

South Project Summary of Comments on Draft EIS

The Hell Canyon Ranger District received 11 responses on the South project Draft EIS from individuals, groups, government agencies and tribes. All original correspondence is stored within the project file. The following numbered list corresponds to the Comment/Response table below.

1. Mark Young – Black Hills Power (BHP), Rapid City, SD – comments database
2. Russell Pigors – Bureau of Land Management (BLM), South Dakota Field Office , Belle Fourche, SD – email
3. Robert F. Stewart – US Dept. of Interior (USDI), Office of Env. Policy and Compliance, Denver, CO – comments database
4. Jim & Michelle Rodoni – private citizens, Custer, SD – office visit
5. Conrad Fisher – N. Cheyenne Tribe, Lame Deer, MT – FAX
6. Joyce Urroz – private citizen, Custer, SD – phone call
7. Troy Hall – Off-Road Riders Association (ORRA), Rapid City, SD – email with attachment
8. Carson Engelskirger – Black Hills Forest Resource Association (BHFRA), Rapid City, SD – hardcopy letter
9. Eric Molvar – Biodiversity Conservation Alliance (BCA), Laramie, WY – hardcopy letter
10. Jeff Vonk – South Dakota Department of Game, Fish & Parks (SDGFP), Pierre, SD – comments database
11. Wes Wilson – Environmental Protection Agency (EPA), Region 8, Denver, CO, – hardcopy letter

Comment #	Name	Comment	Response
1	Mark Young, BHP	<p>I would encourage the US Forest Service to pursue Alternative 3 rather than the proposed action of Alternative 2. The ultimate goal is forest health & proper fire management. Despite the multiple use factors that are influencing the decision, Alternative 3 provides the best means of ensuring good forest health with minimal fire hazard.</p> <p>The public needs to understand that the forest is a dynamic, living ecosystem that is predominantly ponderosa pine (a fire prone forest) that typically has a natural 50 year burn cycle.</p> <p>If in fact Alternative 3 can not be decided upon then Alternative 2 is the next best course of action. I am in favor of either proposed action.</p>	Thank you for supporting the South project.
2	Russell Pigors, BLM	The Bureau of Land Management appreciates the opportunity to review and provide comment regarding the	Thank you for supporting the South project.

		<p>subject ER08/610 regarding the South Project.</p> <p>We believe that this is a positive project, which will in addition have benefits in the long term to the BLM administered public lands which are near by.</p> <p>Thank you for the opportunity to comment, Please contact me if you have any questions.</p>	
3a	Robert F. Stewart, USDI	<p>The Department of the Interior has reviewed the draft Environmental Impact Statement for the South Project Area, Black Hills National Forest, South Dakota, and offers the following comments.</p> <p>Chapter 3, Water Quality and Quantity, page 39, second full paragraph</p> <p>The paragraph currently reads:</p> <p>"Peak flow data within the South project area is extremely limited because of the lack of perennial water. One site was maintained on Red Canyon below the project area for 10 years in the 1970's, and there were five years that had peak flows. They occurred from February to September with the most occurring in April. (USGS Surface Water for USA, 2007)."</p> <p>Peak streamflow is simply the highest streamflow that occurs in a given year. Thus, every year during the 10-year period of record had a "peak," although for two of those years the peak streamflow was zero. In addition, the exact timing of the peak cannot be determined from the available data for 1970 or 1976 through 1979, and the last sentence of the paragraph above is misleading.</p> <p>A more accurate way to describe streamflow at this site is: "Peak streamflows within the South project area are extremely variable because of the lack of perennial water;</p>	<p>Thank you for your comments. The Watershed Specialist's Report and the FEIS (page 42) has been updated with the suggested wording.</p>

		<p>streams flow only in response to storms. One gaging station was maintained on Red Canyon below the project area for 10 years in the 1970s, and peak streamflows varying from 1 to 30 cubic feet per second (cfs) were recorded in 8 of those years. No flow was recorded in the stream during the other two years."</p> <p>Additional information about streamflow data collected at this station can be obtained by contacting Joyce Williamson, Supervisory Hydrologist, USGS South Dakota Water Science Center, at jewillia@usgs.gov or (605) 394-3219</p> <p>Chapter 3, Flow Regimes, page 42, last full paragraph</p> <p>The analysis provided is somewhat simplistic because it describes only the change in overall availability of water for streamflow and ground-water recharge due to reduced uptake by biomass. Large cleared areas affect the timing of runoff and magnitude of peak streamflow, as well. It would benefit the public if these effects were discussed in this section and carried forward in the discussion of potential impacts of each of the alternatives.</p>	<p>No large, cleared areas are proposed in the South project. Proposed reduction of density within pine sites will not affect the timing of runoff and magnitude of peak stream flow because the hydrology in the Southern Black Hills is different from areas where this will occur. Large cleared areas can affect the timing of runoff and magnitude of peak streamflow in snow-melt-dominated hydrologic regimes. In these areas it can affect the snow distribution and accumulation and cause the snow to melt earlier. The Soil and Watershed Specialist Report illustrates that most of the precipitation in the Black Hills occurs in the spring as rain. Because of the geology of the area, runoff only occurs during extreme precipitation events from intense thunderstorms. Reducing the basal area of the trees would not affect the timing of runoff and magnitude of peak streamflow since runoff from the area is rare.</p>
4a	Jim & Michelle Rodoni	Please explain the vegetation treatments "in layman's terms" that are proposed adjacent to my property.	Treatments are proposed in sites adjacent to their property (031001-10 and 031002-17). See maps in Appendix A and the vegetation treatment table in Appendix G.

			The table at the front of Appendix G defines the vegetation treatments.
4b		How will this decision impact my ability to access the Forest adjacent to my house on my ATV, in particular roads U360032, Forest System Road (FSR) 409 and FSR 409.1A.	<p>The South project action alternatives propose to close U360032 to motorized use. FSR 409 and FSR 409.1A would retain their current status, which is a seasonal closure, meaning that the roads would be closed to motorized vehicles from December 15 – May 15 each year.</p> <p>The Forest is currently conducting a Forest-wide travel management analysis . That analysis includes alternatives which would designate roads and trails open to motorized vehicles.</p>
5	Conrad Fisher, N Cheyenne Tribe	No comment. Exception: If archaeological materials or human remains are encountered during construction, the State Historic Preservation Office and applicable Native American Tribes will be notified.	See design criteria in Appendix B related to heritage resources.
6	Joyce Urroz	What vegetation treatments are proposed adjacent to my property and what will the end result look like? The forest between my property and Highway 16 provides a visual and sound barrier. Will the proposed treatment maintain this barrier?	<p>There are 3 sites adjacent to the Urroz property. Sites 31011-3 and 31011-5 are away from Highway 16 and are proposed for commercial thinning. See definition for commercial thinning in Appendix G.</p> <p>Site 31011-2 is located between the Urroz property and Highway 16. This site is proposed for a group selection harvest. See Appendix G for definition of Group Selection harvest. This type of treatment would retain tree cover which provides a visual and sound barrier.</p> <p>Proposed treatments would reduce the likelihood of loss of trees to wildland fire and/or insect infestation and increase the likelihood of maintaining the visual and sound barrier provided by tree cover.</p>

7a	Troy Hall, ORRA	<p>Thank you for this opportunity to comment on the South Project Draft Environmental Impact Statement (DEIS) in the Hell Canyon Ranger District. Please accept this comment and list me and my organization as interested parties on this project.</p> <p>The Off-Road Riders Association is a grassroots, not-for-profit organization formed to create a positive, long-term future for the Off-Road Community of western South Dakota. Nearly 1,000 members strong, the Off-Road Riders encourage safe riding practices and cooperation with land management agencies as well as other motorized and non-motorized users of the forest and grasslands. For over a decade and a half the ORA has assisted in the development of sound management solutions for off-highway vehicle recreation on the public lands of western South Dakota. A wide variety of OHV users are represented by the Off-Road Riders Association, including motorized recreational riders, mountain bikers, rock hounds, sight seers, geocachers, back-country explorers, hunters and others. I have been recreating with OHVs on the Black Hills National Forest for more than 20 years.</p>	Thank you for your comments.
7b	Troy Hall, ORRA	We are most concerned about the loss of public access to the extensive trails in the management area.	<p>There are currently no designated system trails, including OHV trails, within the South project area. The Interdisciplinary Team (IDT) for the South project completed a Roads Analysis Process (RAP) which included a site-specific review of all known roads on National Forest lands within the project area.</p> <p>Designation of motorized trails is not part of the purpose and need for action in the South project. The Forest-level travel management plan will address OHV trails and other allowable motorized uses across the Forest, including the South project area.</p> <p>The action alternatives would not change where off road motorized use is currently allowable.</p>

		<p>The DEIS describes the project as “providing for management and public access needs”. We understand that the Forest Service must take action to provide for a healthy forest—but not at the expense of public access or trail closure. These goals are not mutually exclusive—the trails and roads in the project area have high recreational value and can co-exist with your healthy forest plan. Furthermore, we are nearing the end of a forest-wide travel management plan that will evaluate these trails on their own merit—even those that the district calls “unauthorized”.</p> <p>By the way, the ORA strenuously objects to the continued use of the term “unauthorized” in describing any roads or trails in the Black Hills in the original proposed action, this DEIS, and any communication by the Forest Service.</p> <p>The existing non-Forest Service trails have been created over many decades by various means—such as wildlife, cattle, motorized recreation, timber and mining operations, harvesting firewood, hunters, hikers, etc. During that time the Black Hills has been managed as an “open” forest, so these “user created” routes have legitimacy. These <i>unclassified</i> (as we prefer to call them) roads and trails have as much—sometimes MORE—value to users <i>because</i> they have filled a legitimate need over the years. Until the forthcoming motorized trail system is completed, effectively creating a “closed” forest, the use of the term “unauthorized” is inappropriate and biased against our efforts to include them for consideration. Once the forest is indeed “closed”, any trail that is properly closed THEN becomes “unauthorized” and should be described and</p>	<p>Seasonal road closures would remain in effect. Open roads would remain available to motorized travel, including OHVs. Refer to Tables 3.54, 3.55 and 3.56 in the Transportation section on pages 202-205 of the FEIS.</p> <p>Resource specialists on the IDT included a recreation specialist. The RAP documents the IDT’s recommendations for each road. The proposed action, Alternative 2, reflects those recommendations. Alternative 3 was developed after scoping and proposes additional modifications to the existing road system.</p> <p>In the Final Rule for Travel Management published in the Federal Register on November 9, 2005, Part 212, subpart A adds a definition for unauthorized road or trail and removes the definition for unclassified road. Part 212.1 defines “unauthorized road or trail” as a road or trail that is not a Forest road or trail or a temporary road or trail and that is not included in a Forest transportation atlas.</p>
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		enforced as such. Until then, the term is offensive to the users that value them and misleading to those who don't.	
7c	Troy Hall, ORRA	Furthermore, the Chief of the Forest Service has recognized that recreation is a legitimate activity in the National Forest, as indicated by the final Travel Management Rule. The community needs you to consider that position as you do the good work to manage your forest. The outback experience needs to be preserved for <i>all</i> users—motorized and non-motorized alike, and not simply closed without due consideration. In addition to the recreational value, OHV recreation—we predict—will have a very important economic impact to the Black Hills following the trail designation process. One only needs to look at the snowmobile trail system as an example of the impact motorized recreation can create. Depriving the Custer community these recreational roads and trails will deprive them of the ability to compete for these tourism dollars, and concentrate OHV use to those areas that <i>do</i> support them—degrading the quality of those trails that <i>are</i> designated.	The Forest-level travel management planning effort will consider the socio-economic impacts of designating an OHV trail system. Refer to response to 7b and 7d.
7d	Troy Hall, ORRA	In summary, we highly recommend you consider the economic and recreational value of these trails, rephrase the biased language, and remove the entire access management component from this planning process. Leave it to the Travel Management planning team, where it will receive the proper consideration from all interested parties. Indeed, including the “access management” component in this project gives the appearance that the Forest Service is not sincere when they requested that we submit roads and trails to be considered as part of the designated trail system.	Refer to responses 7b and 7c. The Forest Travel Management planning effort is in process. The alternatives for this effort are not finalized. A Decision on the Forest-level Travel Management is expected to occur in 2009. The Decision Maker for the South project (Hell Canyon District Ranger) has the authority to make or forego a decision on the road-related aspects of this project. Public comments, the site-specific analysis provided in the South RAP and Final EIS, and any other pertinent information will be considered by the Decision Maker.

