the FS may believe that consideration of the No Action Alternative may address concerns of timber harvesting, this misses the point. Unfortunately, the FS never considered alternatives such as decommissioning roads, alternatives that do not provide commercial timber, and alternatives that propose only prescribed burning, alternatives which we have requested on multiple occasions on other projects. The FS has therefore failed to develop alternatives that respond to unresolved conflicts over the use and management of BHNF resources and to significant issues identified during the scoping process.</td><td>BCA did not provide scoping comments for the Moskee project, and scoping did not raise issues that would have been resolved by the alternatives suggested in this comment. BCA most recently commented on a Bearlodge Ranger District project in early 2005 and did not submit comments on several projects that were released for public comment in the intervening time. BCA’s comments on other projects are not relevant to the Moskee project. The Forest Service did, however, review the suggested alternatives. None of the three mentioned here would reduce risk of mountain pine beetle infestation or provide for sustained commodity uses.</td></tr>
<tr><td>7-16</td><td>Failure to Consider a Range of Reasonable Alternatives: There are also more similarities between the Action Alternatives. As Table 1 discloses, there are no substantive differences between the Action Alternatives:
Table 1. Similarities Between Action Alternatives<table><tr><th>Action</th><th>Alternative 2</th><th>Alternative 3</th><th>Alternative 4</th></tr><tr><td></td><td></td><td></td><td></td></tr></table></td><td>Differences among the alternatives include the following.
Alternative 3 includes 92% more overstory removal than Alternative 2. Alternative 4 includes no overstory removal.
Alternatives 3 and 4 include 5% more shelterwood seedcut than Alternative 2.
Alternatives 3 and 4 include 277% more seedcut/overstory</td></tr>
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<tr><th>Letter/ Comment Number</th><th>Comment</th><th>Response</th></tr>
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<tr><td>Commercial timber harvest</td><td>5,908 acres</td><td>7,625 acres</td><td>7,034 acres</td></tr>
<tr><td>Overstory removal</td><td>125 acres</td><td>240 acres</td><td>0 acres</td></tr>
<tr><td>Shelterwood seedcut</td><td>721 acres</td><td>685 acres</td><td>685 acres</td></tr>
<tr><td>Shelterwood seed cut/overstory removal</td><td>306 acres</td><td>1,154 acres</td><td>1,154 acres</td></tr>
<tr><td>Overstory Removal/Shelter wood seedcut</td><td>1,032 acres</td><td>1,507 acres</td><td>1,156 acres</td></tr>
<tr><td>Pine from aspen</td><td>0 acres</td><td>1,000 acres</td><td>1,000 acres</td></tr>
<tr><td>Pre-commercial thinning</td><td>1,464 acres</td><td>2,901 acres</td><td>2,311 acres</td></tr>
<tr><td>Pine encroachment</td><td>0</td><td>1,178 acres</td><td>1,178 acres</td></tr>
<tr><td>Road construction</td><td>6.2 miles</td><td>5.2 miles</td><td>5.2 miles</td></tr>
<tr><td>Road reconstruction</td><td>70.7 miles</td><td>78.0 miles</td><td>77.0 miles</td></tr>
<tr><td>Prescribed burning (new)</td><td>4,013 acres</td><td>3,630 acres</td><td>1,457 acres</td></tr>
<tr><td>Timber volume</td><td>22.6 MMBF</td><td>28.8 MMBF</td><td>28.0 MMBF</td></tr>
<tr><td>Fuel breaks</td><td>342 acres</td><td>342 acres</td><td>342 acres</td></tr>
</table>
</td><td>removal than Alternative 2.
▪ Alternative 3 includes 46% more overstory removal/seedcut than Alternative 2 while Alternative 4 includes 12% more.
▪ Alternatives 3 and 4 include 1,000 acres of pine from aspen and 1,178 acres of pine encroachment cutting while Alternative 2 includes none.
▪ Alternative 3 includes 98% more precommercial thinning than Alternative 2. Alternative 4 includes 58% more than Alternative 2.
▪ Alternatives 3 and 4 include 26% less commercial thinning to 50 square feet of basal area than Alternative 2.
▪ Alternative 3 includes 5% less commercial thinning to 60 square feet of basal area than Alternative 2. Alternative 4 includes 49% less of this treatment than Alternative 2.
▪ Alternative 2 includes no uneven-age management. Alternative 3 includes 857 acres of uneven-age management and Alternative 4 includes 1,758 acres.
▪ Alternative 2 includes no maintenance burning while Alternative 3 includes 2,820 acres of this treatment and Alternative 4 includes 204 acres.
▪ Alternative 4 includes 1,259 acres of understory mulching treatment while Alternatives 2 and 3 include none.
▪ See also Final EA pages 24-27.</td></tr>
<tr><td>7-17</td><td>Failure to Consider a Range of Reasonable Alternatives: And, because the proposed actions are not substantively different, it is no surprise that the effects of all action alternatives are strikingly similar:
Table 2. Similar Impacts Under Both Action Alternatives.
<table>
<tr><th>Impact</th><th>Alternative 2</th><th>Alternative 3</th><th>Alternative 4</th></tr>
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</td><td>See EA Tables 4 and 5. The alternatives differ in relation to the issues raised during the scoping process.

All known goshawk nests would be protected in accordance with forest plan standards 3108 and 3111 (see Final EA, Appendix 4, pages 12-14).</td></tr>
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<tr><th>Letter/ Comment Number</th><th>Comment</th><th>Response</th></tr>
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<tr><td>Acres of ponderosa pine in structural stage 4C harvested</td><td>612 acres</td><td>627 acres</td><td>661 acres</td></tr>
<tr><td>Reduction in nesting habitat for northern goshawk</td><td>5,062 acres</td><td>5,479 acres</td><td>5,204 acres</td></tr>
<tr><td>Reduction in SS4C habitat capability for black-backed woodpecker</td><td>10%</td><td>9%</td><td>9%</td></tr>
<tr><td>Reduction in preferred habitat for brown creeper</td><td>53%</td><td>52%</td><td>52%</td></tr>
</table>

Table 2 highlights perfectly how the FS failed to analyze in detail alternatives that address unresolved conflicts. Curiously, wildlife and wildlife habitat were not identified as a “significant issue” during the scoping process, yet impacts to several sensitive species will be significant. Table 2 shows that the impacts of the Moskee timber sale to several wildlife species and their habitat are virtually the same for all action alternatives. A number of alternatives were proposed but rejected for detailed analysis for erroneous reasons, including several suggested by the Wyoming Game and Fish Department.
We therefore request the FS correct these deficiencies in either a draft EIS for the Moskee timber sale. We request the FS rigorously explore and objectively evaluate a range of reasonable alternatives that respond to unresolved conflicts over the use and management of the natural resources of the BHNF and that respond to significant issues identified during the scoping process. Accordingly, we request the FS analyze alternatives with substantive differences and that actually result in substantive on-the-ground differences in the way wildlife and wildlife habitat, especially sensitive species and their habitat, are affected.
</td>
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Effects on wildlife and wildlife habitat were identified as issues in regard to covertype and structural diversity (EA pages 7-8). All alternatives would comply with forest plan standards and guidelines regarding wildlife and wildlife habitat (Final EA pages 79-115).

The Wyoming Game and Fish scoping response letter suggested the following alternatives:

Uneven-age management (see Alternatives 3 and 4)
Provision of more late and early succession forest (Alternatives 3 and 4 would provide more early succession forest through uneven-age management; none of the alternatives would affect existing late succession forest)
Reduce pine encroachment into hardwoods, meadows, and riparian areas (included in Alternatives 3 and 4)
Rest burned areas from grazing (see Appendix 2 – forest plan guideline 4107)
Aspen growth and regeneration re fuel breaks (removal of encroaching pine included in Alternatives 3 and 4; see also response to comment 2-1)
Reclaiming disturbed areas, proactively controlling weeds (see Appendix 2 pages 10, 19-20)
Protecting springs from livestock use (grazing management is not part of the scope of this project but is scheduled to be addressed in allotment management plan revision in the next 2-3 years)

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Letter/ Comment Number	Comment	Response
7-18	Other Concerns over Draft EA: We request the FS in its preparation of an EIS to consider the following alternatives: • An alternative that does not harvest or thin any stands of structural stage 4C and 4B; • An alternative that addresses fragmentation concerns on the BHNF; • An alternative that proposes no overstory removal, to retain large diameter trees that are more fire resistant; • An alternative that does not allow harvesting of trees greater than 10" in diameter. This alternative will ensure that an adequate amount of larger diameter trees are retained for future snag creation and for the benefit of species dependent upon larger diameter trees; • An alternative that decommissions the maximum amount of roads and ways possible within the project area; • An alternative that designates all stands of structural stage 4C as MAP 3.7. This alternative also proposes a nonsignificant forest plan amendment and will enhance wildlife habitat; • An alternative that proposes to designate all management area prescription 5.1 within the project area as MAP 4.1. This alternative proposes a nonsignificant forest plan amendment and will enhance wildlife habitat; • An alternative that proposes only road decommissioning and closure, but no timber harvesting, thinning, or other vegetation treatments.	See response to comment 7-15. BCA did not submit scoping comments on the Moskee project. These alternatives were not suggested during the scoping process, nor were issues raised that would have led to development of these alternatives. Elements of these suggested alternatives are represented in the alternatives described in the EA. The no action alternative would not affect any structural stage 4B or 4C stands, conduct any overstory removal, or cut any trees over 10" DBH. The action alternatives would affect SS 4B and SS 4C stands to differing degrees. Alternative 4 would substitute understory mulching for some overstory removal treatments to retain larger diameter trees. Fragmentation is discussed in the response to comment 7-20. The action alternatives would decommission all roads not expected to be needed for future management activities. Modification of management area designation was not identified as a need during the NFMA process or raised during scoping. Also, an alternative that only decommissions and closes roads, with no vegetation management, would not reduce the risk of mountain pine beetle infestation or provide for sustained commodity uses.
7-19	Other Concerns over Draft EA: Finally, the cumulative effects of livestock grazing to forest vegetation are entirely ignored. Belsky and Blumenthal (1996) state: "The studies cited above strongly suggest that livestock as well as fire suppression, logging, and other anthropogenic activities, have contributed to altering ponderosa pine and mixed conifer forests throughout the Interior West. Not only have cattle and sheep helped convert the original park-like forests into dense stands of less fire-tolerant species, but they have changed the physical environment by reducing fire frequencies, compacting soils, reducing water infiltration rates, and increasing erosion." (p. 324) They also emphasize, "The effects of livestock grazing are, of course, not homogenous across the western landscape.…Nonetheless, the similarities of the changes occurring in grazed low- and mid-elevation forests through the Interior West suggest that livestock grazing has had profound effects over a wide range	Effects of livestock grazing on fire and fuels are disclosed on Draft EA page 114. The contribution of livestock grazing to current conditions in the Black Hills is further addressed in the 1996 FEIS for the revised forest plan, on pages III-206 and III-218; and in the FEIS for the Phase 2 Amendment, on page III-336. A reference to these discussions has been added to the EA (Fire and Fuels section). Currently, fire is most likely to burn on the surface as opposed to in tree crowns across most of the project area. Belsky and Blumenthal (1996) review effects of livestock grazing in "…forests from Washington south to New Mexico and from the Rocky Mountains west to the eastern Cascade-Sierra Nevada Range." This does not include the Black Hills or Moskee project

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	of conditions" (p. 324). It is entirely evident that livestock grazing on the Black Hills affects ponderosa pine stand condition and this must be addressed in an EIS. This is especially necessary given that the EA discloses livestock grazing occurs in the timber sale area.	area. In the Black Hills and the project area, forest characteristics such as extent and stand density have changed from pre-settlement conditions (Parrish et al. 1996), but species composition has generally remained the same. The Black Hills forest is and was composed mainly of ponderosa pine and has not converted to "less fire-tolerant species." Fire frequencies and stand density varied prior to settlement; "In the 1890s, an extensive and relatively dense second growth of ponderosa pine grew on the western Limestone Plateau. Graves (1899) attributed this second growth to the aftermath of a large fire or series of fires during the 1790s. Following the fire(s), prolific seed crops were produced by the surviving trees under good germinating conditions, a relatively common situation in most of the Black Hills" (Parrish et al. 1996). Livestock grazing may have contributed to encroachment by pine in open areas, especially drainage-bottom meadows where cattle tend to congregate, but fire suppression and timber management combined with prolific natural regeneration are likely the main cause of changes in Black Hills forest structure and extent. Soil conditions in the project area are the result of numerous natural and management-related factors. These conditions, including soil compaction and erosion, are addressed in the Final EA on pages 32-45.
7-20	Fragmentation: The EA fails to adequately analyze and assess the effects of fragmentation and the FS unreasonably minimizes the effects of fragmentation in the Moskee timber sale area. For instance, there is no analysis or assessment of the effects of roads to fragmentation of the Moskee timber sale area. This is a serious omission. Shinneman and Baker (2000) concluded that roads in an area of the Black Hills: "…reduced mean patch sizes and patch interior sizes by at least 70%, increased the coverage of small patches on the landscape by 40-50%, increased the total patch perimeter by more than a third, and created much more compact patch shapes, with reduced variation in size and shape, in both vegetation maps" (p. 328). The two further concluded, "Roads and road edge habitat alone may cover more	Fragmentation relevance and effects vary by species and their habitat needs and mobility. Abundance and distribution of habitat for individual wildlife species for which fragmentation is a concern is discussed in Phase 2 FEIS Chapter 3, Section 3-3. Also please refer to the discussion of fragmentation and related issues in the 1997 FEIS for the Revised Forest Plan, pages III-247 through III-275. The Forest relied on various information sources to analyze the extent to which fragmentation characterized the forest area historically. The Custer expedition photos and reports from the Dodge expedition indicate the forest was more fragmented at that time than they are today. The Phase 2 FEIS considered various research, including Crompton 1994 and

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	than one third of the study area" (p. 328). Given the sensitivity of several native species to edge habitat, to reduced patch sizes, to the reduction of interior forest, and to the fragmentation of once continuous tracts of forest (Crompton 1994, Dykstra 1996, Anderson and Crompton 2002), it is difficult to understand how road-related fragmentation does not pose significant adverse impacts to native species of wildlife in the Moskee timber sale area. While the FS mentions that "management activities" have created a high degree of edge habitat, the FS does not elaborate or attempt to quantify these impacts and assess their effects to native species sensitive to fragmentation.	Anderson and Crompton 2002. Dykstra (1996) concluded that species composition varied between harvested and unharvested stands, though not species richness or diversity. He emphasized the importance of stands that have not been harvested for at least 40 years. None of the Moskee project alternatives would affect existing late-succession stands (966 acres) or known goshawk nesting areas. Goshawk and Cooper's hawk, which Dykstra associated with unharvested stands, would be expected to persist under all alternatives (Draft EA pages 96-97, Appendix 4 pages 12-14). Shinneman and Baker (2000) interpret inter-stand differences in forest structure and presence of roads or trails as forest fragmentation. They conducted a GIS analysis on an area in Bearlodge and Northern Hills Ranger Districts. The analysis considered each vegetation polygon in the Forest Service Resource Information System database to be a separate "patch", or discrete island of forest. These polygons do not, however, represent discrete patches or islands of forest; they reflect often minor differences between adjacent stands. For example, an area of mature forest with 50 percent of the ground shaded by tree crowns may be delineated as a separate stand from another area of mature forest with 70 percent of the ground shaded by tree crowns. This level of difference does not indicate that each stand is an island, only that enough difference exists to separate the areas for analysis or management purposes. In addition, some polygons represent naturally occurring breaks in forest cover, such as riparian meadows. The authors do not distinguish between natural and created openings. The analysis also treats each road and trail equally, whether a heavily used county road or closed, vegetated two-track. Effects of roads on forest habitat vary by road type and travel management status (open vs. closed). The EA does not "mention that management activities have created a high degree of edge habitat."

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7-21	Fragmentation: Additionally, there is no adequate analysis or assessment of the effects of past, present, and reasonably foreseeable timber harvesting on forest fragmentation. While the agency discloses that the Moskee timber sale will "increase fragmentation," there is no attempt to determine the magnitude at which fragmentation will occur or has occurred and no attempt to assess the impacts of the "increased" fragmentation. This is very disturbing because recent studies have determined that the BHNF is incredibly fragmented, primarily because of past timber harvesting. While fragmentation on the BHNF does not represent the extreme fragmentation caused by agricultural clearing or clearcut logging, the pattern of structural change on the forest is similar. Shinneman and Baker (2000) state: "The Black Hills landscape, like many public forest landscapes subjected to timber harvesting, may retain forest cover and appear to be highly connected, but the old-growth component of the landscape is isolated in a sea of younger-aged forests consisting primarily of edge habitat produced by harvesting and roads" (p. 329). This research suggests that fragmentation caused by past timber harvesting is a huge problem on the BHNF and in the Moskee timber sale area, potentially affecting the viability and distribution of many native species, especially those dependent on late successional or old growth forest. Indeed, out of concern over the level of fragmentation on the BHNF, Anderson and Crompton recently concluded that, "…large tracts of unlogged, mature forest should be retained throughout the Black Hills" (p. 372). However, the EA does not address the significance of this ecological problem and fails to adequately assess and minimize the impacts of fragmentation. We cannot understand how these impacts are not significant, especially in terms of their impacts to native species.	The Draft EA states that "habitat fragmentation may increase" for black-and-white warbler under the no action alternative (page 103). Regarding meadow jumping mouse, the EA states that existing "fragmentation of appropriate riparian habitat may limit this species' ability to disperse" (page 108, as a general statement about the species that is not specific either to the project area or the National Forest). It does not state that any alternative would increase fragmentation as implied in this comment. See also response to comment 7-20.