		<p>By doing this, the district has “short circuited” the good work that the travel management team is doing as they properly follow the NEPA process to give us a quality trail system that the community can take ownership of. Some of these proposed new closures are included in the user inventory we submitted, and should be duly considered for the designated trail system.</p> <p>We hope that you will seriously consider the impact that the South Project Proposed Action would have on our economy and our precious access to the project area. Please combine alternatives to this project that will allow the necessary management actions without undermining the work of the Travel Management team, and allow the process to work as the Final Rule prescribes. It is with this spirit that the Off-Road Riders Association supports Alternative 1-No Action-with regard to road closures.</p>	
8a	Carson Engelskirger, BHFRA	<p>This letter is in regards for a request of public input regarding the South Project Draft Environmental Impact Statement. The Black Hills Forest Resource Association thanks you for the opportunity and looks forward to helping actively manage this valuable resource.</p> <p>Purpose and Need We find the proposed Purpose and Need to be very much in line with the Phase II Forest Plan Amendment. Addressing the heightened risk of fire and beetle in the proposed project area boundary seems to be a solid start. We found that the South Project Draft EIS was very well put together. The information is adequate and logically organized. The maps are relevant and are easy to read and follow along.</p>	Thank you for your interest in the South project.
8b	Carson Engelskirger, BHFRA	<p>Alternatives After reading the proposed alternatives, we recommend Alternative 3 as the best option. This alternative satisfies the needs of several interests and the benefits following the proposed activities far outweigh those of any of the other two alternatives. The BHFRA feels it is both</p>	Alternative 3 was developed, in part, due to the issue of windthrow asserted by the Black Hills Forest Resource Association.

		<p>environmentally sound and economically logical for all parties involved. Effects associated with the second alternative, we feel are, are too extreme. Thinning to a BAF of 40 would result a very low stocking level that would be susceptible to wind-throw and leave those stands understocked.</p> <p>We understand this is in response to reduced the risk of serious wildfire damage to homes within the WUI, but most of the area proposed for thinning would fall into this '40 BAF' prescription. Furthermore, the Fire Hazard Rating comparisons (page 94) and the Mountain Pine Beetle Ratings (page 78/82) very similar in the end result for Alternatives 2 and 3.</p>	<p>See pages 97-99 in the FEIS for a discussion of Fire Risk and Fire Hazard.</p>
8c	Carson Engelskirger, BHFRA	<p>Forest Plan Direction</p> <p>On the top of page 69, the DEIS states that "In the southern locations pine encroachment removal has been accomplished often in the post-sale activities of past timber sales", however on page 75 under Meadows, it states that "Approximately 3,070 acres of meadow would be maintained by removal of encroaching pine. " We feel that the problem of pine encroachment into meadow habitat is a legitimate problem, but because of the current economic conditions (timber markets, production costs, etc), we recommend this management activity should be addressed in the post-harvest prescriptions, and not in timber sale requirements.</p>	<p>Markets for POL-sized material are increasing. Any contract resulting from this planning would consider the feasibility of accomplishing POL thinning with the commercial removal, if possible. This approach is much more cost effective as funds for force account work are limited. This analysis considers the effects of implementing activities. Determinations of which activities will be included in commercial timber sale contracts is done at the presale stage.</p>
8d	Carson Engelskirger, BHFRA	<p>On page 30, there is mention of a monitoring study that looked at eight previously logged sites. These studies are extremely beneficial in studying the effects of timber harvest on soils. We applaud the USFS for a good follow up job. These areas had no adverse long-term effects and all sites had properly functioning soil health ratings. We question if the harvesting stipulations for these sites are similar to the South Project.</p> <p>We recommend dry or frozen soil restrictions are limited to</p>	<p>The harvest prescriptions on monitored sites varied and included overstory removals, commercial thinnings and shelterwood seedcuts.</p> <p>Refer to Table 3 in Appendix B for a listing of</p>

		potentially problematic areas only.	specific sites requiring dry or frozen operating conditions. See pages 3 and 4 of Appendix B for definitions of sites requiring these restrictions.
8e	Carson Engelskirger, BHFRA	<p>Analysis for Sensitive Species and Species of Local Concern</p> <p>We are concerned about the level of analysis for sensitive species and species of local concern in the South Project DEIS. The Phase II Amendment analyzed and addressed each of those species in detail, and concluded that "Region 2 sensitive species could be affected as individuals, but there is not likely to be a loss of viability in the planning area nor a trend toward federal listing" and "Species of local concern are likely to persist in the planning area" (Phase II Amendment ROD-6).</p> <p>Using northern goshawk as a specific example, the Phase II Amendment FEIS analyzed the northern goshawk and northern goshawk habitat in considerable detail on pages C 232 - 244. Based on an analysis of the various alternatives, page III-152 of the Phase II Amendment FEIS contains a determination of "may adversely impact individuals, but not likely to result in a loss of viability in the Planning Area, nor cause a trend toward federal listing" for the northern goshawk". The Phase II Amendment ROD further states, "All alternatives will maintain goshawk viability" (ROD-7). If the Forest Service has already determined that the forest plan will maintain goshawk viability, and if the South Project conforms to the forest plan, then it would seem that further analysis or conclusions about goshawk viability in the South Project EIS are neither necessary nor appropriate.</p> <p>We are also concerned by the statement on page 148 that states Alternative 3 would not affect species viability throughout the planning area. To our knowledge, there is no requirement for species viability within a planning area, and no basis for that determination. We recommend that conclusion be deleted.</p>	<p>The Northern goshawk is a Region 2 sensitive species.</p> <p>The Biological Assessment completed for the Phase II Forest Plan amendment is contained in the Appendices to the Final Phase II EIS. This assessment is based on desired conditions as provided for in Forest goals and objectives and the implementation of standards and guidelines. The South project analysis is site specific and describes the affected environment and effects within the project area. Information is provided on how the proposed alternatives would be consistent with the Forest Plan, including the application of design criteria.</p> <p>Species viability is determined at the Forest-wide level (the "planning area"), not at the project level. Monitoring of emphasis species status and trend on the Black Hills National Forest is completed at the Forest level, with results found in the annual monitoring and evaluation report.</p>

		<p>We recommend that you reconsider the level of analysis and conclusions for the northern goshawk and for other sensitive species and species of local concern in the South Project FEIS and in future project analyses on the Hell Canyon RD.</p> <p><i>Goshawk</i> According to page 148, no commercial treatments are proposed within the four identified goshawk nest areas. We request that you take another look at some treatments in the goshawk nest areas. Forest Plan Standard 31 08a clearly allows treatment within goshawk nest areas, as long as any activities will maintain or enhance the stand's value for goshawk. The idea here is not to produce additional volumes of commercial timber, but rather not to have these nesting areas become high-risk for wildfire. As accurately discussed on page 148 in regard to Alternative A, these dense stands would become more susceptible to wildfire. In 2000, the Jasper Fire completely burned 7 goshawk nest stands. We believe that goshawk nest areas should be managed to reduce the risk of stand-destroying fires. In effect, Alternatives B and C would implement a No Action Alternative within the goshawk nest areas, and that may lead to adverse effects.</p> <p>We recommend that you develop a Desired Condition specifically for the goshawk nest areas, and that you develop prescriptions to move those stands toward the Desired Conditions as part of this project. Reducing the susceptibility of the nest areas to fires and mountain pine beetles will likely benefit goshawk populations and habitat over the long-term.</p>	<p>Refer to App D and pages (161-163) in the FEIS for discussion of effects on goshawk.</p> <p>There are six goshawk nest areas in the South project area. Based on site-specific field surveys, the wildlife biologist determined that no commercial treatments were necessary in the existing goshawk nest areas to maintain or enhance these stand's value for goshawks. Non-commercial treatments are proposed in some of the goshawk nest stands and some surrounding sites and would provide some protection to goshawk nest areas from fire and insects.</p> <p>Recommendation noted.</p>
8f	Carson Engelskirger, BHFRA	<p>Design Criteria <i>Page B-16</i> Under recreation, what is meant by designing new gates or other closures?</p>	<p>The design criteria for gates and other closure devices is a general statement intended to ensure that recreational use that is authorized within an</p>

		<p>There needs to be better clarification and analysis (number of gates/closures, miles of road closure, etc.) as to what extent these devices will be used.</p> <p>On page 174, it references that both alternatives will have some amount of road closures for motorized vehicle use, but it does not say specifically how much.</p> <p>We recommend that the FEIS not preclude or limit options in forest-wide travel management planning and more specifics be given as to what extent this project will affect both motorized and nonmotorized trail use.</p>	<p>area is not excluded by inappropriate design of an access gate or other access device.</p> <p>See Maps 2,4,5,7 and 8 in Appendix A for an illustration of road management proposals for each action alternative. The FEIS text and maps have been updated to illustrate gate closures within the South project area. In general, if a road is displayed as “closed”, either rock barricades or earthen berms could be put in place to close these roads if/when funding becomes available.</p> <p>Refer to the Transportation section of the South FEIS (pages202-205) for discussion of proposed road management related to the South project. This section has been edited from the Draft EIS.</p> <p>Refer to responses to 7b, 7c and 7d.</p>
8g	Carson Engelskirger, BHFRA	<p><i>Page B-18</i></p> <p>We recommend that skid trails, landings, and temporary roads be allowed in meadows unless there is some reason not to allow those on a site-specific basis. The terminology is worded such that activities associated with harvesting be avoided "as much as possible", which could easily be interpreted as "No skid trails, landings or temporary roads will be allowed in meadows." These meadows play an important role in staging different aspects of the harvest as well as piling and burning slash.</p>	<p>The use of skid trails, landings and temporary roads within meadows is to be avoided to protect the meadow resource and any sensitive species which may occur there. The design criteria allows for use of meadows for these staging activities only <u>when no other option is available.</u> The intent is that meadows NOT be used for these purposes as a common practice.</p>
8h	Carson Engelskirger, BHRFA	<p><i>Page B-19</i></p> <p>On this page, the Design Criteria under Sensitive Species - Goshawks, states that "No commercial treatments would</p>	<p>Refer to response 8e.</p>

		<p>occur within the 180 acre nest areas, however noncommercial improvement cutting is allowable because it will improve goshawk habitat."</p> <p>We believe this is a start; however, this should not be the 'desired goshawk treatment' on every project (See above mentioned). There needs to be further analysis on a case-by-case scenario. Generally speaking, non-commercial thinning will eliminate much of the material in the 1-7" dbh range which should theoretically reduce ladder fuels and thin the stand out. However, without on-the-ground analysis, it is hard to say the extent of the stand in the 1-7" dbh range, assuming this is the diameter range of a non-commercial thinning. We recommend establishing parameters for the desired goshawk habitat within nesting buffers such as stocking levels, preferred basal area, etc.</p>	
8i	Carson Engelskirger, BHFRA	<p><i>Page B-22</i></p> <p>Why on page B-20 in regards to raptor nests and on page B-21 in two more instances, are the overstory mortality limits from prescribed burning set at less than or equal to 5%, but yet on page B-22, acceptable mortality levels in pole and sawtimber sized pine stands allowed up to 20%? We agree that areas of concern such as raptor nest areas have set mortality limits that are less than or equal to 5%, but question why this limit is not applied throughout the entire project area. Nowhere in the Forest Plan does it make indications that overstory mortality levels of 15% are "optimal". We strongly recommend that overstory mortality levels be set at less than or equal to 5% for all prescribed burning on suited timberlands in this project.</p> <p>We further recommend that there be a clause to allow salvage logging if large pockets of mortality occur that are still within target overstory mortality levels.</p>	<p>The low mortality limits of less than 5% were set to protect specific wildlife habitat. In other areas where prescribed burning is proposed, a mortality limit of up to 20% may occur if the Silviculturist makes a determination that a site could support this level of mortality. The Fuels Specialist and Silviculturist collaborate to write the Burn Plan prescriptions, and the silviculturist determines the acceptable level of mortality for tree sites. Reaching a 20% mortality level of mortality of pole and sawtimber-sized trees during prescribed burning operations is quite rare. The design criteria for acceptable mortality limits has been updated in Appendix B of the South FEIS.</p> <p>If, large areas of mortality were to occur during project implementation, a new analysis would be necessary prior to allowing salvage logging.</p>

8j	Carson Engelskirger, BHFRA	We feel the issue of aspen regeneration and management is very much inline with project objectives. However, if there is going to be a fence put in to keep cattle out, why not extend it high enough to be effective at keeping elk and deer out as well? We recommend looking to the Rocky Mountain Elk Foundation for help in the form of labor, materials, and possibly some type of additional funding for a fence able to keep deer and elk out. Allowing a few elk access to a fresh aspen stand would ruin future regeneration and propagation of suckers.	No aspen regeneration treatments are proposed. Removal of conifer trees from aspen sites is included to release these hardwood stands from conifer competition. No fencing of aspen sites is proposed in the South project.
8j	Carson Engelskirger, BHFRA	Monitoring Finally the monitoring requirements listed should go beyond implementation details and address whether or not the project successfully addressed the achieved the Purpose and Need that was set forth. Specifically, the Purpose and Need for the project is "to reduce fire hazard and the risk of mountain pine beetle infestation, provide wildlife habitat and a sustainable supply of timber, and meet public access needs". We recommend that you add specific monitoring requirements to measure whether or not the project was successful in achieving those three desired outcomes.	Monitoring and evaluation is done at the Forest level on an annual basis. The purpose of this monitoring is to "...determine how well the Forest Plan is being implemented, whether plan implementation is achieving desired outcomes and whether assumptions made in the planning process are valid" (page IV-1, USDA Forest Service, 2005).
8k	Carson Engelskirger, BHFRA	We would like to thank you for your time and consideration to the above mentioned. We look forward to seeing the final results!	Thank you for your support of the South project.
9a	Eric Molvar, BCA	Below are the comments of Biodiversity Conservation Alliance and Prairie Hills Audubon Society in response to the Draft Environmental Impact Statement (DEIS) prepared for the South Project. We continue to have grave concerns about the health of the Black Hills National Forest, and the fact that the South Project, as well as a number of other massive timber sales, continue to be proposed and implemented in the Black Hills National Forest does not allay our concerns. Each of the two action alternatives would approve logging on approximately	Disclosure of the environmental effects from all alternatives is presented in Chapter 3 of the South Project Draft EIS. The proposed action (Alternative 2), as well as Alternative 3, is in full compliance with the Black Hills National Forest Land and Resource Management Plan, as

		<p>60% of the project area. This is an area that already "been commercially harvested many times in the past with recorded activities going back to the 1980s." DEIS at 84.</p> <p>Yet the cumulative effects of past and present logging together with the presumed beetle activity on interior forest habitats used by</p> <p>old-growth obligate species is not squarely addressed by the EIS in violation of NEPA.</p> <p>It will come as no surprise to you, but we were shocked to read recently that the Black Hills National Forest has approved a target of selling 90 million board feet of timber in 2008. What is truly appalling about this Available Sale Quantity (ASQ) volume for 2008, is that there has been no scientific analysis conducted to support this decision and the public was not permitted to participate in the decision-making process. We are cognizant of the fact that the 1997 Black Hills National Forest Land and Resource Management Plan provides that the ten-year ASQ will automatically be set at the level of the previous ten years. We assume that the 2008 target of 90 million board feet was set as part of the new ten-year ASQ level.</p> <p>Nevertheless, we raise serious questions about the soundness of both decisions. Ten years in the life of a forest can be the blink of an eye, yet in ten years a great deal of change can occur. This has been the case on the Black Hills National Forest. The scientific analysis for the Black Hills National Forest management plan revision occurred more than ten years ago. Since then, events have occurred on the Black Hills National Forest which were never analyzed, and some of which were not even foreseen at the time NEP A analysis was conducted. These events include, but are not</p>	<p>amended.</p> <p>All past, present and reasonably foreseeable future activities within the South project area are disclosed within Appendix E of the South Final EIS. These activities were available to all members of the Interdisciplinary Team, and were considered during analysis of direct, indirect and cumulative effects.</p> <p>For further discussion of late succession habitat, refer to pages 104-105 in the South FEIS.</p>
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		<p>restricted to: a number of large and severe fires, an intense and ongoing cycle of mountain pine bark beetles, prolonged drought, and climate changes.</p> <p>We believe the ten-year Available Sale Quantity and the 2008 ASQ will provide for unsustainable levels of timber harvest on the Black Hills National Forest. The declining populations of many wildlife and plant species on the Forest, some to perilous levels, demonstrates that management of the Forest over the past years has been inappropriate. The Forest has been managed almost exclusively for timber harvesting for the benefit of commercial interests. Management of the Forest for its ecological health and diversity has been a very low priority; consequently, the natural resources have suffered devastating impacts.</p>	<p>The allowable sale quantity (ASQ) is discussed in the 1996 FEIS Revised Land and Resource Management Plan on page II - 54 and Appendices F - 11 and G - 11 and is outside the scope of the South Project EIS.</p>
9b	Eric Molvar, BCA	<p>The National Environmental Policy Act, or NEPA, was enacted as the "basic national charter for protection of the environment. ... Section 102(2) contains 'action-forcing' provisions to make sure that federal agencies act according to the letter and spirit of the Act." The Council on Environmental Quality (CEQ), which was established under the Act, adopted regulations to implement the Act. Section 1502.9(c) of the regulations provides that:</p> <p>Agencies:</p> <p>(1) Shall prepare supplements to either draft or final environmental impact statements</p> <p>(ii) There are significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts;</p> <p>(2) May also prepare supplements when the agency determines that the purposes of the Act will be furthered by doing so.</p> <p>There clearly are significant new circumstances which have occurred since the initial environmental analysis was conducted for the resource management revision process. Any one of the events mentioned above, standing alone,</p>	<p>The National Environmental Policy Act, as amended provides the Law. CEQ regulations (40 CFR 1500-1508) for implementing NEPA serve as NEPA guidance to all federal agencies, not just the Forest Service. Therefore, the CEQ regulations require each agency to adopt procedures to supplement the CEQ regulations, and to review them as necessary to fully comply with the Act. Forest Service policy is located in FSM 1950 and FSH 1909.15. There is also the National Forest Management Act. The regulations that implement NFMA are in 36 CFR 219 which gives the agency policy as set forth in FSM 1920 and FSH 1909.12.</p> <p>A substantial analysis utilizing the best available science was recently completed for the Forest Plan, and documented in the Phase II Amendment to the Plan (ROD, 2005). That</p>

		<p>would be significant enough to require the Forest Service to prepare a supplemental Environmental Impact Statement. The convergence of all of these events at the same time makes it absolutely mandatory that the Forest Service initiate supplemental environmental analysis in accordance with NEPA and the CEQ regulations.</p> <p>It is also clear that the purposes of NEPA will be furthered by preparation of supplemental environmental analysis for the 1997 Land and Resource Management Plan. NEPA requires agencies to protect the human environment. It was never the intent of NEPA or any other statute for the Black Hills National Forest to blindly follow the dictates of the resource management plan, to the detriment of the very resources the Forest Service is charged with protecting. Where the management plan would require administrators to authorize actions which would have significant negative impacts to forest resources and users, particularly where as here circumstances have changed dramatically since adoption of the plan, then the Forest Service must carry out the purposes of NEPA. NEPA requires the Forest Service to conduct full supplemental environmental analysis and amend the resource management plan so that the various resources of the forest are adequately protected.</p> <p>The National Forest Management Act (NFMA) provides further for the amendment of forest management plans under § 1604(f). If an amendment would result in a significant change in the plan, it would have to undergo the same process as if the plan were being revised (i.e., full NEPA analysis, public input, etc.). A change in the Available Sale Quantity could be considered a significant change to the 1997 Land and Resource Management Plan.</p> <p>We therefore request that the South Project, and all other fuels reduction, timber harvest, bark beetle risk reduction, vegetation management, and wildfire reduction management projects on the Black Hills National Forest, be halted immediately until the Forest Service has conducted the</p>	<p>recent analysis took into account changed conditions since the 1997 Forest Plan Revision and included significant public participation and involvement.</p>
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		<p>requisite environmental analysis and</p> <p>prepared a supplemental Environmental Impact Statement for the 1997 Land and Resource Management Plan. The public should be fully involved in this process, as required by NEPA and the CEQ regulations. We further request that the Forest Service amend the 1997 Land and Resource Management Plan to provide that the Available Sale Quantity for the Black Hills National Forest for the next decade be set only after full supplemental environmental analysis has been completed, and that annual ASQ be set only after any needed environmental analysis is undertaken and due consideration given to the results of such analysis. Until these steps are taken and due consideration given to the outcome of the environmental analysis, no further projects of the types noted above should be undertaken on the Black Hills National Forest.</p>	<p>Forest Plan revision is determined at the Forest level; therefore it is outside the scope of the South Project EIS.</p>
9c	Eric Molvar, BCA	<p>We also are concerned that projects such as the South Project are being justified under the rubric of fuels reduction, bark beetle risk reduction, vegetation management, etc., when in fact the timber harvest</p> <p>will be used for cellulosic ethanol production to fuel such activities as Corvette Racing. Use of biomass (e.g., slash piles) for such activities is probably not carbon neutral and using renewable biomass to produce fuels may have a net increase of carbon dioxide in the atmosphere, as compared to burning of oil and gas products.</p> <p>Extracting biomass from the forest may have other impacts such as depriving the forest soils of necessary nutrients.</p> <p>I</p> <p>s production of fuel for racing vehicles the engine that is driving the rush to cut down trees in the Black Hills National Forest? Has the Forest Service undertaken any scientific analysis of the impacts of cellulosic ethanol on the</p>	<p>The purpose and need for action in the South project area is found on page 17 of the FEIS,</p> <p>.</p> <p>Providing biomass for the production of ethanol is not part of the purpose and need for this project. <i>The Forest Service does not regulate the production of goods derived from forest products.</i></p> <p>See page 52-57 of the FEIS for a discussion of soil nutrients related to South project proposed activities.</p> <p>Presently there are no requirements in law, regulation, agency policy or the Forest Plan which <i>limit</i> the reduction of carbon uptake capacity or emissions related to timber harvest.</p>