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7-22	Brown creeper: The EA entirely fails to assess the impacts of the Moskee timber sale to the brown creeper. Despite the fact that habitat will be reduced by 53% in Alternatives 2 and by 52% in Alternatives 3 and 4,there is no context provided for this reduction in habitat capability. What level of habitat capability decline renders impacts significant? What threshold of concern does the FS utilize to assess impacts to this MIS? Furthermore, we question how the FS defined brown creeper habitat? According to the FS, all stands in SS 4 provide habitat for this bird. Yet, brown creeper habitat has been identified as dense forest dominated by large trees and late successional forest (Thomas 1979, Anderson and Crompton 2002). We assume that such habitat characteristics would equate to SS 4C and 5. According to the EA, there is only 1,384 acres of ponderosa pine in SS 4C and there is no SS 5. Thus, we question whether the FS adequately analyzed the impacts to brown creeper habitat The inadequacy of the FS's analysis and assessment is further called into question in light of the results of recent research. For instance, it has been determined that brown creeper require patches of dense, mature forest greater than 100 hectares in size (Anderson and Crompton 2002). Nowhere does the EA mention the patch size of stands of dense mature forest or the effects of the Moskee timber sale to patch size. It has also been determined that brown creeper are very sensitive to the impacts of shelterwood logging (Anderson and Crompton 2002). Nowhere does the EA consider that the brown creeper is extraordinarily sensitive to the impacts of shelterwood logging. Finally, Anderson and Crompton (2002) state, "Despite increasing demands for timber harvest, large tracts of unlogged, mature forest should be retained throughout the Black Hills" (p. 372). However, the FS does not even consider leaving large tracts of unlogged, mature forest through the Moskee timber sale. It is thus questionable whether the FS has adequately mitigated the impacts of the Moskee timber sale to brown creeper. The cumulative impacts discussion for the brown creeper is also lacking. There is virtually no area of the Black Hills where natural succession has been allowed or is currently allowed to "provide large diameter trees over time." The reason is because virtually every acre of the Black Hills is on a set schedule of timber sales and virtually ever acre of the BHNF is managed under some type of silviculture system that, according to the FS, requires constant reentry to "maintain its health." If any large diameter tree does grow, more than likely it will be logged before it can provide any benefit to the brown creeper or any other species dependent on large diameter trees. Needless to say, we find it hard to believe that a sufficient amount of trees in the Moskee timber sale area will be allowed to naturally grow large. We request the FS explain further how "natural succession" will actually occur in the Moskee timber sale area. Such an explanation must consider all reasonably foreseeable timber sales, as well as silviculture schedules for stands within the Moskee timber sale area.	Analysis of effects on brown creeper starts on Draft EA page 84 (Final EA page 86). Draft EA page 84 states that preferred habitat for this species is structural stages 4C and 5. The EA acknowledges that brown creepers are associated with mature and late-succession forest (page 84) and states that there are 2,400 acres of structural stage 4C in the project area and 966 acres of structural stage 5 (page 67). The analysis concludes that, because all alternatives would comply with forest plan standards and guidelines and move conditions towards management objectives, they would not be likely to affect persistence of brown creeper across the forest (page 86). The cumulative effects analysis for brown creeper is found on Draft EA pages 85-86. The Draft EA discloses foreseeable actions (pages 35-36, 85). There are no other foreseeable timber sales in the project area. There are no "silviculture schedules" for timber stands. For stands proposed for treatment there are silvicultural prescriptions that may suggest future options for treatment, but these would be subject to future NEPA analysis and are not foreseeable at this time.

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7-23	Northern flying squirrel: The habitat capability results for the northern flying squirrel seem very similar to those of the black-backed woodpecker. Was the same model used for both species? If so, we request the FS present information and analysis showing that the same habitat capability model can be used for both the flying squirrel and black-backed woodpecker. Furthermore, is the habitat capability model used for the northern flying squirrel the same used for the BHNF Forest Plan revision process? If so, we remind the agency that the Chief stated in 1999 that "I find that since the Forest failed to demonstrate that the snag standards in the Revised Plan would be adequate to assure viability for the Forest's snag-dependent sensitive and indicator species in the planning area (see discussion under Viability and Diversity, p. 43), the use of these standards in defining habitat capability invalidates the HABCAP calculations for these species." Thus, unless the FS has updated the habitat capability model for cavity nesting species, then the habitat capability results for the northern flying squirrel are flawed. If the FS has updated the habitat capability model for cavity nesting species, such as the northern flying squirrel, we request the agency explain how the model was updated and what factors form the basis for habitat capability calculations And, while we are very happy to see that the FS is finally recognizing the relationship between northern flying squirrel, ectomychorrhizal fungi, and overall forest health (the flying squirrel has been recognized as a keystone species), the agency's treatment of this relationship in the EA is paltry at best. For instance, while this relationship is recognized, the analysis in the EA only consists of a disclosure of habitat capability values. There is no discussion of how the Moskee timber sale will impact the production of ectomycorrhizal fungi or the availability of northern flying squirrel forage. This is of great concern because the greatest amounts of ectomycorrhizal fungi are usually associated with old growth forest, or forest that has been undisturbed for some time (Rosentreter et al. 1997, Carey 1999).	The Moskee EA analysis did not include computerized habitat capability modeling (HABCAP). Use of the HABCAP model is discretionary. Analysis of effects on flying squirrel is based on expected effects on individuals and habitat (cover type, structural stage, and snags, Draft EA pages 106-107). Rosentreter et al. (1997) discuss the food habits of flying squirrels, concluding that they consume fungi and lichens, which is acknowledged by the EA. We were unable to obtain a copy of Carey (1999), but Carey's other work (e.g., Carey et al. 1999, Carey et al. 2002) draws mixed conclusions about the effects of forest management on hypogeous fungi production. This research was conducted in coastal forests in Oregon and Washington, and applicability to the Black Hills is not known. According to Carey (2002), "Environmental correlates of abundance vary among areas, but seem to include abundance of coarse woody debris in drier regions dominated by Douglas-fir (*Pseudotsuga menziesii*), abundance of ericaceous shrubs in wetter regions dominated by western hemlock (*Tsuga heterophylla*), abundance of cavity trees, and habitat breadth variety of vegetation site types that differ in species composition, foliage height diversity, and, possibly, deciduous trees that produce cavities and seeds, nuts, catkins, or other food that augments the squirrel's diet." All alternatives considered in the Moskee project would have no effect on existing late succession stands. All alternatives would provide coarse woody debris, protect most snags, increase variety of forest structures, and perpetuate hardwood sites (Final EA pages 69-75, 80-81).
7-24	Northern goshawk: The northern goshawk is suffering now, more than ever, on the BHNF. In the past few years, the BHNF has experienced several largescale fires, losing several known goshawk nest locations and thousands of acres of potentially suitable goshawk nesting habitat. Additionally, according to biologists on the Forest, several known goshawk nests on the Northern Hills	The Phase 1 Amendment is no longer in effect. It was superceded by the Phase 2 Amendment in early 2006. Northern goshawk is addressed on Draft EA page 110 and Appendix 4 pages 12-14. All known goshawk nest areas in the project area are protected per forest plan standards 3108 and 3111, including a nest found in

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	Ranger District have been vandalized in recent years. These nests were completely destroyed and the nest sites rendered unsuitable for future nesting. Finally, less than 2% of the entire BHNF is considered to be old growth, which is optimal nesting habitat for northern goshawk. The amount of old growth that may even be suitable for nesting habitat (e.g., considering aspect, slope, and tree species) is considerably lower. It is safe to say that, in light of these fires, vandalism, and old growth shortage, the northern goshawk is facing a grim situation on the BHNF. Compounding this situation is the fact that the Phase I Amendment, approved in 2001, provides entirely inadequate protection for the northern goshawk and its habitat. In fact, the agency itself claims in the Phase I Amendment Biological Evaluation that it is "uncertain" whether the amendment can actually ensure the viability of the northern goshawk. While this "uncertainty" is disturbing, especially considering the importance of the northern goshawk and its habitat to the overall health of the Black Hills ecosystem, it is nevertheless erroneous, unsupported, and highly suspect. Given the following examples, there is every reason to conclude the Phase I Amendment and current FS management is contributing to the extirpation of the northern goshawk on the BHNF:	July 2007 (Final EA, Appendix 4, pages 12-13). Effects of recent wildfires, nest vandalism, and other habitat issues on goshawk are addressed in the Phase 2 Amendment FEIS, Appendix C (Biological Evaluation, pages 232-244, USFS 2005) and Black Hills National Forest Monitoring and Evaluation Reports, Fiscal Years 2003 and 2006 (USFS 2004b, 2007a).
	• In 1997, the USFS concluded that 10-15 pairs of northern goshawk inhabited the BHNF and that such a population was viable. In 1999, the Chief of the FS subsequently ruled this conclusion to be flawed. The population figure still exists, however.	Current population estimates can be found on page 232 of Appendix C to the Phase 2 Amendment FEIS (USFS 2005).
	• Less than 2% of the 1.2 million acre BHNF is considered to be old growth. Even less is old growth ponderosa pine that exists on slopes with aspects conducive to goshawk nest establishment.	Habitat relationships are discussed on pages 233-234 of Appendix C to the Phase 2 Amendment FEIS (USFS 2005).
	• Leading USFS goshawk researchers have concluded the BHNF could support up to 300 pairs of northern goshawk.	This statement appears to be based on expert interviews conducted for the Phase 1 Amendment (USFS 2000). "Reynolds estimated there could be close to 300 goshawk territories in the Black Hills if the Kaibab Plateau (Arizona) densities were applied" (page 73).
	• Since 1997, thousands of acres of goshawk nesting habitat and countless nest	Known nest sites have been protected since at least 1997 under

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	sites have been destroyed throughout. Since 1999, the USFS has not discovered any new nest sites.	revised forest plan direction. A number of nests have been discovered since 1999, including an additional one in the project area in July 2007 (Final EA, Appendix 4, pages 12-13), one in 2005, and at least two in 2003.
	• The Phase I Amendment only protects "known" northern goshawk nest sites. However, many of these "known" goshawk nests are abandoned or no longer suitable due to storm damage, fires, or vandalism. Additionally, by protecting only "known" nest sites, the USFS is essentially ignoring the need to provide habitat for goshawk expansion, dispersal, and reestablishment in other areas of the BHNF. The USFS is essentially managing for the demise of the northern goshawk.	The Phase 1 Amendment is no longer in effect. See discussion of effects on goshawk in the Phase 2 Amendment FEIS, Appendix C (Biological Evaluation, pages 232-244, USFS 2005).
	• Protection of active nest sites is extremely limited. Disturbance within ¼ mile of an active nest site is only required to be "minimized" during the nesting season, but is not prohibited. Additionally, there is no indication that such protection is even sufficient, especially given that virtually every acre of the BHNF is within one mile of a road or nearer.	The Phase 2 Amendment requires protection of an area within one-half mile active nests (standard 3111, EA Appendix 2).
	• Even in protecting "known" nest sites, the Phase I Amendment fails to define how much acreage will be protected and what stand conditions will be included in nest site protection. • While requiring goshawk nest surveys before projects, the Phase I Amendment again fails to account for the need to provide for more northern goshawk habitat, especially nesting habitat, on the BHNF. • The Phase I Amendment fails to provide even minimal protection for the northern goshawk and its habitat across the BHNF landscape, instead providing limited protection for sparse and isolated PFAs that are usually no more than 420 acres (the USFS defines a landscape as 5,000-10,000 acres) and that are usually only located around "known" nest sites. • Even in protecting designated PFA's, the USFS is only required to provide for a minimum of 126 acres of nesting habitat, yet northern goshawks typically require blocks of old growth larger than 180 acres for nesting. • Even in protecting designated PFAs, the Phase I Amendment does not limit activities that adversely impact northern goshawk and its habitat.	The Phase 1 Amendment is no longer in effect. See discussion of effects on goshawk in the Phase 2 Amendment FEIS, Appendix C (Biological Evaluation, pages 232-244, USFS 2005).

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	• Even in protecting designated PFAs, the USFS more often than not fails to include nearby old growth ponderosa pine. This inclusion would at least provide a remote chance that a PFA may be used by a nesting pair of northern goshawk. • In managing designated PFAs, the USFS prioritizes creating early successional vegetation where old growth is either nonexistent or severely lacking. The USFS thus limits the availability of future old growth and future goshawk nesting habitat. • The Phase I Amendment provides no direction for old growth recruitment or protection. The USFS is continuing to impede old growth ponderosa pine recruitment overall on the BHNF by cutting thousands upon thousands of acres of dense, mature forest, claiming that because of the "interim" nature of the Phase I Amendment, there is no need to manage for old growth.	
	• The USFS continues to ignore the impacts of largescale fires, vandalism, and storm damage to northern goshawk nesting habitat, nest sites, and individuals to the overall population and viability of the northern goshawk. The USFS refuses to limit logging and thinning in order to compensate for old growth and nest site losses on the BHNF.	See the Phase 2 Amendment FEIS, Appendix C (Biological Evaluation, pages 232-244, USFS 2005) and Black Hills National Forest Monitoring and Evaluation Report, Fiscal Year 2003 (USFS 2004b).
	• The USFS is pushing ahead with logging and thinning in the Norbeck Wildlife Preserve and Beaver Park Roadless Area, areas that the agency described as providing excellent northern goshawk nesting habitat.	The Norbeck and Beaver Park areas are not within or adjacent to the Moskee project area.
	• The USFS is pushing forward with extensive logging and thinning projects with the aim to reduce the density of ponderosa pine on the BHNF. Northern goshawk require dense ponderosa pine stands with greater than 60% canopy closure for suitable nesting habitat.	Anticipated effects of the Phase 2 Amendment on goshawk are discussed in the Phase 2 Amendment FEIS, Appendix C (Biological Evaluation, pages 232-244, USFS 2005).
	• The USFS has failed to develop and implement any consistent and accurate monitoring plan for the northern goshawk. Indeed, the agency is only focusing attention to "known" nest sites and even then does not monitor all "known" nest sites.	See Black Hills National Forest Monitoring and Evaluation Reports, Fiscal Years 2000-2006 (USFS 2005).
	• The USFS continues to mislead the public into believing the BHNF needs to be logged, thinned, and otherwise turned into a tree farm to "reduce fire risk."	USFS 2001 is not listed in the bibliography of this comment letter. While fires burning during extreme weather and climate

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	Amazingly, some of the largest fires to burn recently on the BHNF burned in areas that were heavily logged and thinned and otherwise turned into tree farms (see e.g., USFS 2001). Despite these glaring facts, the USFS somehow believes it does not have enough information to conclude one way or the other whether management (i.e., logging and thinning) of the BHNF is threatening the viability of the northern goshawk. There is no doubt in our mind that the FS is pushing the northern goshawk to extinction on the BHNF, just as the agency is doing so in other National Forests throughout the western United States. To this end, the Moskee timber sale adds to the long list of threats to the goshawk and its habitat on the BHNF. The FS is proposing to thin stands in the project area. By thinning, the FS will ultimately limit the availability of future SS 5 and 6 – optimum goshawk nesting habitat. While the FS claims thinning is necessary to improve forage and prey habitat for goshawk there exists no need to manage the BHNF for goshawk forage and prey habitat. The goshawk is facing significant nesting habitat shortages on the BHNF – there is no prey shortage and there is no foraging habitat shortage. Indeed, experts have identified nesting habitat as a limiting factor on the BHNF. By reducing the availability of future nesting habitat, the FS is not providing for the biological needs of the goshawk and is further threatening the habitat of this species. How can the USFS possibly believe that providing more "foraging" habitat will benefit the goshawk while it continues to log and otherwise degrade nesting habitat?	conditions have burned managed forests, the effectiveness of forest treatments in altering fire behavior has been demonstrated (Martinson and Omi 2003, USFWS/NOAA 2002). As required by the Phase 2 Amendment, habitat associated with known goshawk nests would be protected and timing restrictions would apply (Moskee Final EA page 13). The EA does not claim that goshawk foraging habitat is in short supply.
7-25	Northern goshawk: We also ask that the USFS analyze and assess the impacts of the Moskee timber sale in terms of the distinct possibility that the bird may be listed under the Endangered Species Act in the very near future. Therefore, in assessing whether the project will lead to the listing of the species, the USFS must consider the fact that: 1) A federal court is still reviewing whether or not the Fish and Wildlife Service erred in concluding the northern goshawk west of the 100th Meridian did not warrant listing and 2) That any continued impacts to the northern goshawk and its habitat on the BHNF will be documented and sent to the U.S. Fish and Wildlife Service to add to the record supporting listing of this imminently threatened forest raptor.	The Moskee analysis is required to comply with Rocky Mountain Regional direction, which designates goshawk as a sensitive species (FSM 2600-2006-1). The US Fish and Wildlife Service has not listed goshawk as a threatened, endangered, proposed, or candidate species (Kelly 2007).
7-26	Black-backed woodpecker/Lewis' woodpecker: It has been determined that	The Jasper Fire occurred in 2000 and the Elk Mountain Fire in