		<p>climate? The Forest Service has the duty to do so. Climate research has been conducted by the Forest Service for at least the past two decades.</p> <p>Forest destruction accounts for about 20 percent of manmade emissions, second only to burning of fossil fuels for electricity and heat.</p> <p>We specifically requested in our scoping comments that the Forest Service fully assess and analyze the direct, indirect and cumulative impacts of the project with regard to climate change. Why are climate impacts from Forest Service activities never analyzed in EAs and EISs?</p> <p>The National Environmental Policy Act requires that all agencies "recognize the worldwide and long-range character of environmental problems. 42 USC §4332(F). It is necessary for these impacts to be analyzed in the South Project EIS before the project can be approved.</p> <p><i>[Footnote] Motorsport.com. Corvette Racing to Introduce</i></p>	<p>There is literature suggesting that purposeful forest management using timber harvest may be a reasonable and effective means to sequester additional carbon in the near and long term, when compared with no management at all (Hair, 1996; Joyce, 2000).</p> <p>No "forest destruction" is included in the South project. The vegetation management proposals are designed to maintain and enhance the long-term productivity of the forests and grasslands within the project area.</p> <p>A specific request for a full assessment of direct, indirect and cumulative impacts of the project with regard to climate change was not found within the 7/19/2007 letter received from Biodiversity Conservation Alliance during South project scoping.</p> <p><i>42 USC §4332(F): (F) recognize the worldwide and long-range character of environmental problems and, where consistent with the foreign policy of the United States, lend appropriate support to initiatives, resolutions, and programs designed to maximize international cooperation in anticipating and preventing a decline in the quality of mankind's world environment;</i></p> <p>In regards to 42 USC 4332(F): Foreign policy initiatives, resolutions, etc., are beyond the scope of the South project</p>
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9d	Eric Molvar, BCA	The best available science and research suggests natural processes such as wildfires, insect outbreaks, windthrow, and even natural succession are health and provide numerous ecological benefits. These conclusions are entirely ignored in the South Draft Environmental Impact Statement. The best available science and research also suggests the Black Hills is suffering from a severe snag shortage, old growth shortage, and decline in spruce. These conclusions are also ignored.	The resource specialists on the South Project Interdisciplinary Team (IDT) used the best available science, including the most recent Forest Plan monitoring report, the Phase II Amendment FEIS, species conservation assessments and peer- reviewed journal articles. Citations submitted during public involvement have been reviewed. A declaration on the use of best available science is contained in the project file for each resource specialist. Refer to pages 104-108 of the FEIS for a discussion of snags and late succession. No spruce sites are present within the South project area.
9e	Eric Molvar, BCA	RANGE OF ALTERNATIVES We notice in the Draft Environmental Impact Statement that the two action alternatives are extremely similar. The agency itself refers to them as follows: "These alternatives are very similar. ... " DEIS at 45.	The reference on page 45 of the DEIS states, "These alternatives are very similar and either would have a positive effect on flow regime due to removing live vegetation from the landscape, a significant improvement over Alternative 1." See pages 21-29 in the FEIS for a description of the alternatives.
9f	Eric Molvar, BCA	The DEIS incorrectly states the Harvest Volume in Table 2-2 as 60 thousand board feet of sawtimber for Alternative B and 40 thousand board feet for Alternative C. We feel certain the volume is <i>million board feet</i> , not thousand board feet. This error has been pointed out previously in other timber sales in the Black Hills National Forest, and it is disconcerting that it still occurs on a regular basis.	This specific table (2-2) does not exist within the South Draft EIS. For a comparison of Alternatives, see Table 2.1, page 28 of the South FEIS.

9g	Eric Molvar, BCA	<p>The South Project has four stated needs and purposes:</p> <ul style="list-style-type: none"> • Move toward achieving desired land and resource conditions, as provided by the Forest Plan, within the project area; • Reduce the threat to ecosystem components, including forest resources, from the existing insect and disease (Mountain Pine Beetle) epidemic; • Restore resource conditions to a healthy, resilient fire-adapted ecosystem across the project area; and • Help protect local communities and resources from catastrophic wildfire. <p>We object to the use of inflammatory language in the stated needs and purposes, and throughout the DEIS.</p> <p>Use of words such as "epidemic"</p> <p>and "catastrophic"</p> <p>is not only inappropriate, but is also inaccurate. In the case of both mountain pine beetles and fire regimes, the current levels of occurrence and frequency are within their historic ranges of variability. They are neither epidemic nor catastrophic, but are part of the natural cycles of the forest. Use of such terms only fans public opinion, which is thereby based on inaccurate and misleading perceptions.</p>	<p>Your statement on the purpose and need for action in the South project is inaccurate. The purpose and need for the South project is found on page 17 of the South FEIS):</p> <p>No insect epidemic currently exists within the South project area (see page 77 in the FEIS)</p> <p>The word “catastrophic” is not used in the Purpose and Need for the South project, or other sections of the FEIS.</p>
9h	Eric Molvar, BCA	Treatments in the true wildland'-urban interface-up to 300 feet from structures-is appropriate and we support such actions, both on private property and on Forest Service	Page 99 of the FEIS discusses the At Risk Communities and existing private structures located within or adjacent to the South project

		<p>managed public lands.</p> <p>Most of the South Project is a long way from any structures; therefore, WUI treatments are not needed and the threat to private property appears to be minimal.</p> <p>It is noteworthy that the Forest Service didn't include a map of the project area in the DEIS.</p> <p>Whether or not fire suppression over the past century has had a significant impact on the Black Hills National Forest is unknown. Some recent studies suggest that climate has a much greater impact on fire regimes than fire suppression.</p>	<p>area. There are approximately 352 structures on private land within the project area.</p> <p>Refer to the Phase II Amendment FEIS, Appendix E-85 for a definition of wildland urban interface.</p> <p>The purpose of vegetation and fuel treatment on a landscape level rather than strictly adjacent to structures is to provide for public and firefighter safety and minimize the loss of public and private resources in the event of a wildland fire.</p> <p>Appendix A of the South FEIS contains many maps of the project area.</p> <p>Refer to pages 94-96 of the FEIS for a discussion of fire regimes.</p> <p>Fire exclusion, fire suppression, and resource management have influenced forest composition since permanent European settlement began in 1874. (FEIS, III-336). Wildfire has always been a periodic visitor within the Black Hills with studies showing both infrequent, high severity fire and frequent, low severity fire. Fire risk is tied to both fuels and weather. Weather conditions are a key influence on whether wildfire will occur and how far it will spread. Climate influences weather therefore influencing wildfires. But to how much of an influence is still unknown. However, in many situations, fuel treatments have been shown to reduce the severity of fires when they do strike. (JFSP, October, 2007) <i>Joint Fire Science Program, Fire Science Digest, The Fire-Climate Connection, Issue 1, October 2007. www.firescience.gov</i></p>
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9i	Eric Molvar, BCA	<p>The DEIS also fails to adequately analyze a range of reasonable alternatives.</p> <p>Indeed, the only two action alternatives analyzed in the DEIS are nearly identical. There continue to be unresolved conflicts, however, over the use and management of natural resources on the Black Hills National Forest and significant issues identified during the scoping process.</p>	<p>Refer to pages 21-29 of the FEIS for a description of alternatives</p> <p>Significant issues, which drive the formation of alternatives to the proposed action, were reviewed by the interdisciplinary team. This led to formation of one additional action alternative to address these issues which were identified through public scoping. See pages ii, 18 and 19 in the FEIS for a discussion of issues.</p>

		<p>See, 42 USC § 4332(2)(E), 40 CFR § 1502.14(a), 36 CFR § 219.12(f), and FSH 1909.15, 14.</p> <p>Our scoping comments expressed concerns over the impacts of timber harvesting to wildlife (especially sensitive species of wildlife) and suggested the Forest Service propose little to no timber harvesting. Both action alternatives propose to harvest 40 to 60 million board feet of timber ("MMBF"), a colossal timber harvest either way.</p> <p>While the FS may believe that consideration of the No Action Alternative addresses our concerns about timber harvesting, this misses the point. While we expressed concern over the impacts of timber harvesting, we also</p>	<p>42 USC 4332(2)(E): <i>study, develop, and describe appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources</i></p> <p>40 CFR 1502.14(a): <i>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.</i></p> <p>36 CFR 219.12(f): <i>this citation does not exist in the most current version (2008) of the Code of Federal Regulations</i></p> <p>FSH 1909.15, 14: <i>This handbook was updated on 7/28/2008: (FSH1909.15, Chap. 10, Sec. 14) change now explicitly allows modification of the proposed action and alternatives during the analysis process, including incremental changes, with appropriate collaboration and public notice. Also, Chap. 10, Sec. 14.1 - adaptive management, which was not addressed in guidance before</i></p> <p>See the Wildlife section, Chapter 3 of the South FEIS for discussion of effects on wildlife habitat related to each Alternative. Sensitive species are discussed in the FEIS on pages 153-168. Refer also to Appendix D.</p>
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		<p>suggested several "Action" alternatives.</p> <p>In our scoping comments, we specifically requested the FS consider alternatives that decommission roads, that do not provide commercial timber, and that propose only prescribed burning.</p>	<p>No reference to an alternative that proposes only prescribed burning was found in the 7/19/2007 scoping letter received from BCA.</p>
9j	Eric Molvar, BCA	<p>As the impacts analyses disclose, there are almost no substantive differences in timber between the two action alternatives, except for the difference in overstory removal and hardwood retention treatments. It is difficult to see how these minor differences are substantive and reflect adequate consideration of the major issues. A range of reasonable alternatives, including those that minimize impacts, should be examined.</p> <p>Impacts to Region 2 Sensitive Species are summarized in table 1 in Appendix E. This table is cursory and in nearly every species, the Determination Statement is, "May impact individuals ... but no loss of viability." We assume, but are not told, that Table 1 applies to both action alternatives. Because the proposed actions are not substantively different, it is no surprise that the effects of both action alternatives are the same.</p>	<p>It is inaccurate to state that the differences in the action alternatives in the South project are limited to differences in overstory removal and hardwood retention treatments. For the South project, hardwood release treatments are <u>the same</u> for both action alternatives, 2 and 3. Overstory removal is reduced by 15 acres in Alternative 3.</p> <p>The differences in the action alternatives include variations in the total acres treated with commercial removal, non-commercial tree removal and prescribed burning as well as differences in application of the commercial thinning prescription, and changes in the proposed transportation system.</p> <p>Refer to response to 9i.</p> <p>Table 1 in Appendix E of the South DEIS and FEIS illustrates Past/Present/Future activities within the project area, not sensitive species effects determinations. Refer to Appendix D of the South FEIS for a summary of the effects determinations for Region 2 sensitive species. See pages 153-168 in the FEIS for a discussion of Region 2 Sensitive Species.</p>
9k	Eric Molvar, BCA	<p>The Northern goshawk will incur vegetation treatments and roads in designated nest areas. Forest Plan Standard 3108 provides, "Vegetation management activities within nest</p>	<p>Refer to response at 8e pertaining to treatments within goshawk nest areas.</p>

		<p>areas shall be limited to those that maintain or enhance the stand's value for goshawk." Will this be the case' in the South project area?</p> <p>Are there nest areas in the project area? If so, have protected areas around each nest site been identified?</p> <p>Will Standard 1111 be implemented?</p>	<p>No new roads are proposed within goshawk nest areas in the South project.</p> <p>There are 6 historic goshawk nest sites in the South project area. Nest areas have been identified for each. In addition, a summary of the BA/BE is in Appendix D.</p> <p>Appendix B of the FEIS identifies specific design criteria to meet Forest Plan Standards 3108, 3111, and 3204 that will provide suitable nesting habitat for northern goshawks and prevent disturbance during the nesting season.</p> <p>There is no Forest Plan Standard 1111 in the Black Hills Forest Plan. Guideline 1111 pertains to soils and reads, "Stabilize, scarify or recontour temporary roads, constructed skid trails, and landings prior to seeding". Guideline 1111 will be implemented.</p>
91	Eric Molvar, BCA	Woodpecker species that feed on pine bark beetles will lose food sources. A number of species will lose preferred habitat, while other species may have increased habitat.	<p>Woodpeckers are discussed on pages 113, 120-124, in the South FEIS.</p> <p>Forest Plan Standard 2304 prohibits the cutting of standing dead trees except within specific designated areas. There are no designated snag cutting areas within South. Forest Plan Standard 2305 calls for retaining all soft snags unless a safety hazard (Standard 2305).</p> <p>There is no proposal in the South project to eliminate mountain pine beetles from the project area. MPB will continue to be present. However, the action alternatives would increase tree vigor, therefore reducing susceptibility to beetle attack (South FEIS, pages 80-90).</p>