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	black-backed woodpeckers only exploit burned areas for 2-3 years after fires (Murphy and Lehnhausen 1998). It has also been shown that post-fire salvage logging adversely affects black-backed woodpecker (Hutto 1995, Saab and Dudley 1998). In light of these findings, it is apparent that existing burned areas on the BHNF have not created extensive habitat for the black-backed woodpecker. And, even if these areas did provide extensive habitat at one time, it is likely that these areas are quickly losing their value to the black-backed woodpecker. Indeed, the Jasper Fire burned nearly 3 years ago and the Elk Mountain Fire 2 years ago. Additionally, the Jasper Fire area experienced extensive salvage logging, which is detrimental to the species and further calls into question FS claims that the area provides "excellent" habitat. This situation must be fully addressed in order to adequately analyze and assess the impacts to the black-backed woodpecker.	2001. Neither fire occurred in the project area. Black Hills National Forest monitoring reports (USFS 2007a, pages 90, 103-104) have tracked the progression of woodpecker use of recently burned areas, as discussed in the Draft Moskee EA (pages 82-84, 110, 112) and Appendix 4 (pages 17-20). See discussion of cited literature in response to comment 7-27.
7-27	Black-backed woodpecker/Lewis' woodpecker: Additionally, in analyzing and assessing the impacts to black-backed and Lewis's woodpecker, the FS must fully address research that has shown insect outbreak suppression, as well as fire suppression, is detrimental to the species (see e.g., Murphy and Lehnhausen 1998, Saab and Dudley 1998, Imbeau and Desrochers 2002, Saab and Vierling 2002, Mohren 2002). This is especially important given that these woodpeckers have been greatly impacted by past and present efforts to control insect outbreaks and suppress and/or otherwise control wildfire. Mohren (2002) states: "Allowing stands to mature and become decadent will help provide foraging habitat for black-backed and three-toed woodpeckers. Creating stands that become susceptible to wood-boring beetles will provide an abundance of available prey for both these species. Also, allowing large areas to become infested with wood-boring beetles (such as the Bear Mountain area) may let black-backed and three-toed woodpeckers increase population size" (p. 89-90).	The Draft EA (page 83) and Appendix 4 (pages 17-18) disclose the link of these species to fire and insect infestation. Appendix 4 and the Phase 2 Amendment FEIS recognize the link between these species and disturbance events. The Moskee EA analysis is also based on the Black Hills woodpecker conservation assessment (Anderson 2003), which is more recent than the cited references and gives the latest summary of the species' ecology and management, including the link between these species and disturbance events. The cited references are not listed in the comment letter bibliography. Murphy and Lehnhausen (1998) appears to be "Density and Foraging Ecology of Woodpeckers Following a Stand-Replacement Fire." This publication concludes that black-backed woodpeckers are closely tied to fire and beetle outbreaks and may be vulnerable to fire suppression and salvage logging. The probable Saab and Dudley (1998) reference discusses nest site selection and effects of salvage logging. Conclusions of these publications are the same as those found in Anderson (2003) and the Phase 2 Amendment FEIS, on which the Moskee analysis is based.

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		Imbeau and Desrochers (2002) is in regard to three-toed woodpeckers, which are not addressed in the Moskee analysis because there is no preferred habitat (spruce) in the project area. We were not able to locate a Saab and Vierling (2002). The Phase 2 Amendment FEIS considers the conclusions of Saab et al. (2002) and Mohren (2002).
7-28	Black-backed woodpecker/Lewis' woodpecker: We request that, in order to adequately protect the black-backed and Lewis' woodpecker, the FS allow more stands of mature forest to become decadent in the Moskee timber sale area and allow insect outbreaks to occur in the timber sale area.	The no action alternative would allow all mature forest in the project area to continue to develop and would be expected to allow mountain pine beetle infestation to continue to spread (Draft EA page 69).
7-29	Black-backed woodpecker/Lewis' woodpecker: Additionally, is the habitat capability model used for the black-backed woodpecker the same used for the BHNF Forest Plan revision process? If so, we remind the agency that the Chief stated in 1999 that "I find that since the Forest failed to demonstrate that the snag standards in the Revised Plan would be adequate to assure viability for the Forest's snag-dependent sensitive and indicator species in the planning area (see discussion under Viability and Diversity, p. 43), the use of these standards in defining habitat capability invalidates the HABCAP calculations for these species." Thus, unless the FS has updated the habitat capability model for cavity nesting species, then the habitat capability results for the black-backed woodpecker are flawed. If the FS has updated the habitat capability model for cavity nesting species, such as the black-backed woodpecker, we request the agency explain how the model was updated and what factors form the basis for habitat capability calculations.	The Moskee EA analysis did not include computerized habitat capability modeling. Use of the ARC-HABCAP model is discretionary.
7-30	Black-backed woodpecker/Lewis' woodpecker: Finally, we request the FS fully disclose how impacts to the black-backed and Lewis' woodpecker are assessed. For instance, what threshold of concerns are used to measure the significance of impacts? How does the FS integrate habitat capability analysis into the overall analysis? How do the impacts relate with population trend data for both species? Are both species currently viable on the BHNF? If so, how did the FS determine	These subjects are addressed on Draft EA pages 82-84 and 110, Appendix 4 pages 17-20, and Phase 2 Amendment FEIS pages 196-205 and 220-225. See also monitoring reports (USFS 2007a) and response to comment 7-29.

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	both species are viable?	
7-31	Pygmy nuthatch: The discussion of the effects of the Moskee timber sale to pygmy nuthatch is very disconcerting. It seems that direct, indirectly, and cumulatively, the Moskee timber sale will only adversely impact the species. Given this, how is it possible that the Moskee timber sale will not jeopardize this species' viability on the BHNF? How did the FS assess impacts to pygmy nuthatch? Additionally, if the FS believes that snag retention or green tree retention standards will adequately protect this species, we ask the FS to explain how this is possible. If there are inadequate snag densities and large diameter trees in the timber sale area, how is it that such measures can protect the bird from the impacts of the timber sale?	As disclosed on Draft EA pages 101-102, all action alternatives would increase open, mature pine forest, with which this species is associated. Snag levels meet and would be expected to continue to meet forest plan objective 211 (Draft EA page 68). Green tree retention standards were associated with the Phase 1 Amendment to the forest plan and are not included in the current Phase 2 Amendment direction.
7-32	Golden-crowned kinglet: How did the FS assess impacts to the golden-crowned kinglet? What threshold of concern is used to guide the agency's assessment?	As disclosed on Draft EA page 82, golden-crowned kinglet was not assessed for this project because its represented habitat (spruce) is not present in the project area.
7-33	Flammulated owl: The EA's discussion of the potentially significant impacts to flammulated owl are very cursory and lack any support whatsoever. Given the species' rare status throughout its range, its dependence upon old growth ponderosa pine, and the fact that this species' existence has only recently been confirmed on the BHNF, there is significant concern over the impacts of forest management activities to this species and its habitat. Special attention must be given to the owl to ensure its habitat is adequately protected and that the owl and its habitat do not suffer adverse impacts as a result of the Power timber sale (see e.g., Linkhart et al. 1998, Linkhart and Reynolds 1997, Reynolds and Linkhart 1992, 1987a, 1987b).	Flammulated owl is discussed in Appendix 4, pages 15-17. There has been no confirmation of a breeding population of this species in the Black Hills (Appendix 4 page 15). There have been two reports of this species on the National Forest, and surveys have not resulted in additional reports. The owl and its habitat are given special attention because they are Regionally sensitive, and the effects on potential habitat are discussed in Appendix 4. The Power timber sale is not within the scope of the Moskee project. The cited references address flammulated owl habitat associations (large, old trees and snags), which are acknowledged and discussed in the Final EA pages 69-75, and Appendix 4, pages 15-16. As described in the EA, none of the alternatives would affect existing late-succession stands.

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7-34	Fringe-tailed myotis: Recent studies of bat species in the Black Hills have shown a distinct preference for old growth stands, which typically contain abundant snags (see e.g. Mattson et al. 1996). Schmidt (2002) also reports that logging, livestock grazing, and loud noises adversely impact the species. The EA fails to acknowledge the importance of old growth and abundant snags to the fringe-tailed myotis and fails to address these potentially significant impacts and therefore fails to adequately analyze and assess the impacts to the fringed-tailed myotis.	Analysis of effects on fringed myotis (Appendix 4 pages 9-11) acknowledges possible use of snags by this species. This comment references Schmidt 2002, which is listed in the comment letter bibliography as Conservation Assessment for the Fringed Bat. This publication is referenced on Appendix 4 page 10 as Schmidt 2003 as its publication date was April 2003. Schmidt (2003) references and incorporates Mattson et al. (1996). Appendix 4 acknowledges the negative effects of disturbance on bat hibernacula and maternity roosts. Existing late succession stands would not be affected under any alternative (Draft EA page 79, 81), and effects on snags would be expected to be minor (Draft EA pages 68, 72, 79).
7-35	Black Hills red-bellied snake: How does the FS assess impacts to the Black Hills red-bellied snake? How is it that opening dense stands of pine will benefit this species? Doesn't opening dense stands of pine lead to more xeric conditions? Isn't this detrimental to the snake? We also request the FS present a map showing the location of roads in relation to wetlands, springs, seeps, and riparian areas in the Moskee timber sale area in order to adequately support the claim that no roads will pose barriers to migration.	Standard 3116 states, "Avoid creating barriers (e.g., new open roads) between red-bellied snake hibernacula and wetlands." There are no known hibernacula in the project area, but rocky areas could provide this habitat. As stated in Appendix 4, "Proposed road construction would not take place in drainage bottoms or between moist areas and rock outcrops." All proposed new roads would be closed following use (Draft EA page 17). The EA does not claim that thinning would benefit this riparian-associated species. Effects on riparian habitat are described on Draft EA pages 53-54. A map of roads in relation to water features is located in section J005 of the Moskee Project Analysis File.
7-36	Black Hills red-bellied snake: What will be the adverse impacts from human caused mortality (e.g., road kills)? Given these impacts, how will increased levels (e.g., of logging trucks, cruising trips, etc.) of vehicle traffic in the Moskee timber sale area impact the snake? Is this impact significant, especially given that human caused mortality is a concern in the area.	Effects on the Black Hills red-bellied snake are addressed in Appendix 4 (pages 21-23). The potential for human-caused mortality due to this project is acknowledged. The Draft EA does not state that human-caused mortality of red-bellied snakes is a special concern in the project area.
7-37	Other Species: We request the FS analyze and assess the impacts to Sharp-shinned hawk, Cooper's hawk, American kestrel. An EIS must fully analyze and assess the potentially significant effects to these bird species. Recent monitoring suggests these species have declined on the BHNF, an event most likely attributable to extremely low snag densities throughout the BHNF and the lack of late successional forest habitat. The Forest Service must ensure the	Effects on sharp-shinned hawk are disclosed on Draft EA pages 96-97. Effects on Cooper's hawk are disclosed on Draft EA pages 97-98. Effects on kestrel are not analyzed in the EA because it is not designated as a Species of Local Concern, sensitive species, or other status of concern.

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	Moskee timber sale does not lead to further population declines for these species in order to ensure diversity is appropriately provided for on the forest	
7-38	Other Species: Additionally, we request the FS analyze and assess the potentially significant impacts of the Moskee timber sale to the western wood pewee. Recent monitoring on the Black Hills (Panjabi 2001, 2003) suggests the western wood pewee has declined significantly on the BHNF. The species' viability is questionable due to this decline. Thus, the FS must ensure that the Moskee timber sale does not jeopardize this species' viability.	Panjabi (2004) states that "Western Wood-Pewee, a species that was formerly common across the Black Hills (Pettingill and Whitney 1965) but that now exists in only low density in most habitats on the BHNF (Panjabi 2001, 2003a, 2004), continued to show a strong positive population response in the Jasper Burn area." Dykstra (1996) found western wood-pewee densities in the Black Hills to be higher in harvested than unharvested stands. The EA does not include analysis of effects on this species because it has not been identified as a species of local or other concern.
7-39	Noxious weeds: We request the FS explicitly state how noxious weeds will be controlled in the Moskee timber sale area. If chemical agents are to be used, we request the agency fully analyze and assess how such applications will affect non-target species, such as sensitive insects, reptiles, and amphibians. We request the FS disclose what chemicals will be used, whether they are certified by the EPA, and what impacts certain chemicals pose to invertebrates, amphibians, and reptiles	Noxious weed control is addressed on Draft EA pages 20-21 and 120-123. Methods that may be used and effects of these methods are addressed by the 2003 Black Hills National Forest Noxious Weed Management Plan (USFS 2003).
7-40	Soils and Waters: The BHNF Forest Plan as amended limits detrimental soils impacts to 15% of any treatment unit (Standard 1Ecosystem Health). However, based on the information in the EA, it is impossible to determine whether this 15% threshold will be exceeded. We request that if the FS believes the 15% threshold will not be exceeded, the agency fully explain this assertion. An adequate explanation must include a discussion of the extent to which skidding will occur in the timber sale area, the extent to which activities will occur during wet weather, how many acres will be impacted by prescribed burning, and how many acres of soil have the potential to be impacted.	Effects on soils have been clarified in the Final EA.
7-41	Soils and Waters: Additionally, how does the FS measure (i.e., analyze) the impacts of compaction? How does the FS assess the impacts of any potential compaction?	Soil health assessments conducted in the Moskee project area followed Regional protocol (USFS 2001). Forest-wide compaction monitoring procedure is described in the Black Hills National Forest FY 2006 Monitoring and Evaluation Report (USFS 2007a).
7-42	Soils and Waters: Additionally, we request the agency fully explain how no Connected Disturbed Areas exist in the Moskee timber sale area?	The Draft EA describes CDAs that exist in the project area (pages 49-52).

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7-43	Soils and Waters: How is it that unhardened stream crossings are not considered a CDA? Regardless of the intermittent nature of streams in the area, it seems that there exists a potential for excessive sediment levels to be washed into downstream perennial streams. In light of this, it would seem that the 70 unhardened road and stream/drainage crossings may pose significant effects to water quality, either in the project area or downstream. We ask that the FS address this	The EA does not state that there are 70 unhardened road/stream crossings in the project area. "Of the 41 potential stream crossing sites visited in 2006, at least 85 percent appeared to cross ephemeral portions of drainages. The majority of these crossings currently are likely to contribute little sediment to the drainage network due to road surface cover and drainage vegetation." (Draft EA page 49)
7-44	Soils and Waters: The FS has disclosed that BMPs are only around 80% effective in minimizing the adverse impacts of timber harvesting (including road construction) to soils and waters. Logically, this would mean that 20% of the time, BMPs are ineffective. How does the FS account for the potential ineffectiveness of BMPs? How does the FS account for the potential ineffectiveness of BMPs in light of impacts to soils and waters? If the FS believes than an 80% effectiveness rating is good enough, we ask that the agency fully explain why. Also, given that BMPs are not entirely effective in protecting soil and water resources, it seems that the impacts of the Moskee timber sale are highly uncertain and involve unique risks. Indeed, in implementing BMPs, the FS is taking a risk that BMPs will not fully protect water and soils resources, possibly leading to violations of the BHNF Forest Plan, the Clean Water Act, and State water quality laws. And, given the uncertainty surrounding the effectiveness of BMPs (ineffective 20% of the time), it would seems that the impacts of the Moskee timber sale to soils and waters are high uncertain. Indeed, how can the FS assure soils will be adequately protected when there is a distinct possibility that BMPs will fail? In light of this uncertainty and the unique risks associated with BMPs implementation, the impacts of the Moskee timber sale will most likely be significant according to 40 CFR § 1508.27(b)(5).	BMP effectiveness has been demonstrated through monitoring (USFS 2007, 2004a) and is discussed on page 52 of the Final EA and page III-59 of the Phase 2 Amendment FEIS. Other literature available in the project record also supports the use of Best Management Practices.
7-45	CONCERNS OVER PHASE II AMENDMENT The Phase II Amendment is flawed and illegal and therefore the USFS cannot move forward with the Norwood timber sale. Our concerns over the Phase II Amendment as they relate to the Norwood timber sale are as follows. **The Proposed Phase II Amendment Violates the Settlement Agreement in Civil Action No. 99-N-2173** As will be discussed in more detail in these comments, the proposed Phase II	The Phase 2 Amendment addresses all aspects of the 2000 settlement agreement. See Phase 2 FEIS Chapter 1, Section 1-1.3. The Phase 2 decision addresses all of the Chief's concerns documented in the Consolidated Appeal decision of October 12, 1999. See Phase 2 FEIS Chapter 1, Section 1-1.2. The Phase 2 decision addresses all points stipulated in the

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	Amendment (and all action alternatives for that matter) does not live up to the USFS's promises as set forth in the Settlement Agreement in Civil Action No. 99-N-2173. In particular, the Phase II Amendment and all its proposed alternatives violate the Settlement Agreement by failing to address and fix the following flaws in the 1997 Revised BHNF LRMP as identified in the Chief's 1999 Appeal Decision: 1. Failing to ensure sufficient large diameter snags for snag-dependent species such as the northern flicker, black-backed woodpecker, three-toed woodpecker, Lewis' woodpecker, common flicker, and pygmy nuthatch are provided across the BHNF. 2. Failing to ensure sufficient snag densities for snag-dependent species such as the black-backed woodpecker and common flicker are provided across the BHNF. 3. Is not based on sufficient population trend data for snag dependent species to provide a context for the impacts of forest management to snag densities taking into consideration the "current age and structure of the forest" and any other natural or human-caused impacts to snag densities. 4. Fails to establish a sufficient snag density standard that meets the documented needs of snag-dependent species of wildlife on the BHNF in order to ensure snag dependent species viability on the BHNF. 5. Fails to allow natural fires to occur at some level on the BHNF in order to benefit the Lewis' woodpecker and in fact prescribes measures to supposedly reduce their occurrence. 6. Does not provide standards and guidelines, supported with the necessary analysis and information, that maintain the viability of the Lewis' woodpecker. 7. Fails to provide the necessary information and analysis that supports any measure designed to protect the northern goshawk and its habitat. 8. Fails to provide specific measures to protect the goshawk and its habitat on the southern third of the forest while providing overall measures that protect the goshawk and its habitat on the entire BHNF. 9. Fails to provide standards and guidelines that maintain goshawk viability in accordance with the NFMA, its implementing regulations, and FSM direction. 10. Fails to analysis and information that supports the effectiveness of best	settlement agreement of September 2000 (Civil Action No. 99-N-2173, Biodiversity Associates v. Laverty). In this document the Forest Service agreed to consider research areas, management indicator species and goshawks in the Phase 2 analysis. Please refer to Chapter 1 of the Phase 2 FEIS for more information; Chapter III, pages III-7 through III-13 describes effects on snags. The northern flicker/common flicker is not discussed in the Phase 2 FEIS because it was not selected as an emphasis species. Snag densities in relation to black-backed woodpeckers are discussed in Phase 2 FEIS Section 3-3.3.7.1 and in Appendix C. Effects on black-backed woodpecker are described in the Phase 2 FEIS on pages III-238 through III-247, and Appendix C pages 196-205; effects on three-toed woodpecker are described in Appendix C pages 190-195; effects on Lewis' woodpecker are described in Appendix C pages 220-225; effects on pygmy nuthatch are described on pages III-190 through III-194 of the FEIS. Available population data for snag dependent species is presented in Phase 2 FEIS Chapter 3, Section 3-3.3 and in Appendix C. The current age and structure distribution of the forest, including snag densities, are discussed in Phase 2 FEIS Chapter 3, Section 3-2.1. The effects of the snag density objectives, standards, and guidelines for each alternative are discussed for snag dependent species in Section 3-3.3 in the Phase 2 FEIS and in Appendix C. The analysis for Lewis' woodpecker is included in Phase 2 FEIS Appendix C. The analysis includes a discussion on the expected effects of meeting structural stage objectives (Objectives 4.1-203, 5.1-204, 5.4-206, 5.43-204, and 5.6-204), snag objectives (211), post fire salvage objectives (11-03), and snag standards and guidelines (2301). Analysis of effects of each alternative on northern goshawk is discussed in Phase 2 FEIS Appendix C, Section 4-6.10. The biological evaluation for the Phase 2 Amendment projected

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	management practices ("BMP's") in protecting native fish species. 11. Fails to provide analysis and information that supports determinations that the impacts of management to native fisheries are not significant, fails to adequately analyze the impacts of non-native fish species to native fish species, and fails provide scientifically supported measures that protect native fisheries and ensure native fish species viability. 12. Fails to ensure viable populations of existing fish species are maintained on the BHNF. 13. Fails to provide monitoring objectives specific to the northern leopard frog. 14. Outright ignores, and at worst attempts to discount, the findings of the 1993 and 2002 Frest and Johannes reports and fails to ensure the viability of snail species of concern. 15. Fails to develop and implement a species-specific monitoring plan with quantified goals and objectives for management indicator species ("MIS") and sensitive species and their habitat. 16. Fails to develop adequate quantitative MIS population goals and ensure project-level activities do not jeopardize these goals. 17. Fails to select and monitor MIS in accordance with NFMA regulations and FSM direction. 18. Fails to develop a sensitive plant monitoring plan that provides quantitative, consistent, unbiased, and defensible data in order to determine what effects management activities are having on populations of sensitive plants. 19. Fails to ensure livestock grazing does not conflict with the values for which Botanical Areas are designated, fails to provide monitoring requirements that quantify the impacts to sensitive plant species in order to ensure livestock grazing does not conflict with the values for which Botanical Areas may be designated. 20. Fails to provide sufficient and specific standards and guidelines that assure the protection and viability of sensitive plant species. 21. Fails to provide specific direction relating to maintaining viable populations of species. 22. Is not based on viability determinations supported by species-specific discussions of critical habitat features, actual populations, and habitat distributions in order to meet the requirements of the NFMA and its	that goshawks are likely to persist under implementation of Alternative 6 due to nest area management direction, late successional areas, sufficient snags and downed logs, and structural stage objectives (FEIS Appendix C, page 243). Specific management direction relating to the northern goshawk includes Standards 3108 and 3111, as well as direction concerning snags, downed logs, and structural stages (Phase 2 FEIS, Appendix D). NFMA directs that the Plan will be developed for the planning area, which is the National Forest. The amendment does not provide objectives, standards, and guidelines for goshawks specifically for management areas in the southern third of the Forest. These areas are covered by the Forest-wide goshawk standards and guidelines. NFMA and FSM direction do not prescribe standards and guidelines for goshawks. Standards and guidelines were developed for each alternative consistent with requirements of NFMA and FSM direction. Goshawk-specific standards and guidelines are shown in Phase 2 FEIS Appendix D (standards/guidelines 3108-3114). Best management practices are addressed throughout Chapter 3 of the Phase 2 Amendment EIS. Page III-59 specifically discusses BMP effectiveness related to water resources. Page 18 of the 2002 Forest Plan monitoring report discusses compliance with and the effectiveness of best management practices. The significance of impacts to native fish are disclosed in the Aquatic Ecosystem section and individual fish species discussions in the Phase 2 FEIS and Appendix C (BA/BE). The Phase 2 FEIS analyzes the effects of implementing Forest Plan standards and guidelines, watershed conservation practices and Best Management Practices that are based upon research and current practices that conserve or enhance aquatic habitat to ensure native fish species viability. The effects of non-native fish on native fish

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	implementing regulations. 23. Fails to provide habitat capable of supporting well-distributed populations of native vertebrate species across the planning area. 24. Fails to present a fragmentation analysis for those species where fragmentation effects are suspected or known to affect the species. 25. Fails to ensure compliance with the NFMA and its implementing regulations with regards to the diversity of plant and animal communities and species viability. In addition, the Phase II Amendment fails to comply with key paragraphs of the Settlement Agreement. In particular, the Amendment: 1. Fails to ensure the viability of the northern goshawk, as required by § (2)(a) of the Settlement Agreement. 2. Fails to provide for monitoring of MIS in accordance with the NFMA implementing regulations. 3. Fails to appropriately evaluate and ensure the viability of MIS. 4. Fails to appropriately analyze candidate Research Natural Areas ("RNAs"). And finally, the Phase II Amendment violates the Settlement Agreement because it fails to comply with the requirements of the NFMA, NFMA implementing regulations, and USFS policy regarding the maintenance of viable populations of wildlife, fish, and plants on the BHNF. Among other things, the Phase II Amendment does not provide sufficient habitat to maintain viable populations of certain species, fails to appropriately assess species viability based on the NFMA regulations, fails to ensure viable populations exist in the first place, inappropriately rejects potential MIS, fails to provide for the monitoring of populations of MIS, and fails to provide for a diversity of plant and animals. **The Phase II Amendment Inappropriately Relies on Goals, Objectives, and Guidelines to Ensure Species Viability and Diversity** The ability of the Phase II Amendment to ensure viable, well distributed populations of native wildlife, fish, and plants is mostly predicated upon the USFS meeting goals, objectives, or guidelines. For instance, to ensure the long-term persistence of old-growth dependent species, the USFS relies upon meeting structural stage "objectives" in each of the various management areas. Yet the reliance upon goals, objectives, and guidelines to ensure adequate species and habitat protection is entirely inappropriate as they provide no measurable protection.	are disclosed in Appendix C, pages 172, 176, and 181 of the FEIS). Leopard frogs, as a sensitive species, will be monitored according to Chapter 4 of the Forest Plan as amended. See Phase 2 FEIS Appendix D for a list of monitoring items. The 1993 and 2000 Frest and Johannes reports were used and referenced in the analysis. The reports serve as a valid survey of snail occurrence and distribution. The Phase 2 EIS discloses uncertainty associated with the suggested taxonomic changes to Cooper's mountainsnail because the suggested taxonomic changes have not been peer reviewed and accepted through the scientific community. Based on other comments received on the Phase 2 DEIS, direction for management of snail colonies was revised in Alternative 6 and the persistence of snails on the Forest was analyzed in Chapter 3, Section 3-3, and in Appendix C. Chapter 4 of the amended Forest Plan addresses monitoring. Species-specific protocols are included in the Forest Plan Monitoring Implementation Guide. MIS objectives were developed based on the agency's most current interpretation of law, regulation, and policy regarding MIS requirements. The Forest Plan provides direction regarding MIS trend in the form of Objectives, Standards, and Guidelines for the Planning Area (National Forest). Projects are analyzed for their consistency with the Forest Plan to evaluate if MIS direction is being met. The selection of MIS followed the Regionally approved process identified in Hayward et al. 2001. Monitoring of MIS will be based on protocols designed to collect the data needed to evaluate the attainment of MIS-specific objectives.

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	A guideline is discretionary and unenforceable. As the USFS states in the 1997 Revised BHNF LRMP: A forest guideline is defined as a preferred or advisable course of action. Deviation from a guideline is permissible if the responsible official documents the reasons for a deviation. (p. II-1) In the Chief's appeal decision, the BHNF was specifically criticized for relying on guidelines to ensure the viability of the northern goshawk. Goals too are discretionary and carry even less weight as required management actions. As the 1997 Revised BHNF LRMP states: Goals describe a desired end result and are normally expressed in broad general terms. Forest plan goals link broad agency goals as set forth in law, executive order, regulation, agency directives, and the Resource Planning Assessment program. These goals also closely reflect the Regional goals described in the Rocky Mountain Regional Guide, 1992. The Forest Plan does not specify a time period for achievement of goals. Additionally, Forest Plan goals are generally not expressed in quantitative terms; rather, assessment of whether goals are being achieved occurs through monitoring of associated measurable objectives. (p. I-1) Objectives too are discretionary. The 1997 Revised BHNF LRMP states: Objectives describe measurable desired results intended to promote achievement of Forest Plan goals. Objectives describe (1) desired resource conditions in the area covered by the Plan, either in the next decade or longer and (2) desired levels of goods and services that the Plan area is capable of producing in the next decade. Objectives describing desired levels of good and services are only described on a Forestwide basis, while those describing desired resource conditions are either Forestwide or applicable to a portion of the Forest or a specific management area. The Forest Supervisor shall strive to plan and implement projects which contribute to achieving Forest Plan objectives in a manner consistent with Forest Plan standards and applicable legal requirements. Many variables affect achievement of objectives which cannot be fully assessed when a plan is revised or amended. However, a forest plan need not be amended if forest plan objectives are not achieved. In other words, the USFS should "strive" to "contribute" to objectives, but is not required to actually meet them.	Grazing conflicts are site-specific and are addressed at the allotment planning level, following Forest Plan objectives, standards, and guidelines addressing botanical areas and livestock grazing. An example is Standard 3.1-2503, which restricts livestock access to designated botanical areas in order to protect occurrences of sensitive species or species of local concern. Concerning monitoring, see Forest Plan Chapter 4, especially the Vegetative Diversity monitoring items. Maintaining viable populations of native and desired non-native plants and animals is required through the National Forest Management Act (Section 6(g)(3) and USDA Departmental Regulation 9500-4. It is not necessary to repeat this requirement as a standard in the Forest Plan. . The Phase 2 Amendment includes goals, objectives, standards, and guidelines to conserve plant and wildlife species and their habitat in a multiple-use context. This direction is consistent with direction in the planning regulations on maintaining viable populations of species. Habitat requirements of each species are discussed in the Phase 2 FEIS "Affected Environment" section under each species. Effects on these habitat features are evaluated relative to each alternative immediately following the habitat descriptions. Fragmentation relevance and effects vary by species and their habitat needs and mobility. Abundance and distribution of habitat for individual wildlife species for which fragmentation is a concern is discussed in Phase 2 FEIS Chapter 3, Section 3-3. Determinations of effect of the Phase 2 Amendment for threatened, endangered, and sensitive species, and species of local concern, are disclosed in Phase 2 FEIS Chapter 3 Section 3-3 and in Appendix C.

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	Furthermore, as the USFS has explained, compliance with an LRMP is based only on whether Standards are met. The 1997 Revised BHNF LRMP states: The determination of whether or not an individual project is consistent with the Forest Plan shall be based on whether or not the project adheres to Forestwide and Management Area Standards. Plan objectives, Forestwide and management area guidelines, project-specific outputs, and activity schedules should not be used in the [Forest Plan] consistency determination. Resource plans and permits, contracts, and other instruments issued for the use and occupancy of National Forest System lands must be consistent with the Forest Plan unless specifically exempted from applicability in an amendment or revision decision document. Determinations of consistency of permits, contracts, and other instruments for occupancy and use of National Forest System lands are based on whether or not they adhere to Forestwide and Management Area Standards. (Preface-5, emphasis added) Thus, for LRMP direction to mean anything on the ground, to mean anything in terms of actual, measurable results that actually maintain species diversity and viability, the USFS must rely primarily, if not entirely, upon the effectiveness of Standards. Unfortunately, the Phase II Amendment does not do this. Instead, the USFS relies heavily, if not entirely, on meeting guidelines, goals, and objectives, none of which actually require any on the ground results. While the USFS may "promise" to meet them, ultimately this promise is universally empty. Goals, objectives, and guidelines carry with them infinite discretion. As the NFMA, NFMA implementing regulations, and USFS policy require substantive results in terms of meeting diversity and viability requirements, so too do these laws, regulations, and policies require more than an empty promise to ensure adequate protection of wildlife, fish, and plants. So long as the USFS attempts to rely on goal, objectives, and guidelines to ensure diversity and viability, the agency will be failing to meet its basic legal and biological obligations. **The Phase II Amendment and FEIS Fail to Adequately Assess Direct, Indirect, and Cumulative Impacts, Fail to Adequately Analyze and Assess Impacts to Viability, and Fail to Ensure Species Viability** **Snags and Snag Dependent Species** The USFS clearly recognizes that many species of wildlife depend on snags for	The Phase 2 Amendment analysis concluded that goshawk viability will be maintained (Phase 2 Amendment Record of Decision page 7). Monitoring of MIS is disclosed in the Monitoring Approach section of individual MIS discussions on pages III-224 to III-299 of the Phase 2 FEIS. Monitoring strategy is described in Chapter 4 of the amended Forest Plan. Specific protocols are located in the Forest Plan Monitoring Implementation Guide. The viability of MIS that are also sensitive species is disclosed in the Phase 2 Amendment Biological Evaluation (FEIS Appendix C). The viability of MIS that are not sensitive species is disclosed in the Phase 2 Amendment FEIS. During the Phase 2 Amendment process, a total of 121 areas were evaluated for their potential as candidate RNAs. Of these 121, nine candidate areas were identified. Please refer to the Phase 2 Amendment FEIS, Sec. 3-6.2. The detailed analysis process can be reviewed in the "Final Screening and Rationale for Areas Considered for Evaluation as Research Natural Areas", available on the Black Hills National Forest Web site (www.fs.fed.us/r2/blackhills/). Violates Settlement Agreement – see initial response to comment 7-45. All alternatives considered in the Phase 2 Amendment FEIS include goals, objectives, standards, and guidelines to conserve native and desirable non-native plant and wildlife species and their habitat in a multiple-use context. This direction is consistent with the law. Note: Items listed in the comment letter as Attachments B and C were not attached to the letter.