9m	Eric Molvar, BCA	<p>We fail to understand how the Forest Service can allow these significant negative impacts to sensitive species, and conclude that there will be no loss of viability. Does the agency know for each species the exact number needed for viability? If so, does the agency know how many of each species is present in the project area, and forest-wide? Without answers to these last questions, the Forest Service cannot conclude there will be no loss of viability.</p> <p>The Forest Service has failed to analyze in detail alternatives that address unresolved conflicts for wildlife. Indeed, while "Vegetation and Wildlife Habitat Diversity" was identified in scoping as one of four key issues, Table 1 shows that the impacts of the South timber sale to several sensitive wildlife species and management indicator species, and their habitats, are the same for both action alternatives.</p> <p>It is difficult to understand how the Forest Service has appropriately responded to concerns over threatened, endangered, sensitive, and management indicator species</p> <p>when there is little to no difference in how action alternatives affect these species.</p>	<p>Species viability is determined at the Forest-wide level, not at the project level. Monitoring of emphasis species status and trend on the BHNF is completed at the Forest level, with results found in the annual monitoring and evaluation report (USDA Forest Service 2007).</p> <p>"Vegetation and Wildlife Habitat Diversity" is not one of the significant issues identified in the South project, see pages 18-19 of the South FEIS.</p> <p>The project is consistent with Forest Plan direction (Objectives 221 and 238a), which maintains viability of wildlife species Forest-wide (USDA Forest Service 2005, Chapter 2).</p> <p>See the wildlife section of Chapter 3 (pages 103-178) for a discussion of the affects of alternatives on wildlife species.</p>
9n	Eric Molvar, BCA	<p>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 Forest Service 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.</p> <p>To that end, we also request the FS rigorously explore and objectively evaluate the following reasonable alternatives:</p> <ul style="list-style-type: none"> • An alternative that harvests no stands of ponderosa pine in 	<p>Rationale for not conducting a detailed study of</p>

		<p>SS 4C or 4B;</p> <ul style="list-style-type: none"> • An alternative that prohibits logging any trees over 10" in diameter; • An alternative that proposes no new (temporary or permanent) road construction; and (SIC) 	<p>alternatives that: do not harvest stands of ponderosa pine in SS 4C or 4B; prohibit logging any tree over 10" in diameter are discussed in the South FEIS pages 26-28.</p> <p>No new permanent or temporary road construction is proposed within the South project area.</p> <p>An alternative that proposes no new temporary roads was not presented by commentor during scoping.</p>
9o	Eric Movar, BCA	<p>FLAWS IN DEIS</p> <p>It is disturbing that there is no cumulative impact analysis for wildlife species, even though NEPA requires such analysis. Why has cumulative impact analysis not been conducted? Or, if it has, why is it not included in the DEIS?</p>	<p>Cumulative Effects related to wildlife species were disclosed on pages 95-163 of the South DEIS and are included in the South FEIS on pages 103-178.</p>
9p	Eric Molvar, BCA	<p>1. DENSE MATURE AND LATE SUCCESSIONAL FOREST</p> <p>The DEIS discloses in Tables 3-22 that mature conifer stands (all SS 4 stands) exist on 58 percent of the project area for ponderosa pine. However, while there appears to be a slight surplus of SS4 stages in MA 5.1 forestwide, structural stages 4A, 4C, and 5 are below the forestwide objective in MA 5.4. On a forestwide basis, the BHNF can hardly afford to lose any 4A or 4C,</p> <p>particularly in light of the paucity of Class 5 on the Forest.</p>	<p>See Tables 3.33 and 3.34 and the discussion about structural stages on pages 83-89 of the South FEIS. See also pages 104-105 of the FEIS on late succession.</p> <p>Structural stage 5 (referred to as "Class 5" in comment letter) is a new designation associated with the Phase II Amendment of the Forest Plan. SS 5 is not computed directly from stand exam data, but rather is selected during project field review by the silviculturist and wildlife biologist. Late successional, Structural Stage 5</p>

			(SS5) stands will not be treated under any alternative.
9q	Eric Molvar, BCA	<p>The DEIS is unclear as to what the cumulative impact of thinning and beetle outbreaks will be. It is clear that the Forest Service is incapable of stopping or slowing a beetle outbreak once it gets a full head of steam. Indeed, the agency admits that forest health logging treatments will reduce beetle risk from 'high' to 'low and medium.' DEIS at 77. The agency makes broad and sweeping conclusions about improvements in forest health conditions by logging stands that are guessed to be beetle-prone: "Vast improvements in MPB risk would occur over existing conditions " DEIS at 82.</p> <p>But the agency provides no scientific support for the concept that it can log its way out of</p> <p>a beetle epidemic, a concept which has been discredited by Region 2 Forest Service personnel in newspaper interviews.</p>	<p>See cumulative effects discussion in the Silviculture section of the South FEIS, pages 91-93.</p> <p>See: Schmid, J.M.; Mata, S.A.; Kessler, R.R.; Popp, J.B. 2007. The influence of partial cutting on mountain pine beetle-caused tree mortality in Black Hills ponderosa pine stands. Res. Pap. RMRS-RP-68 Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 19 p.</p> <p>No insect epidemic currently exists within the project area.</p>
9r	Eric Molvar, BCA	<p>Finally, late successional forest is typically defined by the ecological benefits the habitat provides. For instance, researchers have documented that late successional forests typically provide abundant dead and dying trees, coarse woody debris, dense canopy closure, and a diverse understory. Do the late successional stands that exist in the project area exhibit these conditions?</p> <p>The answer to this question would provide much-needed</p>	<p>Refer to response 9p on late succession There is no proposal to thin late succession stands within the South project.</p> <p>Refer to pages 104-105 of the South FEIS for a discussion about late succession and snags. Refer to Appendix B for design criteria related to down woody material.</p> <p>Sites within the South project area selected for</p>

		<p>insight into whether these stands are actually able to support species dependent on late successional habitat. Will the proposed treatments encourage growth and the development of late successional forest in the project area?</p> <p>How is it possible to both thin <i>and</i> create old growth? Doesn't thinning remove stems that are valuable for the creation of future snags and coarse woody debris? Doesn't thinning decrease mortality, thereby decreasing snag availability and coarse woody debris? Furthermore, experts have noted that the process by which a stand becomes old growth is just as important as the old growth itself (USFS 2000).</p>	<p>SS 5 designation do fulfill the criteria outlined in the Phase II Amendment to the Forest Plan: Structural State 5 (Late Succession): This structural stage is characterized by very large trees (16+ inches DBH). Trees are at least 160 year in age; ponderosa pine that reach this age are commonly referred to as “yellow barks.” Late succession ponderosa pine may occur in dense stands, but may also grow in the open or in “park-like” stands (Mehl 1992)</p> <p>The South project does not propose to thin <i>and</i> create old growth.</p>
9s	Eric Molvar, BCA	<p>BLM infers that the logging treatments will move stanbds into higher structural stage classes by removing competitor trees (DEIS at 79), but having a few bvery large trees scattered across the landscape does not create the type of old-growth conditions preferred by interior forest species.</p> <p>We request that the agency present information and research to support its proposed actions.</p>	<p>There is no discussion by BLM on page 79 of the South DEIS. See pages 83-89 (Silviculture section) in the FEIS for the effects of proposed activities on structural stages and large trees.</p> <p>Refer to response to 9p and 9r on late succession.</p> <p>The specialists involved with the South Project EIS used the best available science, including the most recent Forest Plan monitoring report, the Phase II Amendment FEIS, species conservation assessments, peer- reviewed journal articles. Citations submitted during public involvement have been reviewed. A declaration on the use of best available science is contained in the Project File for each resource specialist. See also the list of literature cited in</p>

			Chapter 5 of the FEIS.
9t	Eric Molvar, BCA	<p>Additionally, what is the slope that the stands of ponderosa pine in SS 5 and SS 4C are on? Is it steep, gentle?</p> <p>Northern goshawks have been found to nest primarily on "benches" with a mean slope of 12.% (Erickson, 1987). Thus, understanding the slope of the late successional and dense mature forest stands in the project area can help to understand their value for sensitive species habitat. To that end, what is the slope that the untreated stands of ponderosa pine in SS 4C are on?</p> <p>What is the patch size of the late successional areas in the project area? This information is needed to understand the ecological value of the late successional habitat in the area. For instance, certain species of wildlife,</p> <p>namely black-backed and three-toed woodpeckers, require large blocks of dense mature or late successional forest to ensure their survival (USFS 2000). Additionally, species like the marten typically require large stands of mature or late successional forest either as home range habitat or for connectivity habitat (Buskirk 2002).</p>	<p>There is no Forest Plan direction associated with slope of sites in relation to goshawk habitat.</p> <p>Refer to response 9k on northern goshawks. Reference article was reviewed. Response found in project file.</p> <p>Refer to response 9p and 9r on late succession.</p> <p>Refer to response 9x on the black-backed woodpecker. Habitat for the marten and the three-toed woodpecker does not occur within the South project area (See appendix D).</p>
9u	Eric Molvar, BCA	<p>2. CUMULATIVE IMPACTS OF LIVESTOCK GRAZING</p> <p>Belskey and Blumenthal (1997) state:</p> <p>The studies cited above strongly suggest that livestock as well as fire suppression, logging, and other anthropogenic activities, have contributed to altered 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</p>	<p>Reference was reviewed. Response contained in project file.</p> <p>The proposed project's objective is to reduce the risk of large-scale, high-intensity wildfire as well as other objectives outlined in the Purpose and Need statement. To achieve these objectives, use of commercial treatments, noncommercial thinning and prescribed fire is</p>

		<p>they have changed the physical environment by reducing fire frequencies, compacting soils, reducing water infiltration rates, and increasing erosion. (p. 324)</p> <p>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 of conditions" (p. 324).</p> <p>It is entirely evident that livestock grazing on the Black Hills affects ponderosa pine stand condition and this must be addressed in an EIS.</p> <p>This is especially necessary given that the DEIS discloses livestock grazing occurs in the timber sale area (DEIS, p. 85).</p>	<p>proposed. Application of livestock grazing to achieve project objectives is not proposed. Therefore, the Range Specialist's Report analyzes the impacts of the proposed actions (commercial treatments and precommercial thinning, prescribed fire) on the range resource.</p> <p>The cumulative effects analysis completed for this project considered cattle grazing as a past, present and future activity (See Appendix E).</p> <p>Addressing livestock grazing on the Black Hills is outside the scope of the South project.</p> <p>No reference to livestock grazing is found on page 85 of the South DEIS. See pages 179-180 of the South FEIS for a discussion of Range within the project area.</p>
9v	Eric Molvar, BCA	<p>3. FRAGMENTATION AND EDGE EFFECT</p> <p>The DEIS fails to provide any analysis and assessment of the direct, indirect, and cumulative effects of the South timber sale to habitat fragmentation in the project area. Portions of the Black Hills are highly fragmented due to reduced patch size caused by roads and logging (Shinneman 1996, Shinneman and Baker 2000). Furthermore, studies have shown the level of fragmentation that exists in this area of the Black Hills is outside the range of natural variability (Shinneman 1996, Shinneman and Baker 1997). This is supported by historical accounts of the area, which reported</p>	<p>Fragmentation and connectivity of habitats in the Black Hills was analyzed in the 1997 Forest Plan Revision FEIS (Ch. 3, p.247 through 275) that discusses the effects from timber management and roads (effects of edge) on wildlife and plant species. This analysis was based on a Parrish et al. (1996) paper that reviewed the range in natural variability and 100 years of change in the Black Hills. The Forest Plan addresses both fragmentation and wildlife</p>