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	their survival and persistence and we greatly appreciate all the efforts that the USFS has undertaken to better understand the needs of snag-dependent wildlife in the BHNF. However, as will be discussed, proposed snag management direction does not seem to reflect the needs of wildlife as disclosed in information available to and even prepared by the USFS, a disturbing revelation. As the Chief stated in his appeal decision: After reviewing the record, I find that the Revised Plan does comply with the intent and requirements of the implementing regulations with respect to gathering information. However, I find that the Revised Plan did not make use of this information to establish a sufficient standard for snag density. (p. 45). The USFS seems to not be heeding the Chief's ruling and making the same mistake again through the Phase II Amendment. **The Inadequacy of Existing Snag Conservation Measures** Already, existing snag and green retention standards under the Phase I Amendment have been found to be inadequate for certain species of wildlife in the BHNF. In a Conservation Assessment for the silver-haired bat (*Lasionycteris noctivagans*), Schmidt (2003b) states: The 2001 Phase I Amendment to the LRMP increased minimum hard snag requirements to 2 snags/acre for Ponderosa Pine forest on south and west slopes, and 4 snags/acre on north and east slopes (US Forest Service 2001). Recommended average snag densities of 2-4 hard snags per acre (Phase I Amendment LRMP) were far below the minimal snag density of 21 snags/ha reported by Mattson et al. (1996) for this species in the Black Hills National Forest. (p. 9) This statement refers only to snag density standards, which are but one component of snag habitat. Snag retention standards are also inadequate based on the needs of wildlife. For instance, the silver-haired bat in the Black Hills utilizes snags 44 cm in diameter (17.32 inches dbh) for maternity roosts (Mattson et al. 1996). Yet, snag retention standards under Phase I require minimum snag diameters to be only 10" dbh, and requires that only 25% be greater than 20" dbh. On its face, the standard is inadequate because it allows snags to be retained that are of insufficient diameter for the silver-haired bat. However, by requiring only a certain proportion to be larger diameter, the USFS is essentially ensuring no snag habitat is available for the silver-haired bat. This similarly provides insufficient habitat for several other species, as will be	

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	discussed below. Thus, for the USFS to ensure legally and biologically adequate snag management, the Phase II Amendment must provide for more large diameter snags across the landscape. Unfortunately, the USFS does not seem to have done so in any of the proposed action alternatives. While this situation in and of itself renders the proposed snag retention measures under all action alternatives wholly inadequate, there is further indication that the proposed snag management measures are not only entirely inadequate, but will ultimately fail to ensure sufficient habitat is provided to ensure the viability of snag-dependent wildlife. **Snag Diameters** Snag diameters on the BHNF are extremely low and are already insufficient to meet the needs of wildlife (Spiering and Knight 2004). The existing conditions indicate that snag-dependent wildlife are essentially living on deficit habitat, a situation that will only lead to declines and potentially extirpations of snag dependent wildlife. Spiering and Knight (2004) estimate that of the snags in the BHNF, snags greater than 20" dbh average only 0.2 per acre. This isn't even a whole tree. Adding to that, snags between 15 and 19" dbh average only 0.5 per acre. Together, snags greater than 15" dbh average 0.7 per acre across the BHNF. [figure omitted] Several species of wildlife are reported to depend on larger diameter snags, most with diameters of around 20" or greater, but at least greater than 15" dbh. Indeed, Spiering and Knight (2004) report that wildlife use of snags increased as diameter increased. The USFS also discloses this forthrightly in the FEIS and associated biological evaluation. In addition, all species of wildlife that require large diameter snags invariably require more than one per acre. The welfare of the pygmy nuthatch is of particular concern given its extremely low numbers in the BHNF (Panjabi 2001, 2003, 2004). Elsewhere, the species is common in ponderosa pine forest (Ghalambor 2003). This strongly indicates that past and present management has led to significant declines in habitat for the species, a conclusions supported by scientific studies on the nuthatch. Indeed, the pygmy nuthatch was one of four species that showed a significant reduction in population density with a reduction in snags (Scott 1979).[table omitted] Even under the USFS's liberal and unsupported estimate that snags greater than 15" dbh average 1.63 per acre (see, FEIS Table 3-5), habitat conditions on the	

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	BHNF are insufficient to ensure the viability of snag-dependent wildlife. To begin with, the pygmy nuthatch, Lewis's woodpecker, silver-haired bat, fringed myotis, American kestrel and other species have been found to depend on snags 17" or greater (see table above). Thus, including snags 15" or even 16" in diameter in estimates of suitable habitat for these species is inappropriate as such snags are not suitable habitat. Furthermore, and as will explained further in these comments, the silver-haired bat, Lewis's woodpecker, and other species require higher snag densities than 1.63 per acre. Although the USFS may claim that large diameter snags (i.e., >15") exist in sufficient numbers in parts of the BHNF, this conclusion is difficult to stomach. On the one hand, if averages are so low, then obviously there more areas where there are no or very few large diameter snags than there are areas with sufficient numbers. The averages clearly show that, on balance, there cannot possibly be more areas that have sufficient numbers of large diameter snags than areas with few to no such snags. In addition, this conclusion ignores a key component of managing for diversity and viability, ensuring well-distributed habitat. If some areas of the BHNF have sufficient large diameter snags, while may areas do not, it is difficult to believe that this represents well-distributed habitat sufficient to ensure the viability of snag-dependent species of wildlife. In any event, the USFS has not pointed to any information or analysis showing where these areas of sufficient large diameter snags are located, how large these areas are, or whether they are actually utilized by snag-dependent wildlife. At best, the USFS is arm waving and at worst, is attempting to gloss over its embarrassing snag data. Adding to the concern over the inadequacies of existing snag diameters is the fact that snag recruitment will invariably produce fewer and fewer large diameter snags as the BHNF continues to experience extensive logging and thinning. To address the shortages of large diameter trees, there needs to be sufficient numbers of large diameter trees. Yet, the FEIS discloses that, in total, live trees greater than 15" dbh average only 9.4 per acre across the entire BHNF. Trees greater than 20" average only 1.3 per acre. Although if every tree greater than 15" were to die tomorrow and become snags, some of the problems may be solved, this is not what happens in reality. In reality, mortality is a slow process. While the FEIS presents no estimate of mortality rates, we have seen estimates in project-level EAs of less than one tree per acre per year. Thus, even by	

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	existing mortality rates, it is likely that sufficient numbers of large diameter snags will not come into existence for years to come. However, this would only happen if stands were unmanaged.[figure omitted] As it is, the USFS intensively manages the BHNF and is proposing to increase logging and thinning under the Phase II Amendment. The goal, as the USFS has stated on numerous occasions, is to reduce tree mortality. Logically, this would mean that forest management would reduce mortality rates, making it even less likely that sufficient large diameter snags will be produced within a reasonable timeframe. Furthermore, logging invariably targets large diameter trees. Thus, even though there may be sufficient large diameter trees to ensure future creation of enough large diameter snags, logging ultimately removes many of these trees and, in combination with the associated mortality rate reductions, artificially keeps both the numbers of large diameter live trees and large diameter snags depressed (the snags more so). Ultimately, the Phase II Amendment is a recipe for further reductions in already much-reduced large diameter snag densities for decades to come. **Snag Densities** Snag densities on the BHNF are also extremely low and are already insufficient to meet the needs of wildlife (Spiering and Knight 2004). As Anderson (2003) states with regards to the black-backed woodpecker: Snag surveys on the Black Hills National Forest showed an average of 173 hard snags of ponderosa pine per 100 acres (40.5 ha) greater than 25.4 cm (10 inches) dbh (USDA Forest Service 1996). A separate study found an average of 3.6 snags greater than 25.4 cm (10 inches) dbh per 0.4 ha (1 acre) in stands not actively managed for 20 to 30 years on the Black Hills National Forest (Lentile and others 2000). These numbers mean that many stands have much lower than the number of snags recommended by many sources (Scott 1978; Scott and Oldemeyer 1983a; Raphael and White 1984; Zarnowitz 1985; Goggans 1989a; Bate 1995; see Table 17), so it is important to conserve as many snags as possible. (p. 23) The existing conditions indicate that snag-dependent wildlife are again essentially living on deficit habitat, a situation that will only lead to declines and potentially extirpations of snag dependent wildlife. Lentile et al. (2000) estimate that snags in the BHNF greater than 10” dbh average only 3.96 per acre. [figure omitted]	

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	Spiering and Knight (2004) estimate that snags greater than 15" in diameter average 0.7 per acre. Currently, this is insufficient to meet the documented needs of several snag-dependent species. [table omitted] Indeed, as can be seen by the above table, several species require snag densities to be grater than 4/acre, some much larger. Although snag diameter requirements for the Sharp-shinned and Cooper's hawks are not reported, it is assumed that, like other wildlife, these snags should be greater than 10" dbh, which is currently required under the Phase I Amendment. As explained, densities of snags greater than 10" dbh are reported to be less than 4 by Lentile et al. (2002). And, although snag densities are based on burned areas in some cases, we assume that estimates of snag densities in the BHNF include recently burned areas. Of more concern, however, are the extremely low densities of large diameter snags, or those greater than 15" dbh. The Lewis's woodpecker and silver-haired bat in particular require high densities of large diameter snags. Currently, snags greater than 15" dbh average 0.7 per acre, while the silver-haired bat requires 8.5 snags per acre greater than 17.32 inches and the Lewis's woodpecker requires 24 snags per acre greater than 18.7 inches. While the USFS claims that recent fires have created "extensive" areas of snags, the agency has yet to show what the average diameter of these snags are. If snag diameters are similar to live tree diameters on the BHNF, then it is highly likely that densities of large diameter snags even in burned areas are extremely low and likely below the needs of the black-backed woodpecker, Lewis's woodpecker, and others. Although black-backed woodpeckers have been found in the Jasper burn area, it is interesting to note that populations have been declining significantly in the last two years (Panjabi 2004). Adding to the concern over the inadequacies of existing densities of large diameter snags is the fact that snag recruitment will invariably produce fewer and fewer large diameter snags as the BHNF continues to experience extensive logging and thinning. To address the shortages of large diameter trees, there needs to be sufficient numbers of large diameter trees. Yet, the FEIS discloses that, in total, live trees greater than 15" dbh average only 9.4 per acre across the entire BHNF. Trees greater than 20" average only 1.3 per acre. Although if every tree greater than 15" were to die tomorrow and become snags, some of the problems may be solved, this is not what happens in reality. In reality, mortality	

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	is a slow process. While the FEIS presents no estimate of mortality rates, we have seen estimates in project-level EAs of less than one tree per acre per year. Thus, even by existing mortality rates, it is likely that sufficient numbers of large diameter snags will not come into existence for years to come. However, this would only happen if stands were unmanaged. As it is, the USFS intensively manages the BHNF and is proposing to increase logging and thinning under the Phase II Amendment. The goal, as the USFS has stated on numerous occasions, is to reduce tree mortality. Logically, this would mean that forest management would reduce mortality rates, making it even less likely that sufficient large diameter snags will be produced within a reasonable timeframe. Furthermore, logging invariably targets large diameter trees. Thus, even though there may be sufficient large diameter trees to ensure future creation of sufficient densities of large diameter snags, logging ultimately removes many of these trees and, in combination with the associated mortality rate reductions, artificially keeps both the numbers of large diameter live trees and large diameter snags depressed (the snags more so). Ultimately, the Phase II Amendment is a recipe for further reductions in already much-reduced large diameter snag densities for decades to come. **Snag Persistence** Casting the efficacy of any snag retention standards into doubt, however, especially in relation to the retention of large diameter snags, is information that suggests snag persistence is seriously jeopardized when stands of trees are logged or thinned. Indeed, although the USFS claims that snag persistence averages around 15 years, a review of data relies upon by the USFS suggests that this is not uniformly the case. In a statement by Brian Brademeyer, a local resident of the Black Hills and a civil engineer who graduated from the Massachusetts Institute of Technology, found that, based on Lentile et al. (2002), logging and thinning significantly reduce snag longevity. Based on simple math, Brademeyer found that, based on the data in Lentile et al. (2000), snag persistence is negatively correlated with basal area. In other words, snag persistence decreases as basal area decreases. Brademeyer found, for instance, that an existing 100-year old snag could be expected to persist for less than one year (only 7 months) after thinning a stand down to 40 basal area, even without direct damage to the snag through logging. By way of comparison, a 250-year old tree dying in an old-	

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	growth stand of 150 basal area could be expected to provide snag habitat for an average of 49.8 years, 4 times as long as a 100-year old tree. Similarly, reducing an existing stand (say 100-year old trees) from 110 basal area to 40 basal area would literally decimate existing snag habitat, reducing the future lives of existing snag from 6 years down to 7 months. The statement of Brian Brademeyer is attached to these comments as Appendix B. Because the USFS assumes uniform snag persistence across the BHNF, the agency has prepared a flawed FEIS with regards to the analysis and assessment of impacts to snags and snag-dependent species of wildlife. Because the BHNF is so intensively managed, with most of the forest experiencing logging and thinning within the last 20 years, it can be expected that snag persistence has been significantly reduced. This would explain the extremely low snag densities. In addition, it also casts doubt as to whether proposed snag retention measures are sufficient. Even if snags Other factors that affect snag persistence include snag removal for safety reasons, illegal firewood cutting, and inadvertently knocking down snags during timber harvesting operations. None of these impacts are addressed in the FEIS. **Old Growth and Old Growth Dependent Species** Currently, there is a serious shortage of old growth forest on the BHNF. We consider old growth to be stands of older, dense trees with abundant snags and down woody debris. On a very basic level, this may equate to stands of SS 5. However, stands of SS 5 comprise less than 1.5% of the entire BHNF landscape. This poses serious dilemmas for old-growth dependent species of wildlife, such as goshawk, pygmy nuthatch, and American marten. Indeed, there is a general positive correlation between pygmy nuthatches and the diameter (dbh) of pine trees (Rosenstock 1996, as cited in Ghalambor 2003). Rosenstock (1996) found a general positive correlation between pygmy nuthatches and the diameter of pine trees. Currently, large diameter trees are extremely scarce on the BHNF, likely contributing to the scarcity of the pygmy nuthatch. In addition, American marten are extremely dependent on dense canopy cover and abundant down woody debris, both typically associated with old growth forest (Buskirk 2002). The northern goshawk requires old growth forest for nesting (Erickson 1987, Greenwald 2004). Unfortunately, the Phase II Amendment does nothing to protect or restore actual old growth forest habitat. Although late successional landscapes are designated,	

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	these areas do not consist entirely of old growth. Thus, to say that late successional areas provide sufficient habitat is like saying apples are oranges. Furthermore, proposed structural stage objectives are only objectives and do not require that any level of SS 5 be retained or restored. As the USFS is proposing to increase logging and thinning, the future of old growth forest on the BHNF is cast into doubt and with it, the fate of old growth dependent species of wildlife. Although the USFS may claim that more logging or thinning will lead to the quicker development of old growth, this myopic view of the BHNF is fundamentally flawed. For one thing, while thinning may lead to quicker tree growth, there is no measure in place that ensures that the tree will not be cut for timber at some point down the road. Secondly, old growth is characterized by abundant snags, not simply large diameter trees. Thinning or logging by their nature reduce snags by reducing basal area and reduce future snag recruitment by inhibiting tree mortality. Furthermore, by logging or thinning, the USFS is reducing down woody debris availability, which is also a component of old growth forest. Finally, studies have found that species like the brown creeper, fringed myotis, and northern goshawk are sensitive to disturbance (see e.g., Anderson and Crompton 2002). The brown creeper in particular is not found in logged areas. By logging or thinning stands to create large diameter trees, the USFS is directly rendering such habitat unusable for many old growth dependent species of wildlife. The Phase II Amendment does not explicitly protect and restore old growth forest habitat and as such, fails to ensure the viability of old growth dependent species of wildlife. **Fragmentation** The FEIS is surprisingly silent on the concern of forest fragmentation. This, despite the fact that the Chief specifically pointed to the failure of the 1997 Revised BHNF LRMP and FEIS to appropriately address fragmentation in the context of providing habitat sufficient to ensure viable populations of wildlife. This is further surprising given recent scientific information that has come out not only criticizing the 1997 Revised BHNF LRMP for failing to adequately analyze and assess fragmentation impacts, but also raising serious concerns over the impacts of fragmentation to wildlife in the BHNF. After conducting a thorough analysis of fragmentation in the northern Black Hills, Shinneman and Baker (2000) specifically criticize the fragmentation	

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	"analysis" in the 1997 Revised BHNF LRMP, stating: Although the U.S. Forest Service made an effort to duplicate our landscape structure analysis methods in the Black Hills National Forest Final Environmental Impact Statement (Price, *unpublished manuscript*; USDA Forest Service 1996b), this 'revised' version of our research failed to adequately identify important patch characteristics, incorrectly measured landscape structure, did not compare the current managed landscape structure to pre-EuroAmerican landscapes, and ignored the spatial status of old growth forests altogether (D.J. Shinneman, *unpublished manuscript*). These inadequate analyses, combined with a lack of comprehensive digitized spatial data for forest harvest activities, initial over-estimations of old-growth, and under-estimations of the spatial extent of road impacts, have probably led to the misinterpretations of the current forest structural conditions on the Black Hills. (p. 331) The two make the following recommendations for addressing fragmentation in the BHNF, stating: In contrast to USFS recommendations, our analysis suggests that restoration of the Black Hills National Forest landscape to its range of natural variability will require: (1) restoration and maintenance of some large patches in order to regain large interior areas, (2) restoration of large areas of dense old-growth forest in order to increase rare interior old-growth habitat, (3) a strategy for road closures, as well as careful site selection for new roads, to reduce road edge habitat on the landscape, and (4) a management plan that maintains or restores connectivity between large core areas with similar habitat in order to reduce the degree of habitat isolation for species dependent on habitats such as old-growth forest (e.g., Noss and Harris 1986). (p. 332) As of yet, we are waiting to see the USFS give the findings and recommendations of Shinneman and Baker (2000) any serious consideration. The Phase II Amendment does not attempt to address fragmentation and restore fragmented landscapes. There is no identification of areas with large amounts of old growth that could be maintained and restored, there is no attempt to restore large areas of dense old growth forest (see, Improper Reliance on Goals, Objectives, and Guidelines discussion above), no strategy for road closures, and no attempt to maintain or restore connectivity between large core areas with similar habitat. As responsible opposing views, their scientific findings at least deserve substantial treatment, especially in the context of ensuring viable	

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	populations and meeting the diversity mandate of NFMA, and their recommendations deserve full, careful, and objective consideration. In the context of wildlife populations, fragmentation is indeed a serious concern. Habitat fragmentation can isolate and reduce populations of less mobile species, such as Black Hills red-backed vole (*Clethrionomys gapperi brevicaudus*) and Black Hills flying squirrel (*Glaucomys sabrinus*), making them more vulnerable to stochastic events, which can in turn be exacerbated by habitat degradation (Wilcox and Murphy 1985, Lande 1993, Ruggiero et al. 1994, Couvet 2002, Carroll et al. 2004). Both the red-backed vole and flying squirrel have been found to be negatively impacted by habitat fragmentation (Nordyke and Buskirk 1991, Waters and Zabel 1995, Beauvais 1997, Martin and Anthony 1999, Reunanen et al. 2000). In addition, the pine marten, a sensitive species on the BHNF, requires dense canopy cover for habitat, also making the species sensitive to fragmentation (Buskirk 2002). In addition, fragmentation raises serious concerns over the genetic fitness of populations of wildlife on the BHNF. Fragmentation can lead to detrimental inbreeding and a build up of mildly deleterious mutations, both of which can impair population survival (Lacy 1987, Couvet 2002). On the Black Hills in particular, fragmentation is reported to be negatively impacting the brown creeper, a proposed management indicator species ("MIS") (Anderson and Crompton 2002). Virtually echoing the concerns of Shinneman and Baker (2000), Anderson and Crompton (2002) state that to ensure protection of the brown creeper across the BHNF landscape, "large tracts of unlogged, mature forest should be retained throughout the Black Hills" (p. 372). The two continue: These areas contain the habitat characteristics associated with many timber-gleaning insectivores and ovenbirds. As the landscape becomes more fragmented, the value of large contiguous tracts of dense forest will become increasingly important to maintain populations of interior-dwelling birds. (Id.) Fragmentation therefore warrants thorough and additional consideration and analysis in the FEIS. In the context of maintaining viable populations, the USFS must, as Anderson and Crompton (2002) recommend, retain large tracts of unlogged, mature forest. As proposed, the Phase II Amendment does not do this. And, neither alternative specifically addresses the need to retain mature forest of particular patch sizes. Thus, the ability of the Phase II Amendment to	

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	ensure viable populations of species sensitive to fragmentation, such as brown creeper, Black Hills red-backed vole, Black Hills flying squirrel, and pine marten, is very much unsupported. **Management Indicator Species** Population objectives for management indicator species are not supported by scientific literature or by any other analysis or information. Indeed, recent studies have concluded that to maintain a viable population of a vertebrate species, sufficient habitat should be provided to support at least 7,000 breeding adults (e.g., Reed et al. 2003, 2004). For the black-backed woodpecker and golden-crowned kinglet, the USFS's proposed population objectives are below 7,000, the minimum viable number as recognized in the scientific literature. It is unclear how the USFS believes it is complying with laws and regulations if its objective is to maintain unviable populations. Similarly, population objectives for yellowthroat allow for 6,000 individuals. Obviously, the number of reproductive individuals would be much lower. Furthermore, it is unclear whether the population objectives are based on total individuals or reproductive individuals. If the objectives are based on total individuals, then the actual number of breeding individuals may be much lower, perhaps lower than 7,000. As it is, the NFMA regulations define viable populations based on number of reproductive individuals. The USFS needs to explain how proposed MIS population objectives relate to numbers of reproductive individuals in order to support the numbers as valid and representative of viable populations. As it is, the USFS has not even shown that current populations of MIS are viable, or in other words that a sufficient number of reproductive individuals exist to ensure the species continue to exist well distributed on the BHNF. As a basic critique, the USFS has not even shown that current populations of breeding adults are at 7,000 or higher. The Phase II Amendment also fails to provide for the monitoring of MIS populations as required by regulation. **Viability of Sensitive Species** The USFS fails to adequately analyze and assess impacts to sensitive species, rendering its viability determinations unsupported and arbitrary and capricious. In particular, for most, if not all, sensitive species, the USFS fails to provide information disclosing the current population sizes of sensitive species, in	

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	particular the number of reproductive adults, the current distribution of populations of sensitive species, and fails to disclose whether these populations correlate to a viable population as defined at 36 CFR § 219.19. The agency's determination that viable populations of sensitive species will be maintained is thus, invalid. The FEIS and the USFS's viability determinations also seem to rely heavily on an assessment of habitat based only on the amount of forest in a particular habitat structural stage. While not called "habitat capability model," or "HABCAP," this method of analyzing and assessing impacts seems to be essentially the same thing. Yet, there is no support of its effectiveness in adequately analyzing and assessing impacts to sensitive species, especially snag-dependent sensitive species. Given that snag densities are below what several wildlife species need, that snag diameters are below what several wildlife species need, and that snag persistence is exceedingly short in managed stands, it is difficult, if not impossible, to understand how a simple measure of how much SS 4C, 4B, etc. exists on the BHNF can provide any insight into the status of habitat for snag-dependent sensitive species. In addition, cumulative impacts are poorly addressed. Of particular concern is that through virtually every project level decision, the USFS discloses that individual sensitive species will be impacted, but that their populations will not be affected. Yet, these impacts to individuals add up and, as cumulative impacts to sensitive species, must be addressed in the Phase II Amendment biological evaluation. Another concern is that the Phase II Amendment does not explicitly require the maintenance of viable populations. No Standard exists that requires the USFS to maintain viable populations. We request the USFS include a Standard that requires that sufficient habitat be provided to ensure viable populations of sensitive species be maintained in accordance with 36 CFR § 219.19 and relevant USFS policy. **Viability, Management of Species of Local Concern** The Phase II Amendment fails to provide sufficient direction to ensure the viability of species of local concern and the FEIS fails to adequately analyze and assess impacts to species of local concern. Of particular concern is that the USFS has not gathered baseline population data for virtually every species of local concern to determine whether or not viable populations exist in the first	

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	place. The USFS seems to be operating under the unsupported assumptions that populations are automatically viable because the agency says so. This is an invalid approach to ensuring species viability for species of local concern. Because the USFS lacks basic population data and has failed to even assess whether viable populations exist in the first place, the USFS has no basis upon which to conclude the Phase II Amendment and any action alternative will maintain the viability of species of local concern. Furthermore, we strongly recommend the USFS adopt our proposed "Survey and Manage" standards, as proposed in the Conservation Alternative, rather than the species of local concern designation. The Survey and Manage standards have been adopted on other National Forests. A copy of the description of these Standards as applied on other National Forests is attached to these comments as Appendix C so that the USFS can understand how and why they are applied. **Marten** The Phase II Amendment promises entirely inadequate protection for the marten. Part of the problem is that the USFS characterizes the ponderosa pine forests of the Black Hills as a "low-severity" fire regime. This characterization is inconsistent with the needs of the marten. The marten depends upon complex forest structure near the ground provided by coarse woody debris and/or tree branches and facilitated by long fire return intervals (Buskirk 2002). According to Buskirk (2002): In the West, martens tend to select for moist-site tree species that grow in stands characterized by living branches on the lower boles of trees, abundant coarse woody debris (CWD), and lengthy fire-return intervals. (p. 14) Buskirk elaborates (2002): …the accumulation of CWD reflects long fire-return intervals, because large logs result from old trees. Structure near the ground fulfills the need by martens for protection from predators, access to subnivean spaces in winter, and protected resting sites (Buskirk and Ruggiero 1994). (p. 15) Thus, the presence of the marten is an indication that some, if not most, ponderosa pine forest in the Black Hills is in a mixed-severity fire regime, or one characterized by relatively infrequent stand-replacing fires. Although the marten prefers white spruce, Buskirk (2002) reports that it is impossible for the marten not to utilize ponderosa pine forest, especially more mesic sites, in the BHNF given the extremely low abundance and fragmented nature of white spruce forest	

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	in the Hills. The habitat needs of the marten raise concerns that, by pushing for increased logging and thinning and erroneously operating under the assumption that the ponderosa pine forest of the Black Hills should be entirely "open and park-like," the USFS will push the marten to extirpation. Compounding this is that the USFS has not addressed the impacts of forest fragmentation to the marten and is not proposing any direction to restore fragmented landscapes in the BHNF under the Phase II Amendment. Indeed, no Standard under the Phase II Amendment addresses the need to protect or restore habitat connectivity to ensure the marten persists. As it is, by relying on structural stage objectives, the USFS is essentially disavowing any responsibility to the marten and its habitat and is not meeting its diversity and viability requirements with regards to the marten. **Northern Goshawk** The Phase II Amendment is an utter disappointment with regards to management of the northern goshawk. As proposed, the Amendment takes a huge step backwards in terms of protecting, nesting, post-fledging, and foraging habitat for the northern goshawk. Of particular concern is that habitat is already seriously limited on the BHNF. As discussed above, stands of dense, old growth forest are extremely scarce on the BHNF, large diameter trees are extremely scarce, densities of large diameter snags are extremely low, and disturbance is widespread. Adding to this the recent loss of habitat as a result of fires, nest vandalism, storm damage, and windthrow, the goshawk is facing an uphill battle to survive in the BHNF. These cumulative impacts are not appropriately assessed in the FEIS. In addition, the Phase I Amendment provided entirely inadequate protection for the northern goshawk and its habitat. The lack of substantive nesting habitat protection under the Phase I Amendment is of particular concern because there exists a serious shortage of suitable nesting habitat on the BHNF. Indeed, old growth forest, which is preferred as nesting habitat by the northern goshawk throughout the western United States (e.g., Kennedy 2003, Greenwald et al. in press), comprises less than 1.5% of the entire BHNF and a fraction of this is likely even suitable for nesting. Goshawks in the Black Hills select nest sites that are in even aged, old growth ponderosa pine stands (Erickson 1987). Specifically, Erickson (1987) explained: Generally, goshawks in the Black Hills National Forest can be found above 1550	

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	meters elevation, on gently sloping benches within ponderosa pine stands that face west-northwest. The nest tree can usually be found within 100 meters of a logging road or forest opening. Nest site basal area within the stand ranges from 29.97 m^2/ha to 56.32 m^2/ha. Mean tree size at the nest site ranged from 19.5 to 41.3 cm (dbh). Canopy coverage within the stand was found to range from 59.8 to 85.0 percent. Total understory coverage at the nest site varied from 3.65 to 130.3 percent. (p. 27) The Southwest Guidelines indicate ponderosa pine stands in Vegetation Structural Stage ("VSS") 5 with 40% or more canopy cover and VSS 6, or ponderosa pine stands 16-22" DBH compose goshawk nesting habitat (Reynolds et al. 1992). According to the 2000 Phase I Goshawk Analysis prepared for the Phase I Forest Plan Amendment, this equates to mid-range VSS 5 (i.e., VSS 550 or 560), and VSS 6 (USFS 2000a), which may also represent the nest site characteristics reported by Erickson (1987). Under the Phase I Amendment, PFAs should have 15-25% of their area in VSS 6 and 15-25% of their area in VSS 5. Yet, virtually every designated PFA on the BHNF has no VSS 6 and inadequate VSS 5 (e.g., USFS 2004a, 2004b). As a result of the lack of hard, substantive nesting habitat protection, the USFS has unfortunately actively reduced potential and/or existing nesting habitat in PFAs through several projects, favoring the creation of overly represented, early successional habitats, such as VSS 1, 2, and 3. Although habitat in VSS 1, 2, and 3 may be utilized by northern goshawks, such utilization is contingent upon the existence of adequate and suitable nesting habitat. By managing strictly for early successional habitat and inhibiting the creation of future nesting habitat, the USFS has been ensuring the eventual demise of the northern goshawk on the BHNF. Thus, to ensure the viability of the northern goshawk on the BHNF, the Phase II Amendment must provide for the protection and creation of nesting habitat. Unfortunately, the Phase II Amendment entirely fails to do so. To begin with, the Phase II Amendment provides no protection for goshawk post fledging habitat, which was a key principal of the Phase I Amendment. Although there has been no research on post-fledging habitats in the Black Hills specifically, research throughout the west has consistently demonstrated that the northern goshawk utilize a post-fledging area that consists primarily of old growth forest (Kennedy 2003). It is unclear why the USFS decided to reject managing for goshawk post-fledging areas on the BHNF. Secondly, the USFS relies heavily,	

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	if not entirely, upon structural stage objectives to ensure adequate goshawk habitat is protected and/or created across the landscape. As discussed earlier, these objectives provide for no measurable results, are entirely discretionary, and therefore provide no actual benefits to the northern goshawk or its habitat. Thirdly, the USFS is proposing only to protect known nest sites, and then only 180 acres of "best suited" habitat around these nests. This is a wholly irresponsible. For one thing, nothing in the Phase II Amendment requires surveys to ascertain the presence of nest sites, so in all likelihood occupied nesting habitat will be impacted by future logging and thinning. In addition, by limiting attention to only known nest sites invariably means that the USFS will be managing for no nesting habitat. In essence, as known nest sites are lost to fire, windthrow, vandalism, etc. the USFS has no measure in place to compensate that loss through the protection of suitable habitat. Once an active nest site is gone, its loss is permanent and that habitat will no longer be protected. Ultimately, this will mean the USFS will manage for no goshawk nesting habitat in the BHNF. In addition, the proposed Phase II Amendment does not explicitly prohibit disturbance of goshawk nest sites. Standard 3111 is, to say the least, biologically absurd. To begin with, the Standard only requires disturbance to be "minimized," so therefore ensures no level of actual protection from disturbance. Next, the Standard only limits disturbance "beyond that occurring at the time of nest initiation." This Standard therefore lacks any substantive protection. For one thing, there is no monitoring mechanism in place or proposed to ensure the USFS will be able to understand what disturbances were occurring at the time of nest initiation. As it is, it is difficult, if not impossible, to understand how the USFS intends to be able to determine when nest initiation occurs at every active goshawk nest on the BHNF in order to ensure disturbances do not occur "beyond that occurring at the time of nest initiation." Finally, even if disturbance may be occurring at the time of nest initiation, this doesn't mean that it is healthy or will not negatively impact northern goshawk.. Kennedy (2003) states, "Human disturbance associated with forest management and other activities may affect goshawks and can cause nest failure, especially during incubation (Boal and Mannan 1994, Squires and Reynolds 1997). Camping near nests has caused nest failure (Speiser 1992)" (p. 144). Thus, even if nests are "initiated," human disturbance could cause nest failure during incubation or otherwise cause	

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	breeding pairs to unsuccessfully reproduce. It is irresponsible for the USFS to allow disturbance around goshawk nest sites period from March 1 through August 31. Of greatest concern is that the Phase II Amendment lacks a landscape approach to goshawk habitat protection. A landscape approach was recommended by experts during the Phase I Amendment (USFS 2000b) and considered during the Phase I Amendment process, but was subsequently rejected by the USFS, partly because the Phase I Amendment was only interim management direction. Why the USFS ignored expert recommendations and refused to propose landscape level habitat protection is beyond us. However, it is a strong sign the USFS has failed to provide adequate protection for the goshawk and its habitat on the BHNF. Compounding the failure to provide adequate nesting habitat through the Phase II Amendment is that the USFS is also failing to provide for adequate foraging habitat. Indeed, by failing to appropriately manage for abundant, large diameter snags, down woody debris, and large diameter trees, the USFS is failing to ensure adequate habitat for prey species. Kennedy (2003) states: Although the species on which goshawks prey vary among forest types and regions, there are a few habitat features that appear to be important to a variety of prey species (Reynolds et al. 1992, USFWS 1998b). These features include snags, downed logs (> 30 cm in diameter and 2.4 m long), large trees (> 46 cm in diameter), openings and associated herbaceous and shrubby vegetation, interspersion, and canopy cover. (p. 102) Unfortunately, current conditions on the BHNF are such that snags of sufficient diameters are relatively scarce, large diameter trees are lacking, and down woody debris is not abundant or well distributed. Compounding this problem is that the proposed Phase II Amendment, be prescribing increased logging and thinning, will only exacerbate snag shortages, lead to further reductions in large diameter trees, and inhibit down woody debris recruitment. In addition, even if goals, objectives, or guidelines could provide the habitat the USFS claims, it is unclear whether this will, in fact, lead to viable populations of northern goshawk. Indeed, there is no information suggesting that nesting habitat, as defined by Erickson (1987), will be provided in sufficient patch sizes for nesting or that it will be well distributed across the BHNF. There is no spatial context for the USFS's assertion that sufficient habitat will be provided to	

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	ensure goshawk viability. Furthermore, there is no spatial context for population use of habitat on the BHNF and thus, no basis for the USFS to conclude that northern goshawk will even utilize much of the potentially suitable nesting habitat that exists in the BHNF. In fact, studies have criticized the use of simple measures of habitat quality to assess population viability without the use of spatially explicit population models in relation to the northern goshawk (Lawler and Schumaker 2004). Finally, the USFS has failed to demonstrate that northern goshawk populations are currently viable according to regulations. Of particular concern is that reports indicate the Black Hills should be capable of supporting at least 300 breeding pairs of northern goshawk. In an article in the March 1998 issue of Wyoming Wildlife, USFS scientist Richard Reynolds was quote as saying: I've been out on the Black Hills [National Forest], and they've got an area that's at least three or four times as big as the Kaibab Plateau, and they say, 'We've got birds everywhere!' And I say, 'Well, how many do you have?' And they say, 'Oh, we've got twenty or thirty pairs.' And I say, 'Wait a minute; you've got enough area for probably 300 pairs. (Madson 1998, p. 35) However, the problem with the FEIS is that there is no actual population data even provided that shows a sufficient number of reproductive individuals exist to ensure the species' long-term survival. There certainly is no data suggesting that 300 pairs inhabit the BHNF. Although the USFS cites the number of "active" nests in the Biological Evaluation, there is no information or analysis presented or referenced that shows how such data correlates to a viable population in terms of number of reproductive individuals. Adding to this the failure of the USFS to ensure even basic protection and much-needed restoration of nesting, post-fledging, and foraging habitat, the agency is admittedly failing to ensure the viability of the northern goshawk. **Snail Species of Concern** The USFS states in Chapter 1 of the DEA that: The Frest Report did not substantiate the allegations of habitat modifications or reference particular areas or habitats where snails were documented to have been lost. Additional surveys have been conducted under the Black Hills Monitoring guide and by researchers. New information suggests that the snail colonies may be dynamic, and that new colonies of snails were located. (p. 1-15) The USFS must be seriously confused. Frest and Johannes (2002) reported	