		<p>larger expanses of mature forest as well as stand-replacing fires (Dodge 1876, Newton and Jenney 1880, Graves 1899, Duthie 1930).</p> <p>Shinneman and Baker (2000) state:</p> <p>Our study demonstrates that the Black Hills National Forest is presently a highly fragmented landscape, with high road density, patchy forest conditions, much edge and little interior habitat, few large interior areas, and very little dense old-growth forest. Moreover, these conditions represent a significant deviation from the large patches and dense old forests, which are a component of the Black Hills range of natural variability. Thus, widespread application of proposed thinning and fragmenting management strategy will move the forest farther from its range of natural variability by decreasing patch size and increasing patch edge in an already severely fragmented landscape. (p. 322)</p> <p>The two also recommend:</p> <p>... 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. (p. 322).</p> <p>In light of these findings, we request the Forest Service take measures to restore and maintain large patches of dense,</p>	<p>habitat diversity in part through a desired mix of forested structural stages (See Objectives 5.1-204, 5.4-206). The Phase II FEIS evaluated the effects of this mix on all special status species, including those associated with old growth conditions.</p> <p>The Shinneman and Baker (2000) publication was considered during the Phase II Amendment process (see the Phase II FEIS beginning on p. III-336 for that discussion), and was acknowledged as one of several hypotheses on pre-settlement conditions and processes. Shinneman and Baker (2000) interpret inter-stand differences in forest structure and the presence of roads or trails as forest fragmentation in the northern Black Hills. The analysis considered each vegetation polygon in the USFS vegetation database as a separate "patch", or discrete island of forest. However, these patches on the landscape are not discrete islands of forest but are determined different from each other by various components such as canopy closure within a forest environment. Moreover, some of these patches represent naturally-occurring "fragmentation" such as hardwoods and meadows. The authors do not distinguish between natural and created openings (i.e., second growth forest). Shinneman and Baker (2000) also treat the roads and trails equally, whether a heavily used county road or a two-track trail. In addition, they don't differentiate between roads open or closed to motorized use. Murcia (1995) reviews forest fragmentation based on fragmentation created by replacement of large areas of native forest by other ecosystems, leaving isolated forest patches (forest vs. agricultural fields) which is not applicable to the Black Hills.</p>
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		<p>mature forest in the South timber sale area, take measures to restore large areas of dense old-growth forest in the timber sale area, reduce road edge habitat, and restore connectivity between large core areas with similar habitat. Indeed, connectivity has been defined as crucial for the survival of</p> <p>marten</p> <p>and northern flying squirrel (Buskirk 2002,</p> <p>Reunanen et al. 2000), both species for which there are currently viability concerns on the BHNF. We also request the Forest Service fully analyze and assess the impacts of fragmentation.</p> <p>Additionally, the DEIS entirely fails to provide an analysis and assessment of the edge effect caused by roads and logging. The creation of "edge effect," which is defined by Baker and Dillon (2000) as "the suite of differences in microenvironment and biota across edges between forest and nonforest or early successional vegetation" (p. 221, citations omitted), can be detrimental to plants and animals and their habitats (Murcia 1995). Logging and roads create edge effects between cut and uncut forest (i.e., the edge) and as a result, create environments that are different from interior or undisturbed forest habitat. Logging and road construction most often creates edges between older forest</p>	<p>Refer to response 9t and Appendix D concerning American marten.</p> <p>Refer to pages 150-153 of the South FEIS and response at 9ff for discussion of northern flying squirrel.</p> <p>Reunanen et al. (2000) work was completed in Finland, where northern flying squirrels were associated with boreal spruce communities. In the Black Hills, these squirrels can exist in a forest mosaic that results from naturally occurring patch landscapes from disturbances such as fire, windthrow, and insect outbreaks. Although northern flying squirrels are able to exist in monocultures due to their adaptability, monocultures are not optimal habitat.</p> <p>The effects of the alternatives on forest structure is found in the South FEIS (pages 83-89).</p>
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9w	Eric Molvar, BCA	<p>4. NORTHERN GOSHAWK</p> <p>The northern goshawk is suffering now, more than ever, on the BHNF. In the past few years, the BHNF has experienced several large-scale 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 Ranger District have been vandalized in recent years. These nests were completely destroyed and the</p>	<p>See response at 9k about northern goshawk.</p> <p>The northern goshawk is considered an R2 Sensitive species but not a Forest MIS species. A summary of effects of the alternatives on Northern Goshawks are discussed in the South FEIS on pages 161-163). A summary of the BA/BE and the effects determinations for Region 2 Sensitive species is provided in Appendix D.</p>

		<p>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.</p> <p>Compounding this situation is the fact that the Phase II Amendment provides entirely inadequate protection for the northern goshawk and its habitat. In fact, the Forest Service stated in the</p> <p>Phase I Amendment Biological Evaluation that it is "uncertain" whether it 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 II Amendment and current Forest Service management is contributing to the extirpation of the northern goshawk on the BHNF:</p> <ul style="list-style-type: none"> • 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 Forest Service subsequently ruled this conclusion to be flawed. The population figure still exists, however. • 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 and aspects conducive to goshawk nest establishment. • Leading USFS goshawk researchers have concluded the BHNF could support up to 300 pairs of northern goshawk. • Since 1997, thousands of acres of goshawk nesting habitat 	<p>The Phase I Amendment of the Black Hills Land and Resource Management Plan (Forest Plan) was superceded when the Phase II Amendment was approved and signed by the Regional Forester on October 31, 2005.</p> <p>No treatment is proposed within structural stage 5 (late successional pine) in the South project.</p> <p>The Forest Plan addresses northern goshawk habitat diversity in part through a desired mix of</p>
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		<p>and countless nest sites have been destroyed throughout the Black Hills by fire and storms.</p> <ul style="list-style-type: none"> • Currently, MPB levels are killing many of the remaining old growth forest trees. • Experts have all concluded that current goshawk management on the BHNF places the species at greater risk of extirpation (USFS 2000). <p>• Protection of active nest sites is extremely limited. Disturbance within 1/2 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. Furthermore, goshawks on the Black Hills have been documented to be especially sensitive to disturbance (Erickson 1989), yet this doesn't appear to be receiving any consideration by the FS.</p> <ul style="list-style-type: none"> • The Forest Plan fails to account for the need to provide for more northern goshawk habitat, especially nesting habitat, on the BHNF. Surveys do not protect species. • Even in protecting goshawks, the Forest Service does not limit activities that adversely impact northern goshawk and its habitat. • 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 USFS continues to ignore the impacts of large-scale 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. <p>• The USFS is pushing ahead with logging and thinning in the Norbeck Wildlife Preserve, an area that the agency describes as providing excellent northern goshawk nesting habitat.</p>	<p>forested structural stages (See Objectives 5.1-204, 5.4-206). This mix includes providing suitable nesting habitat along with foraging habitat for this species Forest-wide. The Phase II FEIS evaluated the effects of this mix on this species. The effects of the action alternatives of the South project are within the bounds of the effects disclosed under the Phase II amendment FEIS.</p> <p>Known nests would be protected from disturbance and unacceptable habitat alteration by following design criteria outlined in Appendix B. These criteria make project activities consistent with the Forest Plan.</p> <p>See response to comment 9m regarding viability of species.</p> <p>See response to 9p and 9r on late succession.</p> <p>Monitoring of goshawk status and trend on the BHNF is completed at the Forest level, with results found in the annual monitoring and evaluation report (USDA Forest Service 2007). This report was utilized in the South project analysis.</p> <p>The Norbeck Wildlife Preserve and all associated projects are outside the scope of the</p>
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		<ul style="list-style-type: none"> • 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. • The USFS has failed to develop and implement any consistent and accurate monitoring plan for the northern goshawk. • 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 and MPB risk. 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). <p>The South timber sale adds to the long list of threats to the goshawk and its habitat on the BHNF. The DEIS, however, does not disclose what the impacts will be to Northern goshawks in the project area. We aren't even told if there are goshawk nest sites in the project area. Why is the FS continuing to inhibit the development of nesting habitat?</p> <p>While the FS may claim that it needs to manage for goshawk prey, 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 (USFS 2000).</p> <p>By reducing the availability of future nesting habitat in PFAs, 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?</p> <p>Furthermore, how can the FS conclude with any certainty that if individuals are impacted, the viability of the northern</p>	<p>South project.</p> <p>Table 3.46 in the South DEIS illustrated the goshawk nest territories within the project area.</p> <p>Six goshawk territories are known within the boundary of the South project area based on recent survey results. Three of these territories have been active within the past five years (See Table 3.51 on page 161 of the FEIS).</p> <p>The FEIS shows one additional goshawk nest because a new nest area was discovered between the Draft and Final EIS. See Table 3.51 on page 161 of the FEIS for more information.</p> <p>PFA (post-fledging area) was a term used in conjunction with the Phase I amendment of the Forest Plan. This term is not part of Forest Plan direction under the Phase II amendment.</p>
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		goshawk will be maintained? What is the current population size of the northern goshawk? What is the current availability of nesting habitat? Is this a viable population? Is habitat well distributed in the project and planning area? Since the northern goshawk is also an MIS on the BHNF, what population trend data does the FS have for this species?	Refer to 9m for a discussion about viability.
9x.1	Eric Molvar, BCA	<p>5. BLACK-BACKED WOODPECKER</p> <p>The black-backed woodpecker is an MIS and an Region 2 Sensitive Species. Again, we are referred to a document in the District Ranger's office for substantive information. The DEIS contains a scant six paragraphs of information. The DEIS fails to provide important information necessary to understand the impacts of the South timber sale.</p> <p>Alternatives Band C include timber harvest prescriptions that would result in loss of large trees and reduction in stand density. Yet the DEIS states that, "Both alternatives would increase the amount of very large tree component. How can this be? How can very large trees be harvested and increase at the same time?"</p>	<p>See discussion of black-backed woodpecker in the South FEIS on pages 166-168 and Appendix D.</p> <p>A tree-size component is a relative average of all trees within a site. In the action alternatives, treatments would increase the Very Large Tree component (>16" DBH). This increase is due to a change in average tree diameters when thinning treatments remove the smaller diameter trees within a site. (South FEIS, pages 85-89).</p>
9x.2	Eric Molvar, BCA	<p>5. BLACK-BACKED WOODPECKER (cont'd)</p> <p>How did the FS assess impacts to this sensitive woodpecker? Overall, the DEIS fails to adequately analyze and assess the impacts of the South timber sale to black-backed woodpecker.</p> <p>This is of great concern given the body of knowledge that exists about the species (see e.g., Anderson 2003). For instance, the species depends heavily on wood-boring beetles for survival and thus insect outbreaks and burned</p>	<p>Effects of the alternatives on black-backed woodpecker habitat are discussed in the South FEIS pages 166-168 and in Appendix D.</p> <p>The effects are within the bounds of the effects disclosed under the Phase II amendment FEIS. The Forest Plan addresses black-backed woodpecker habitat diversity in part through a desired mix of forested structural stages (See</p>