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	visiting hundreds of survey sites throughout the BHNF and described the conditions at every survey site. For many sites, habitat was so degraded, snail species of concern could not be found. In other areas, habitat degradation had obviously occurred, such as a site where poor fence maintenance allowed cattle to trample a snail species of concern colony. Losses of colonies were also reported. Did the USFS even read this report? If not, that would be very disappointing since the agency paid for it. Nevertheless, this sentence is a telling introduction into the incredibly flawed analysis of the Phase II Amendment upon snail species of concern. Compounding this flawed analysis is the fact that the Phase II Amendment provides no mechanism that actually ensures the protection of colonies of snail species of concern. No specific measures are provided. This is a serious departure from previous direction and there is no explanation as to why the USFS has proposed to eliminate protections for snail species of concern. Indeed, other National Forests have taken their duty to protect diversity, including terrestrial mollusks, very seriously (see e.g., Burke et al. 1999). We cannot understand why the USFS has not undertaken a similar effort as Burke et al. (1999) in terms of developing appropriate management recommendations for snail species of concern on the BHNF. Regardless, we recommend that the recommendations of Burke et al. (1999), especially those related to *Oreohelix* and *Vertigo* species, be applied to the snails in the BHNF. To say the least, the FEIS presents a paltry analysis of impacts to snail species of concern, especially *Oreohelix* species of concern. The USFS does not verify its reports of "new colonies," whether these new colonies are viable are even abundant, and does not explain which *Oreohelix* species are found at any of these "new" colonies. In fact, the USFS seems to outright reject the proposed taxonomic conclusions put forth by Frest and Johannes (2002). As the two report, the BHNF supports three endemic *Oreohelix* species: The Black Hills mountainsnail (*Oreohelix cooperi*), the Pahasapa mountainsnail (*Oreohelix* n. sp. 1), and Bear Lodge mountainsnail (*Oreohelix* n. sp. 2). Frest and Johannes (2002) provide a detailed discussion as to why they propose these taxonomic distinctions, including comparisons with other related species, anatomical data, and morphometrics. The discussion is similar, if not more thorough, than what is typically found in a published journal (see e.g., Fairbanks 1984). In addition, Frest and Johannes (2002) discuss the obvious concerns over the validity of the	

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	Oreohelix strigosa species given the fact that the species is not found in its reported type locality. The only reason these descriptions haven't been published is due to a lack of resources—it costs money to publish, so scientists, especially malacologists who are so few to begin with, prioritize their efforts. The FEIS does not even mention the Bear Lodge mountainsnail, nor does the Phase II Amendment propose any special designation. This is of serious concern since only 6 extant colonies of the species are known from the Bear Lodge mountains (Frest and Johannes 2002). Previously, this species was believed to be *Oreohelix strigosa berryi*. There is no explanation in the FEIS as to why the USFS believes the species doesn't warrant conservation attention or why it all of a sudden believes it does not exist. The FEIS further lumps the Black Hills and Pahasapa mountainsnail as one species. No explanation can be found in the FEIS for why the USFS chose to do this. In other words, the USFS has entirely failed to explain why it ignored relevant and substantial scientific information regarding the taxonomy of *Oreohelix* species in the BHNF. By ignoring relevant taxonomic information, the USFS has failed to adequately assess impacts to *Oreohelix* species of concern. This is of particular concern given the fact that snails are considered to be ecological indicator species and attention to their status should be a priority for land managers (Niwa et al. 2001). While the USFS is obviously abusing its discretion in rejecting scientific conclusions made by the Frest and Johannes (1993 and 2002) reports (indeed, the agency could simply call Dr. Terrence Frest at (206) 527-6764, which is the phone number of Deixis Consultants displayed on the cover of Frest and Johannes (2002)), we feel it is necessary to include in our comments our petition to list the Black Hills mountainsnail under the Endangered Species Act, which was submitted in September of 2003 and is currently being litigated to compel the Secretary of the Interior to review it. This petition is attached as Appendix D. This petition presents a substantial synthesis of the status of this species and its habitat, threats facing the species, and problems in current management. The petition is a collection of the best available scientific information, which the standard used by the Endangered Species Act. Apparently the USFS uses the "best available science the agency likes" standard. In any event, we request the following information be considered as comments on the Phase II Amendment in relation to its ability to protect *Oreohelix* species of concern and specifically, the Black Hills mountainsnail. In particular, we request the comments be used	

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	to ensure the FEIS presents an adequate analysis and assessment of impacts to the Black Hills mountainsnail, to ensure the Phase II provides adequate direction, and to ensure the USFS utilizes accurate information to make a well-informed, biologically sound, and legally adequate decision under the Phase II Amendment. We also caution that if the USFS continues to take this tact with regards to rare snails in the BHNF, the agency should expect more petitions to be filed. Indeed, the Endangered Species Act exists for this reason, to ensure agencies do not inappropriately ignore the status of species threatened with endangerment or extinction. **Mountain Pine Beetle** We seriously question the USFS's assumption that simple reductions in stand density will reduce mountain pine beetle risk on the BHNF. Not only has extensive past logging apparently failed to lessen the risk of future pine beetle infestation, but studies have found that infestation is not a function of stand density in the Black Hills. In a study of mountain pine beetle risk in thinned and unthinned stands on the BHNF, Schmid et al. (1991) found that there appears to be no relationship solely between stand density (i.e., basal area) and mountain pine beetle risk and susceptibility. Schmid et al. (1991) state: The success of partial cutting in reducing MPB-caused mortality is frequently attributed to the change in host resistance created by the reduction in stand density (Mitchell et al. 1983). The relatively equal but moderate to severe stress levels among GSLs [growing-stock levels] observed in this study suggests that host resistance would be relatively equal among our GSLs. If host resistance is relatively equal, then differential MPB-caused mortality among various GSLs must be influenced by other factors, such as microclimate, as suggested by Bartos and Amman (1989). Host resistance by itself may not be totally responsible for the differential mortality. (p. 754) The FEIS does not address the possibility that mountain pine beetle risk is not related to stand density and consequently, fails to adequately analyze and assess the impacts of the Phase II Amendment to mountain pine beetle risk. In addition, because risk is not entirely related to stand density, the USFS's assumptions underlying the Phase II Amendment, namely that logging or thinning are needed to address any purported mountain pine beetle risk, are unsupported. **Riparian and Wetland Habitat**	

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	Cumulative impacts to riparian and wetland habitats are not appropriately analyzed or assessed. Despite disclosing widespread loss and degradation, the USFS seems to imply that such losses and degradation are not significant impacts, nor are they affecting the viability of native species. This is especially of concern given that the decline and degradation of wetland and riparian habitats has negatively impacted the northern leopard frog, a sensitive species on the BHNF (Smith 2003). In addition, the best available scientific data strongly indicates riparian and wetland habitat loss and degradation is negatively impacting the Bear Lodge meadow jumping mouse (Center for Native Ecosystems et al. 2004). We have attached comments summarizing the status of the Bear Lodge meadow jumping mouse as Appendix E and request these comments be reviewed for the purposes of ensuring the Phase II Amendment adequately protects wetland and riparian habitat and adequately analyzes and assesses impacts to riparian and wetland habitat. The FEIS therefore entirely fails to adequately analyze and assess the impacts of riparian and wetland habitat loss and degradation. The FEIS seems to assume that current conditions are not negatively impacting native species or their habitats, which is entirely inappropriate. Adding to this is that there are no specific Standards proposed through the Phase II Amendment that requires any level of riparian and wetland habitat restoration and that actually prohibits degradation of riparian habitat. In fact, the Phase II Amendment explicitly allows domestic livestock grazing, logging, road building, and mining in riparian habitats, regardless of the impacts. This does not serve to ensure the viability of native species and their habitats. **Water Quality, Failure to Demonstrate Effectiveness of BMPs, Compliance with Clean Water Act and State Water Quality Rules** The FEIS asserts that water quality will be protected through implementation of Best Management Practices ("BMPs") and Watershed Conservation Practices, yet there is no analysis or information provide to support this assertion. Of particular concern is that such measures are inadequate to protect native fish populations, such as those of the lake chub and mountain sucker. Indeed, BMPs and Watershed Conservation Practices do not expressly limit the influx of sediment into streams, do not limit road construction and off-road vehicle use within streams, and do not prohibit logging, domestic livestock grazing, or mining within aquatic habitats that may support populations of mountain sucker,	

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	lake chub, or finescale dace. The fact that mountain sucker and lake chub populations have declined (the lake chub precipitously) raises serious concerns that BMPs and Watershed Conservation Practices are indeed worthless in protecting these species and their habitats. Similarly, American dipper declines in the Black Hills are linked to water quality problems (Backlund 2001). The presence or absence of American dipper has been shown to be a reliable indicator of water quality (Feck and Hall 2004), thus its decline should be a strong indication that existing BMPs and WCPs are not adequately protecting aquatic habitats. We have attached our petition to list the Black Hills population of American dipper under the Endangered Species Act to these comments as Appendix F and request that the information presented be reviewed to objectively determine whether BMPs and WCPs adequately protect the dipper and its habitat. Furthermore, the USFS has not put forth any information or analysis showing BMPs to be effective when activities are undertaken on steep slopes, in areas with high mass wasting potentials, in areas that have experienced landslides, in recently burned areas, in areas that are already experiencing erosion, or in protecting streams listed under state 303(d) lists (i.e., the impaired list). Such condition are found in the BHNF. Thus, their blanket effectiveness is not only questionable, but is simply unsupported. It is difficult, if not impossible, to understand how their implementation will ensure protection of native fish populations and their habitat and will ensure compliance with state and federal water quality standards. In addition, the impacts of mining-related water pollution to fish and wildlife is entirely overlooked in the cumulative impacts discussions. May et al. (2001) and other studies have found that mining-related pollution is a significant problem in the Spearfish Creek, Whitewood Creek, and Bear Butte Creek drainages. May et al. (2001) specifically state: Analysis of water and sediment from Spearfish Creek, Whitewood Creek, and to a lesser extent Bear Butte Creek indicated contamination from various elements associated with gold mining operations in the Black Hills when compared to reference sites. (p. 8). The authors report, “Concentrations of numerous elements in sediment (As, Cd, Cu, Hg, Ni, Pb, Zn) were found to exceed EPA [Environmental Protection Agency] ET [ecotox thresholds], indicating the possibility of adverse ecological	

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	affects" (Id.). Clearly, the cumulative effects of mining-related water pollution are relevant, especially in the context of maintaining populations of fish and wildlife within these drainages. **The Phase II Amendment Lacks a Legally Sufficient Monitoring Plan** We can find no monitoring plan prescribed under the Phase II Amendment. Thus, we are unclear as to how the USFS proposes to ensure its meets its goals, objectives, standards, and guidelines. Of particular concern is that the Phase II Amendment does not provide for the monitoring of population trends of MIS, which is required by 36 CFR § 219.19(a)(6). In his appeal decision, the Chief specifically chastised the USFS for failing to provide for adequate MIS monitoring, stating: The Monitoring and Evaluation Strategy in the Revised Plan (Chapter 4) and the Monitoring Implementation Guide for the Plan (Vol. 84, pp. 1166-1222) are not species-specific for any MIS. With no quantified goals and objectives for many MIS and sensitive species or their habitat, and with unclear or un-documented monitoring objectives, it will be difficult to understand the meaning of any monitoring results. A significant purpose of Forest Plan monitoring is to help determine effectiveness of management strategies and to identify needed changes. (p. 51) The Phase II Amendment must provide for the monitoring of population trends of MIS as required by the Chief and as required by regulation. **The Phase II Amendment Calls for Unsustainable Logging** It is indefensible for the USFS to claim that sustainability is beyond the scope of the Phase II Amendment because all information indicates logging is currently unsustainable on the BHNF. Indeed, the allowable sale quantity ("ASQ") and sustained yield rate were calculated based on a suitable timber base that existed in 1997. This was before the Jasper Fire, Grizzly Gulch Fire, Elk Mountain Fires I and II, Battle Creek Fire, Roger's Shack Fire, Red Point Fire, and any other fires that occurred after 1997. As a result of these fires, the actual amount of timber available for harvest has decreased significantly. The loss of suitable timber, while not calculated in either the FEIS or anywhere else that we know of, must be around 10% or more. Although burned areas are still included in the suitable timber base, in reality, they support no timber. Thus, they cannot possibly contribute to the suitable timber base, yet the USFS is logging the BHNF as if they do.	

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	Therefore, proportionally, the USFS is actually logging more wood from the BHNF than ever before. Although the ASQ and sustained yield may be the same, because the number of trees on the BHNF landscape have decreased, they are, in essence, leading to higher yields. In other words, the USFS is logging at an unsustainable rate on the BHNF.	
7-46	Therefore, the FS must prepare an EIS for the Moskee timber sale in order to adequately address the potentially significant impacts of the timber sale to soils and waters.	See response to comment 7-3.
7-47	While the FS could choose to abandon the destructive components of the proposed Moskee timber sale in favor of ecological restoration within the timber sale area, we are not getting our hopes up. The agency has shown time and time again that providing commercial timber is an overriding priority in forest management on the BHNF, regardless of ecological concerns, species viability concerns, and regardless of the public's concerns. We are not trying to push the agency to do anything illegal or irrational, we are merely asking the FS to comply with laws and regulations and to manage the BHNF to protect the ecosystems therein using the best available scientific information. We feel this request to be more than reasonable and indeed, it has been recognized by Congress, the judicial branch of this government, the executive branch of this government, and by the citizens of this country to be so. We hope the agency chooses a different path with regards to the Moskee timber sale and sets a new and necessary standard of ecosystem management on the BHNF by pursuing alternatives that fully protect rare and imperiled native wildlife species and their habitats, that reduce the impacts of fragmentation and roads, that protect large tracts of dense, mature forest to ensure the creation of future old growth, and that fully considers the biological needs of native species.	Comment noted. The project analysis shows that all alternatives would comply with amended forest plan direction and applicable laws, regulations, and directives.
8-1	I am Concerned about N. goshawks nesting in the Moskee Timber Sale area. I hope you will set a large perimeter around these nests.	Protection of goshawk nesting areas is discussed in the Final EA, Appendix 4, pages 12-13.
8-2	I am also concerned about the large diversity of bird species in this area and that you will not depend on the Cheyenne Audubon Campout reports on birds in the area. These reports were flawed as the surveys were not done right.	The analysis used various sources of data (see Appendix 4, pages 1 and 6).
8-3	I hope you will consider the natural beauty of this area and you will leave large trees and you will see that large slash piles are not left. This is such a waste of	Disposal of slash piles is addressed on Draft EA pages 17-18. Distribution of large trees is addressed on Draft EA pages 71-72.