		<p>areas provide excellent habitat and are necessary for the survival of populations (Hutto 1995, Murphy and Lenhausen 1998, Imbeau et al. 1999,2001, Mohren 2002, Powell et al. 2002). Dense mature and late successional forests are also essential to ensure persistence of the species in between largescale fire and insect episodes (Settingington et al. 2000, Mohren 2002, Anderson 2003).</p>	<p>Objectives 5.1-204, 5.4-206) with the maintenance of very large tree component in mature pine structural stages, and snag levels. The Phase II FEIS evaluated the effects of this mix and snag availability on this species, along with habitat created by fire and insect events.</p> <p>See also responses at 9p and 9r on late succession</p> <p>References were reviewed. Discussion of references is contained in the project file.</p>
9x.3	Eric Molvar, BCA	<p>Snags are also vital and may be limiting populations on the Black Hills (Mohren 2002). The species also responds negatively to logging (Saab and Dudley 1998, Hutto 1995, Murphy and Lenhausen 1998, Imbeau et al. 1999).</p> <p>Black-backed woodpeckers are most likely suffering on the Black Hills due to low snag densities, a lack of old growth, and insect and fire prevention and control measures (Mohren 2002). Mohren (2002) makes several suggestions for how to mitigate impacts to the black-backed woodpecker, stating:</p> <p>Permitting wildfires to burn in the Black Hills may improve the population size of the species. (p. 89)</p> <p>Allowing stands to mature and become decadent will help provide foraging habitat for black-backed and three-toed woodpeckers. (p. 89). Creating stands that become susceptible to wood-boring beetles will provide an abundance of available prey for both these [black-backed and three-toed woodpecker] species. (p. 89)</p>	<p>Refer to pages105-108 in FEIS of the South FEIS for a discussion of snags and Appendix B for snag design criteria.</p> <p>Refer to response at 9p and 9r on late succession and 9x.1 and 9x.2 on black-backed woodpecker.</p> <p>We agree that wildfires and areas of beetle infestation does provide habitat for black-backed woodpeckers. Refer to discussion on page 166-168 of the FEIS.</p> <p>In all alternatives, MPB mortality will continue in sites that are susceptible to infestation, therefore prey for these birds will continue to be available. See 9y for discussion of three-toed woodpecker.</p>

		<p>Additionally, Anderson and Crompton (2002) make a similar recommendation, stating "Despite increasing demands for timber harvest, large tracts of unlogged, mature forest should be retained throughout the Black Hills" (p. 372). It is thus difficult to see how the South timber sale provides any of these benefits and how the black-backed woodpecker will not be significantly impacted as a result. In this EIS, the Forest Service fails to even disclose the number of snags per acre that will remain under the various alternatives, in violation of NEP A's 'hard look' requirements. <i>See</i> DEIS at 98.</p> <p>The Forest Service recognizes that black-backed woodpeckers select high-diameter snags for nesting and high canopy closure habitats over open canopy forest. DEIS at 109. The agency fails to estimate the net loss of acreage of potential black-backed woodpecker habitat (closed-canopy SS4A and higher), and does not make a viability determination for this species.</p> <p>Overall, there doesn't appear to be much support for the Forest Service's viability determination for this species. What is its current population? Is it viable? Is its population and habitat well distributed? What are the current population trends?</p>	<p>The Phase II Amendment, Goal 11, provides direction for managing fire-killed trees for species that prefer this habitat. Part of the purpose and need for the South project is to reduce hazard of and effects from large-scale wildfires and reduce risk of mountain pine beetle infestation.</p> <p>See 9m regarding viability of species.</p> <p>Monitoring of black-backed woodpecker status and trend on the BHNF is completed at the Forest level, with results found in the annual monitoring and evaluation report (USDA Forest Service 2007).</p>
9y	Eric Molvar, BCA	<p>6. THREE-TOED WOODPECKER</p> <p>The DEIS' s discussion of the three-toed woodpecker is limited to the cursory notations in Table 1 of Appendix E. Like the black-backed woodpecker, this species will suffer decreasing dense, mature forest habitat, will lose snag availability, and will lose a portion of its pine bark beetle food source. Yet the Forest Service still concludes that there will be no loss of viability of the species. We disagree with this conclusion, as all of the indicators point to the opposite conclusion. We challenge 'the Forest Service to provide population trend and population viability information for</p>	<p>There is no mature spruce forest present within the South project area, which is the preferred habitat for this species in the Black Hills. See Appendix D.</p>

		<p>this species, both on the project area and forest-wide, which supports the agency's claim that there will be no loss of viability.</p> <p>S reports have documented the importance of late successional forest that has been undisturbed by timber management and where natural processes, such as insect outbreaks and wildfires are allowed to occur (Settingington et al. 2000, Imbeau and Desrochers 2002, Mohren 2002). Aspen also appears to be an important nest tree in the Black Hills (Mohren 2002). Furthermore, researchers have found that simple snag retention standards may be inadequate to protect the three-toed woodpecker (Imbeau and Desrochers 2002). Imbeau and Desrochers (2002) state, "Among snags, which were preferred over live trees for foraging, recently DEISd trees were used more often than more deteriorated ones. Among live trees, more deteriorated, dying trees were preferred over healthy ones." (p. 229). The two conclude, "Demonstrating the importance of recently DEISd or dying trees - as opposed to all types of snags - for foraging three-toed woodpeckers, illustrates the importance of natural disturbance dynamics as a key factor ensuring woodpeckers persistence in managed forests" <u>Id.</u> Based on this existing research, it doesn't seem that the Forest Service's proposed snag and green tree retention standards are adequate for the three-toed woodpecker. Therefore, the FS must revisit its analysis of impacts to the three-toed woodpecker and ensure that the species is adequately protected.</p> <p>Is there currently a viable population of three-toed woodpeckers on the BHNF? How did the FS assess impacts to the viability of this species?</p>	
9z	Eric Molvar, BCA	<p>7. FLAMMULATED OWL</p> <p>There is no discussion of the cumulative effects (or direct and indirect effects) of timber harvesting to the flammulated owl. Given the species' rare status throughout its range, its dependence upon old growth ponderosa pine, and the fact</p>	<p>The flammulated owl is considered an R2 Sensitive species. Effects, including cumulative effects, of the alternatives on flammulated owl habitat are summarized in the South FEIS (pages</p>

		<p>that this species' existence has only recently been confirmed on the BHNF, there is significant concern over the impacts of forest management activities - especially logging and thinning - 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 South timber sale (see e.g., Linkhart et al. 1998, Linkhart and Reynolds 1997, Reynolds and Linkhart 1992, 1987a, 1987b).</p> <p>Forest Service claims that viability would be maintained if standards and guides are followed are completely unavailing - the agency does not even know if a viable population exists in the Black Hills at present. See DEIS at 151.</p>	<p>164-166). See also discussion in Appendix D.</p> <p>The effects are within the bounds of the effects disclosed under the Phase II amendment FEIS. The Forest Plan addresses flammulated owl habitat diversity in part through maintaining a desired mix of forested structural stages (See Objectives 5.1-204, 5.4-206) and maintenance of "very large tree" component in mature pine structural stages. Snags are provided in adequate densities Forest-wide (USDA Forest Service 2007). The Phase II FEIS evaluated the effects of this mix of structural stages on this species.</p> <p>Literature referenced by commenter was reviewed and discussion is available in the project file.</p> <p>See response at 9m regarding species viability. Monitoring of flammulated owl status and trend on the BHNF is completed at the Forest level, with results found in the annual monitoring and evaluation report (USDA Forest Service 2007).</p>
9z	Eric Molvar, BCA	<p>8. MYOTIS SPECIES</p> <p>There is really no context provided for the analysis and assess of the impacts of the South timber sale to the northern long-eared, long-eared, fringed, small-footed, and long-legged myotis.</p> <p>As with many species discussed above, the analysis provided is contained in Table 1, Appendix E.</p>	<p>The fringed myotis is an R-2 sensitive species. This species is discussed on pages 155-157 in the FEIS and in Appendix D.</p> <p>The other myotis species mentioned are Species of Local Concern (SOLC). These species are discussed on pages 145-150 in the FEIS.</p> <p>Appendix E in both the DEIS and FEIS for South, is a listing of past, present and future activities considered in the cumulative effects analysis. It does not discuss myotis species.</p>

		<p>The analysis only discloses that there will be a reduction in snag roost availability and no loss of viability. We continue to ask the Forest Service to provide a basis for this claim. We do not understand how individuals may be impacted, yet there is no loss of viability. How many individuals will be impacted? In what way will they be impacted? What are the cumulative impacts, both in the project area and forest-wide? Is the population currently viable? What is the population trend for the species in the BHNF?</p>	<p>Refer to response to 9m on viability.</p>
9aa	Eric Molvar, BCA	<p>9. BLACK HILLS RED-BELLIED SNAKE</p> <p>Suitable habitat for Black Hill red-bellied snake has been documented in the South project area. DEIS at 153.</p> <p>In the absence of any direct and cumulative analysis whatsoever,</p> <p>the agency has leaped to the irrational assumption that as long as plan standards and guidelines are met,</p> <p>viability is assured. Evidence needs to be provided to assert this assertion. What analysis was actually conducted? This</p>	<p>Page 153 of the South project DEIS does not say that suitable habitat has been documented within the South project area. Rather, the DEIS (and FEIS at page 167) states, “Suitable habitat is suspected in isolated areas in the South Project area.”</p> <p>This species is discussed in the South FEIS on pages 166-168, which includes direct and cumulative effects. Refer also to design criteria in Appendix B.</p> <p>The Forest Plan addresses the Black Hills Red-bellied snake habitat through providing protection for riparian and wetland areas through standards and guidelines and design criteria in Appendix B.</p> <p>Refer to response 9m on viability.</p>

		<p>information <i>must</i> be included in the DEIS, not elsewhere. According to the DEIS, the South timber sale involves a significant amount of timber harvesting, thinning, and road maintenance and reconstruction.</p> <p>We cannot understand how the proposed action poses any beneficial impacts, only negative impacts. Where does the species' habitat exist in proximity to roads?</p>	<p>No activities are proposed within riparian habitats, which is this species preferred habitat, during implementation of the South project. See pages 60-61 and 111 in the FEIS.</p>
9bb	Eric Molvar, BCA	<p>10. SNAIL SPECIES OF SPECIAL CONCERN</p> <p>The analysis for snail species of special concern, including the discussion of the species and the direct and indirect impacts to the species, is woefully lacking. It consists of a single page. We seriously question the extent of analysis that was conducted for this species. The callused vertigo, mystery vertigo, and striate disc are known to occur in the project area. DEIS at 116.</p> <p>Have recent surveys been conducted? When will the Forest Service attempt to identify the diverse snail species? We are quite troubled with the quality of analysis conducted for these sensitive species</p> <p>.</p> <p>The callused vertigo is found in moist sites within closed, canopy, mature forest types. DEIS at 119. These are the very habitats that would be reduced by 79% by the Proposed Action. But the Forest Service makes no effort to determine the impact of the action alternatives on the viability of this species. DEIS at 120. The mystery vertigo has similar vulnerabilities to opening the canopy and increasing sunlight to the forest floor. DEIS at 121. The abbreviated viability analysis for this species depends solely on adherence to administrative requirements that will do little to reduce the demise of snail habitat in the project area; the Forest Service does not even pretend to maintain the viability of this snail species in the South project area, instead merely claiming that its viability will be maintained</p>	<p>Four snail species of local concern (SOLC) are analyzed in the South project. See pages 130-137 of the FEIS. Snail surveys are discussed in this section.</p> <p>See response at 9m on viability.</p>