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	our forest.	Effects on scenery are addressed on Draft EA pages 127-131.
9a-1	Additional Comments on Moskee Project Please accept these comments in addition to those already submitted by Prairie Hills Audubon Society as co-signer on to Biodiversity Conservation Alliance's comment letter. Page numbers, There aren't page numbers in this document. Please provide some.	See response to comment 7-2.
9a-2	Maps: Please provide a map of pine structural stages under various alternatives. Thanks for providing a topographical map, however it is hard to read as it is obscured with maps of roads and treatment types. I suggest having a map of the topography with nothing or very little graphic marks over the base map. Please provide map of water bodies, wetlands and streams in addition to map of watersheds. Please also provide a map of the SIO and ROS classes for the area.	These maps are located in the Analysis File and will be provided to the commenting party.
9a-3	Thanks for providing maps of the roads. However the map of roads, vegetation treatments and topography are all on one maps. It is too busy. It is confusing to read. If one stares at it long enough one can figure it out, but it is not as clear as it could be. Some of these values could go on separate maps.	Vegetation treatments and roads are displayed on separate maps in the Final EA.
9a-4	Roads Thank you for planning to close 25 miles of unofficial roads in the area. If there are 26 miles of unofficial roads we hope you close all 26 miles of them. Please provide a map of the unofficial roads you are closing However we find that you are constructing 6.2 new miles and reconstructing 70.7 miles of road (which can mean 5-3 miles of re-alignment) and maintaining 6 miles. Please indicate which roads are being re-aligned and the reasons and impacts of that effort. This area has way too many roads and a high road density. We would like to see a much greater reduction in official forest service system roads in the preferred analysis	Maps 11, 12, and 13 in Appendix 1 to the Draft EA display unclassified roads proposed for decommissioning and the unclassified road proposed for conversion to snowmobile trail. Sections of NFSRs 808.1D and 808.2B would be realigned. These roads are shown on Maps 11 and 16 in Appendix 1 to the Final EA. About 0.9 mile of NFSR 808.1D is currently in a drainage bottom and would be moved approximately one-tenth of a mile to the north and out of the drainage. The southernmost 0.25 mile of NFSR 808.2B would be moved east out of a drainage bottom. Effects of these changes are described in Chapter 3 of the EA. The original route of these roads would be decommissioned. The project area is located in management areas 4.1 and 5.1, both of which emphasize resource production. The roads analysis for

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		this project determined that all classified roads not proposed for decommissioning may be needed for future resource management. Consideration of long-term needs is critical in transportation planning.
9a-5	Roads in 4.1 Classed areas Roads in the 4.1 areas are supposed to be closed, or at least most of them are. They are supposed to be native surfaced and low-grade types of roads. Please provide a discussion of the quality of the roads in the 4.1 area. There are way too many roads in the 4.1 area. Please especially decommission and close roads in this area.	As stated in forest plan guideline 4.1-9102, "Motorized road travel is limited to designated routes. Designated routes will vary over time based on the need to do vegetative management. Generally the road system will be closed to motorized travel." Most roads in MA 4.1 are proposed for year-round closure under all alternatives. Approximately 20 miles of roads would be closed year-round, 1.9 miles would be open year-round, and 2.4 miles would be open in winter as snowmobile trails. This proposal is consistent with the management emphasis of the area. Because roads may be needed for future resource management consistent with MA 4.1 emphasis, decommissioning of classified roads was not proposed. Reconnaissance notes indicate road condition in MA 4.1 varies with most roads requiring light reconditioning prior to use and others needing reconstruction to address rocky or rutted areas.
9a-6	Recreation A large part of this Project is a 4.1 area, which has a partial objective of management for non-motorized recreation. Unfortunately we can find no mention of goals or objectives of improving or maintaining its values that please the non-motorized recreators. The purpose and need is to move the area towards desired Forest Plan condition. How are you managing the area to meet its Forest Plan objectives for non-motorized users who are supposed to benefit from 4.1 areas? Why was this area chosen to be a 4.1 area. What special values does it have to offer this class of recreators? It has an ROS class of non-motorized rural, which ROS class was invented by the BHNF and does not exist in the ROS Users guide, thus we can't refer to that document for guidance on how to manage it. However we believe non-	The desired future condition for MA 4.1 includes: "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. "Tree groups of different sizes and heights are likely observed. Some recently cut areas show tree stumps, slash and disturbed soil, but within a few years the forest floor is covered with grasses and forbs. A full range of slash treatment options including management ignited prescribed burning are used to maintain forest health and productivity of the area. Other recently cut areas still have a partial canopy of older trees. The boundaries of these cut areas are designed to follow natural landscape patterns." The proposed action and alternatives would move the area toward

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	motorized users also value 1) long distances away from developed roads, 2) more primitive setting, 3) no ORVs, 4) low evidence of human impacts, 5) wildlife values and 6) pretty and unique scenery. We would like you to do a travel management plan for the 4.1 areas that mixes travel management with logging/burning management. Please think about how to manage the scenery along the routes you think the recreators will pass. I want you to think about the "evidence of humans" and how you will minimize that. We have repeated talked to the District about a plan to develop a system of backcountry and non-motorized trails leading into Sand Creek Roadless Area. In this vision Sand Creek RA is a core area for the Primitive and Semi-primitive ROS class with other areas around it buffering it and to also provide for the Semi-primitive non-motorized users. As this area is a 4.1 area it could connect into a trail system with Sand Creek. We have provided maps to various Forest Service folks to talk about this extensive trail system with Sand Creek as a core. When you isolate Tom Willems travel management planning from your timber sales, you can ruin SPNM values before travel management is completed. You do this by altering the "evidence of humans" and the road densities. We want a zone full of SPNM ROS class and quality non-motorized trails reaching north from the 4.1 area across the Balm of Gilead area, up through the Cement Ridge area, across Pole Cabin Gulch and eventually to Sand Creek. We have discussed this repeatedly with Forest Service staff. The Balm of Gilead area has some exceptional scenery, as does the Rifle Pit area. We think "non-motorized" recreation is not just about closing roads. You have to match closed roads with a landscape; with high quality of scenery and a richness of biodiversity and with a low "evidence of humans". Hiding "evidence of humans" means good recreation planning --- like leaving old trees in the landscape, having pristine riparian and wetland areas and meadows without giant slash piles etc. Non motorized and the more primitive ROS classes are the "Cinderella" children and you all are so busy worrying about fire and beetles that this non-motorized value is being basically ignored across the forest. I ask that this EA, look at the cumulative impacts to non-motorized recreation.	these desired conditions by minimizing motorized use. MA 4.1 direction includes measures to improve non-motorized recreation values by minimizing motorized use (goal 4.1-401, guidelines 4.1-5101 and 4.1-9102, and standard 4.1-9101). All action alternatives propose closure of most roads and of MA 4.1 to off-road motorized use, consistent with MA 4.1 direction. Designation of this area as MA 4.1 was part of the forest plan revision process in the mid-1990s. The area is appropriate for management as 4.1 due to its suitability for timber management and high degree of existing road closures. Prairie Hills Audubon Society and Nancy Hilding did not provide scoping comments for the Moskee project, and scoping did not raise issues that would have been resolved by the travel management proposals suggested in this comment. Development of a large-scale non-motorized trail system is not part of the purpose of and need for this project (Draft EA pages 9-14). The purpose and need does include providing non-motorized recreation opportunities (Draft EA page 12), which the action alternatives would address through road closures and decommissioning and implementation of an off-road motorized travel closure in MA 4.1. The Sand Creek area is outside the project area (approximately five miles to the north). The Black Hills National Forest travel management process currently under way is in the early stages. Eventual decisions made as part of this process could alter travel management in the project area. None of the alternatives would foreclose these options.
9a-7	SIO SIO are guidelines and were created during forest planning theoretically on a computer from overlays of various values at the SO, by Joby Timm, without	Review of scenic integrity objectives was not brought forth in any scoping input or other internal or external discussions or correspondence. All alternatives would be expected to meet

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	ground-truthing. Please review all existing SIO to see if they are correct and should be changed. Please especially look at the 4.1 area and the area that connects the 4.1 area to the Balm of Gilead area. We are concerned about the effects of "whole tree yarding" and large slash piles on the SIO. Please discuss how many meadows and other scenic places will now have large slash piles in them and how soon they will be burned or removed. After burning of the pile will you still have scatter limbs lying about? Please provide a quantitative as well as qualitative discussion of the slash effects.	assigned SIOs (Draft EA pages 128-131). As stated on Draft EA page 21, "Landings and slash piles would be located outside grasslands, meadows, and riparian areas where possible to protect vegetation and reduce loss of available forage." Treatment of slash piles is addressed on Draft EA page 18, #3. Slash piles would generally be burned or otherwise removed one to two years after harvest to allow drying. Whole-tree yarding is prohibited in certain areas but elsewhere is left to the discretion of timber sale operators and administrators. See also comments 5-5 and 6-6.
9a-8	We would like to see a chart of and analysis about the sizes and age classes of trees. We think there is no prohibition on removing large trees from the project in this EA. We don't see a size limit for harvest discussed anywhere. Please put a restriction on removal of large diameter trees. We suggest a limit of 16 inches DBH or smaller size – we want the large trees protected. We are concerned about removing large pines that are inclusions within aspen stands. Please leave these large yellow barks towering over the aspen stands in place.	Tree size classes are discussed in the sections on structural stage distribution and "very large" tree objectives (Draft EA pages 64, 66-67, 70-73). Age class distribution is discussed on Draft EA pages 67 and 72-73. The alternatives do not propose a diameter limit on trees to be cut. The analysis shows that trees at least 9" DBH would continue to dominate the project area under all alternatives (Draft EA pages 64, 66-67). In addition, stands dominated by trees over 16" DBH would increase (due to removal of some of the trees 9-16" DBH; Draft EA pages 70, 72-73). Thinning would retain larger trees and would be expected to increase tree growth. Removal of pine from aspen stands, proposed under Alternatives 3 and 4, would be a non-commercial treatment cutting only smaller trees.
9a-9	Grand Canyon and Wagon These roads have scenic vistas, which need protection. This includes not having large slash piles and retaining large yellow bark pines.	Much of the land along Grand Canyon and Wagon Canyon roads (NFSRs 875.1 and 805.3) is currently under private ownership. On NFS land, all alternatives would be expected to meet assigned SIOs (Draft EA pages 128-131).
9a-10	Aspen/Birch The FS repeatedly admits that aspen & birch provide a firebreak in some situations. Wyoming requested more hardwoods. However despite a "purpose and need" to move towards desired Forest Plan conditions, very little hardwood enhancement	See response to comment 2-1. Removal of pine within a buffer around aspen stands has been implemented in other projects such as Mineral (USFS 2005a). The Moskee project interdisciplinary team did not propose this

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	is happening. We support hardwood enhancement but not at the cost of losing late successional pine stands or stands with large, older trees, these are too rare. There are lots of stands of smaller pine on this forest that can be sacrificed to hardwood enhancement. A "hardwood restoration" could be a "hardwood enlargement" and could be to remove pine stands that encircle around aspen/birch. Thanks for the map of cover types, however please provide a map of both hardwoods and also of mixed stands. We need maps of mixed stands as the FS frequently classes mixed stands that are predominately aspen as pine cover type and thus we miss knowledge of areas with a substantial aspen/birch component. Your description may indicate that most mixed stands have young aspen. Can you map this value? Please indicate what percent of stands have a significant aspen/birch component. While increasing aspen/birch helps protect from fire and provides biodiversity, some of the largest and oldest yellow bark pine trees in the forest can be within aspen/birch stands. These old yellow barks, wherever they are, should be protected as we don't have many large yellow barks left and the visual juxtaposition of large yellow barks over aspen stands is lovely and provides biodiversity values.	treatment because aspen is widespread across the project area and forest plan direction in MAs 4.1 and 5.1 does not call for extensive conversion of pine stands to aspen. Hardwood cover types are shown on Map 6 in Draft EA Appendix 1. Draft EA page 7 states, "Aspen, oak, and birch are common understory components in many pine stands." According to vegetation data, there are 5,306 acres typed as pine in the project area with aspen understory. Aspen in these stands ranges from less than 1% to 27% of total cover. According to these data, there are no stands dominated by aspen that are typed as pine. A map of mixed stands is in section J011 of the Moskee Project Analysis File. Alternatives 3 and 4 propose removal of only non-commercial (smaller) pine from 1,000 acres of aspen.
9a-11	Purpose and Need and Recreation Within this area you have 4.1 management areas. You have the transportation system as a goal (Forest Plan Goal 4.1-401) We reiterate that managing for a transportation system independent of managing for the values that make a land attractive to recreator types is inadequate planning. Recreation planning is not just travel management and thus a fight between motorized and non-motorized users, it can't exist independent of other resource management values. Having large yellow barks, undisturbed meadows and waterways, having scenic areas near rock features etc are important to recreation and visuals. Building of more roads increases the OHV impacts and limits non-motorized opportunity. If recreation management is not part of the purpose and need and the goals discussed –ironically in an area with a 4.1 MA area, -- then management to promote recreation won't happen.	The purpose and need for this project includes decreasing unauthorized roads and providing non-motorized recreational opportunities (Draft EA page 12). MA 4.1 direction includes managing for a variety of stand sizes, shapes, structural stages, etc. (goal 4.1-202 and objective 4.1-203). Response of the alternatives to this direction is described on Draft EA pages 69-72. Objective 4.1-401 states "Emphasize non-motorized recreational opportunities." All action alternatives would respond to this direction by closing most roads and implementing an off-road motorized closure. Analysis shows that all alternatives would comply with scenic integrity direction (Draft EA pages 128-131).
9a-12	Trails to Roadless Area.	See response to comment 9a-6.

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	We have spoken with Steve Kozel at Bearlodge about the potential for a trail system that connects Sand Creek We hope you will think of a broad recreation plan for non-motorized recreators and limit roads and logging in the areas in or around the SPNM ROS classed areas and provide a connection from them to a larger trail system with Sand Creek at its core. Decisions you make now to log or road could pre-empt such future choices. The non-motorized users of this forest need for their needs to be recognized and protected.	
9a-13	Biodiversity We are relying on Biodiversity Conservation Alliance to write for us some very sophisticated discussions of biodiversity issues. But we will raise a few. Fire We have always disagreed with the FS old contentions that the RUN was a historic park like open forest with just cool fires. We think the RNV showed a mixed fire regime and we think you even admitted that in some sections of the Phase 2 document.	See discussion of historic fire regime on Draft EA pages 114-115. The EA does not claim that the range of natural variability included only open, park-like forest.
9a-14	Old Growth and Late Succession We believe the Forest now has only 1% of its area in old growth. Based on our on the land ground truthing, we often question why you label stands you as either 5, 4C or 4B. Sometimes we think the 4C or 4B make better old growth, than what you call old growth. Also either could eventually become old growth if it currently is not. We are very distressed to see that this timber sale will drop the Forest wide distribution of 4B by one percentage point. 4B could become old growth some day. Given the forest wide lack of old growth, we don't think that 1 percent reduction is an insignificant effect. Please discuss the potential of your 4B and 4 C stands to become old growth. I have seen stands that are labeled as 4c stands that look like yesterday they were 3C stands and I have seen 4C stands that look more like old growth than the stands in a sale labeled as old growth. How many of your 4C or 4B stands could double as old growth, now or in the near future?	Late succession forest is discussed on Draft EA pages 64, 70, 78-79, and 81. None of the alternatives would affect existing late succession stands (4% of the project area). These have been field-verified. Structural stage 4B stands are currently above the objectives set for MAs 4.1 and 5.1 across the National Forest. All action alternatives would move 4B levels slightly closer to the objective, or 25% of pine acres (Draft EA pages 70 and 71). Some structural stage 4B and 4C stands in the project area may have late-succession characteristics and many could develop them over time. In the judgment of the project biologist, the stands designated for management as late-succession best display these attributes and currently provide late-succession habitat.
9a-15	Old and Big Yellow Barks. This Forest also has a shortage of big trees. Thus if this area has lots of them, how unique is that a distribution of older larger trees? How many areas in this forest have the same density/distribution of older and larger trees? Stands of old	See response to comment 9a-8. Forest-wide distribution of forest age and size classes are not within the scope of this analysis except as specified by forest plan objectives (e.g., 4.1-203).

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	large trees are too rare on this forest and we object to them being cut.	
9a-16	Wetlands We have found in the past that the forest does not always do a good job of inventorying smaller wetlands. We hope you have done a good job and included all the small as well as large wetlands.	Wetlands are discussed on Draft EA page 49 and 53-55. Application of Watershed Conservation Practices (Appendix 2) would be expected to prevent adverse effects on wetlands.
9a-17	Overstory Removals and Clear Cuts, Like the State of Wyoming we like clear cuts. We like replacing smaller/younger pine stands with hardwoods. We also don't like over story removals, you have too many in this sale.	Comment noted. See response to comment 2-1.
9a-18	If you want to fight fire, than the 3 step shelterwood that slowly moves from large yellow barks to smaller pole stands eventually, at the end point, increases the fire risk. We believe that it is disingenuous to pretend that the forest system of 3-step shelterwood, in long run is good for fire reduction. Jasper fire ran mostly across pole stands – structural stage 3.	In the shelterwood system, thinning and regeneration harvest increase space between tree crowns and raise base crown height, reducing the potential for fires to spread and resist suppression. When pine seedlings become established, there is a period of time when the regeneration has the potential to spread fire horizontally and into tree crowns. Once the regeneration has been thinned, this risk is reduced. The Jasper Fire, which took place in 2000, was approximately 15 miles from the project area and burned mostly in structural stage 4 (at least 9" DBH) stands.
9a-19	EIS not EA We believe this area has lots of older and larger trees. We believe there is just 1 percent of old growth left on the forest. Your areas of older trees could eventually become old growth, if they are not currently such. Thus this has a significant impact and an EIS is needed. Please accept these on behalf of the Society and myself as an individual.	See response to comment 9a-14.
9b	Additional Comments on Moskee Project We would like to express concern over the impacts of the Moskee project to snag densities, both on the project and cumulatively on the forest. We would llke to request good protection for water quality and ask for discloser of sound/noise effects from the project. We have always objected to the Phase 2 amendment, as inadequate protection for many of the forest resources.	As described on Draft EA pages 65, 68, and 72, snag densities in the project area currently meet objective 211 levels and would be expected to continue to do so under all alternatives. Water quality would be protected through the use of Watershed Conservation Practices (Appendix 2) and site-specific design criteria (Draft EA chapter 2). Effects on water quality are

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		disclosed on Draft EA pages 51-52 and 54. Noise from the project was not brought forth in any scoping input or other internal or external discussions or correspondence. Implementation of the action alternatives would result in noise from mechanized equipment, but effects would be localized and limited to the period of time when activities are taking place. See response to comment 7-46 above regarding the Phase 2 Amendment.
9c	I am sending you notice of two errata that effect meaning, which I have noticed in my recent (7/25/07) letter on the Moskee Project. 1) Errata on my page 5 is underlined in following copy: "We have always disagreed with the FS old contentions that the RUN was a historic park like open forest with just cool fires. We think the RNV showed a mixed fire regime and we think you even admitted that in some sections of the Phase 2 document." The word "RUN" is an typo that should have been "RNV", which is the abbreviation for "Range of Natural Variability". 2) My errata on my page 2 is underlined in this copy: It has an ROS class of non-motorized rural, which ROS class was invented by the BHNF and does not exist in the ROS Users guide, thus we can't refer to that document for guidance on how to manage The phrase " It has an ROS class of "non-motorized rural" is incorrect and the phrase "It has an ROS class of "roaded natural non-motorized" should have been used instead.	Errata noted.