		<p>in the BHNF as a whole. DEIS at 122.</p> <p>While Objective 221 applies to snail colonies of local concern, Forest Plan Standard 3103 spells out specific, enforceable guidance for the protection of sensitive snail colonies. It is clear that the South Project as presently proposed in the action alternatives (B and C) will not meet the direction of Standard 3103. As mentioned above, these alternatives will open up the pine forest, thereby subjecting snail colonies to more direct sunlight, drier conditions, and hotter temperatures.</p> <p>There is also a potential loss of downed woody material in snail habitat. Standard 3103 also requires avoidance of burning (i.e., prescribed burning), avoidance of heavy equipment (i.e., logging trucks, etc.), and other activities that may compact soils or alter vegetation composition and ground cover. The proposed activities will violate this standard, an outcome which is prohibited.</p> <p>The DEIS discloses that project design criteria and mitigation measures would protect known snail colony habitats. Yet the DEIS presents no specific mitigation measures to protect known colonies of snail species of concern. What specific mitigation measures are planned? While we appreciate the Forest Service's claim that snail colonies will not be disturbed or will be avoided, the DEIS fails to show how and to what extent this will be done. Will a buffer be used? Will habitat in and around the colonies be protected? How will the colonies be protected on the ground?</p> <p>Additionally, project activities may affect snail colonization and any unknown snail sites. We are concerned that</p>	<p>Standard 3103 refers to known snail colonies. Known colonies will be protected through avoidance. See design criteria in Appendix B which discusses “no treatment” buffers for colonies that are within proposed vegetation treatment sites. Other known colonies that occur outside of areas proposed for activity would be protected by avoidance.</p> <p>Refer to Appendix B for design criteria related to down woody material.</p> <p>Design criteria, not mitigation measures, are proposed for protecting known snail colonies. Refer to Appendix B.</p> <p>If additional snail colonies were detected prior to harvest, Standard 3103 would be applied to</p>
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		<p>unknown snail populations exist and that the Forest Service has not monitored snail species as directed by Objective 221. We are also concerned that Alternatives Band C would increase open pine habitat, a scenario that would not be favorable to snail colonies. To say that these two alternatives are consistent with Objective 221 is false and misleading.</p> <p>Furthermore, the FS' s analysis and assess of impacts to snail species of concern is entirely lacking. For instance, while the FS claims that snail colonies will not be directly impacted, even logging and road construction and reconstruction that does not directly impact a Black Hills mountainsnail colony, may be detrimental to the species and its habitat. The creation of "edge effect," which is defined by Baker and Dillon (2000) as "the suite of differences in microenvironment and biota across edges between forest and nonforest or early successional vegetation" (p. 221, citations omitted), can be detrimental to land snails and their habitats (Murcia 1995). Logging and road construction creates edge effects between cut and uncut forest (i.e., the edge) and as a result, creates an environment that is different from interior or undisturbed forest habitat. Logging and road construction most often creates edges between older forest and younger forest, but in some cases (i.e., clearcutting) creates edges between older forest and no forest. The creation of edges often leads to increased levels of light, increased air and soil temperatures, lower soil moisture, increased exposure to wind and other weather, and decreased diversity when compared to interior or undisturbed forest(Baker and Dillon 2000). Additionally, edges amplify or alter the effects of natural disturbances, such as fire (Baker and Dillon 2000). However, the impacts of "edge effect" often extend beyond the edge itself (Murcia 1995, Baker and Dillon 2000). The depth-of-edge influence, or the distance over which an edge environment differs from an undisturbed forest environment, may extend 60 meters (approximately 197 feet) or more from an edge into undisturbed forest (Baker and Dillon 2000). Thus, the detrimental impacts of logging and road construction (i.e.,</p>	<p>protect the site.</p> <p>See pages 130-137 of the South FEIS for a discussion of SOLC snail species.</p>
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		<p>increased insolation, increased ground temperature, increased exposure, decreased moisture and humidity, and decreased diversity) may be experienced by snail colonies and their habitat even though logging may be occurring 60 or more meters away. The FS must address this potentially significant impact in the Final EIS.</p> <p>Additionally, logging and road construction may indirectly impact snail colonies by negatively affecting suitable habitat and</p> <p>local hydrology. Frest and Johannes (2002) state, " ... to effectively conserve the colony, consideration must be given to the surrounding plant community, the dynamic aspect of snail colonies, and, perhaps most importantly, the geology (physiography, geomorphology, and ground water hydrology, minimally) of the site" (p. 14). Logging and road construction may reduce vegetative diversity and degrade and/or destroy vegetation communities that support snails, which in turn limits the ability of colonies to expand and/or disperse (Frest 2003, Frest and Johannes 2002). According to Frest (2003), snail colonies are ephemeral, or shift back and forth through time. Therefore, while the species may not exist in a suitable habitat at the present, it is very likely that the species may inhabit suitable habitat in the future (Frest 2003). Logging may also adversely affect local hydrology (Frest 1994, 2003). Surface water and ground</p>	<p>Population viability for snail species was evaluated during the Phase II Amendment to the 1997 Land and Resource Management Plan. Phase II determined that population viability across the planning area would be maintained if Forest standards and guidelines are followed. The proposed activities are expected to meet these standards and guidelines. Therefore, this species is likely to persist on the Black Hills National Forest.</p> <p>See pages 32-68 of the FEIS for a discussion of hydrology and soils.</p> <p>No road construction is proposed with any of the South Alternatives.</p>
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		<p>water are closely related on the Black Hills (USFS 1996). Accordingly, logging may indirectly reduce the availability of water for absorption into the ground by increasing insolation, increasing ground temperature, increasing exposure, and decreasing moisture and humidity (USFS 1996a, Frest 1994, Frest 2003). In turn, this may reduce the availability of water for springs, seeps, or other moist areas that typically support snails (USFS 1996, Frest and Johannes 2002, Frest 1994, 2003). The FS must address these potentially significant impacts.</p>	
9cc	Eric Molvar, BCA	<p>11. BROWN CREEPER</p> <p>Another species that requires dense, mature forest (late successional) stands, is the brown creeper. Forest Plan Objective 338 states in part:</p> <p>Maintain or enhance habitat for ruffed grouse, beaver, song sparrow, grasshopper sparrow, white-tailed deer and brown creeper; as outlined in specific direction pertaining to aspen, other hardwoods, riparian areas, grasslands, spruce and ponderosa pine (e.g., Objectives 201, 205, 211, 239-LVD, 5.1-204).</p> <p>We question whether by harvesting SS 4C timber, the bird's habitat will be either maintained or enhanced. Can the Forest Service guarantee that the trees it harvests are those that would be killed by fire or beetles? Can the Forest Service know which trees will survive MPB attacks and leave those standing? We think not.</p> <p>Furthermore, recent studies have all found that brown creepers are only found in unmanaged stands of ponderosa</p>	<p>There is no Forest Plan Objective 338. Rather Forest Plan objective 238 is quoted. See pages 126 of the FEIS concerning Objective 238 in relation to brown creeper.</p> <p>Refer to pages 124-126 of the South FEIS for a discussion of alternative effects to brown creeper habitat.</p> <p>The effects are within the bounds of the effects disclosed under the Phase II amendment FEIS. The Forest Plan addresses brown creeper habitat diversity in part through a desired mix of forested structural stages (See Objectives 5.1-204, 5.4-206) with the maintenance of very large tree component in mature pine structural stages, and snag levels. The Phase II FEIS evaluated the effects of this mix on this species. See the Phase II FEIS pages III-249-258 for a discussion of brown creeper.</p> <p>Refer to responses 9p and 9r on late succession</p>

		<p>pine and that logging has a negative impact on the bird (Thomas 1979, Crompton 1994, Dykstra 1996, Dykstra et al. 1999, Rumble et al. 2000, Anderson and Crompton 2002). Studies have also documented the importance of "interior" forest to the brown creeper, or large blocks of mature to late successional forest (Anderson and Crompton 2002). Anderson and Crompton (2002) recommend that:</p> <p>Despite increasing demands for timber harvest, large tracts of unlogged, mature forest should be retained throughout the Black Hills. 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. (p. 372)</p> <p>While the DEIS provides no analysis of how the timber sale will affect fragmentation and patch size in the project area, it seems reasonable to conclude that the proposed logging and road construction will continue to reduce patch size, reduce the availability of interior forest, and overall degrade thousands of acres of brown creeper habitat.</p> <p>In light of these negative impacts, how is it possible that this species will not be significantly impacted? It is difficult to understand how the negative impacts of the South timber sale will be offset by increased habitat. The DEIS provides no information or analysis showing how much brown creeper habitat will remain, whether this habitat is well-distributed, and whether or not this "uncut" habitat will be treated in the near future (i.e., experience reasonably foreseeable impacts). Indeed, the project is slated to remove 79% of the mature pine sites that serve as primary habitat. DEIS at 114.</p>	<p>and dense mature pine.</p> <p>Refer to response 9v on fragmentation.</p> <p>Refer to response 9m on viability.</p> <p>There is no road construction proposed in the South project.</p> <p>Refer to Table 3.28, Table 3.29, 3.34 and 3.35 for a comparison of Forest-wide structural stages in relation to implementation of the South project. These tables show that 4B and 4C (mature pine) remain above the objective level Forest-wide for both management areas in all alternatives.</p>
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		<p>Finally, no population trend data is presented to provide any context for the habitat declines that will occur as a result of the timber sale. The FS has thus failed to provide the most minimal context for its assessment, that is the agency's requirement that population trends of management indicator species be monitored and integrated into project-level analyses to ensure the viability of native species will be maintained. We request the FS present population trend data to ensure a valid and accurate assessment of impacts to the brown creeper and to other species dependent upon dense mature and late successional forest habitat.</p>	<p>A statement is made on page 124 of the South FEIS: The Forest-wide habitat trend is stable, as determined by comparing acres of preferred habitat available in 2006 with that in 1995, (USDA, Forest Service 2007).</p> <p>References were reviewed, with discussion in the project file.</p>
9dd	Eric Molvar, BCA	<p>12. SOILS AND WATERS</p> <p>We cannot understand how the Forest Service can appropriately rely upon BMPs as mitigation measures. The DEIS presents no information or analysis showing that South Dakota State BMPs are effective in protecting water quality, aquatic ecosystems, and soils on the Black Hills. Is monitoring of these BMPs conducted? If so, by whom and how frequently? Are there planned mitigation responses in place in the event BMPs are violated or found to be inadequate?</p> <p>Ten percent of the South Project area is made up of the Buska soil type, which is prone to mass wasting when it occurs on steep slopes that are disturbed. DEIS at 32. Approximately 28% of the project area is found on steep slopes > 20%. Id. The proposed action would approve 41 acres on slopes > 20% on soils with high mass wasting potential, and Alternative 3 would approve 32 acres of logging in such areas. DEIS at 54. Road work in such areas is not disclosed. In any case, slopes of this type should not be approved for any type of logging or road reconstruction.</p> <p>Furthermore, although Best Management Practices (BMPs)</p>	<p>Refer to pages 67-68 of the South FEIS for a discussion on BMP (Best Management Practices) Monitoring and Effectiveness. Watershed Conservation Practices (WCPs), developed by USDA Forest Service Region 2, are practices to protect soil, aquatic, and riparian systems. They are more specific than BMPs; "If used properly, they meet or exceed State BMPs. (USDA Forest Service, 2006b)</p> <p>See Appendix B for design criteria that would be implemented during this project to ensure that applicable Forest Plan standards and guidelines are met. Specific design criteria apply to certain soil types and slopes greater than 20%.</p> <p>There is no new road construction proposed, and</p>

		<p>and some types of road maintenance and improvement provide nominal reduction in some types of damage caused by roads, they do not come close to reducing road impacts to ecologically insignificant levels. Several types of environmental havoc caused by roads cannot be reduced an iota by BMPs. For instance, the loss of LWD recruitment from roads in riparian areas and the interception of subsurface flows at road cuts cannot be ameliorated by BMPs. Ziemer and Lisle (1993) indicated that there are no reliable data indicating that BMPs are cumulatively effective in protecting aquatic resources. Espinosa et al. (1997) provided evidence from case histories in granitic watersheds in Idaho that BMPs thoroughly failed to cumulatively protect salmonid habitats and streams from severe damage from roads and logging. In analyses of case histories of stereotypical resource degradation by stereotypical land management (logging, grazing, mining, roads) several researchers have concluded that BMPs actually increase watershed and stream damage because they encourage heavy levels of resource extraction under the false premise that resources can be protected by BMPs (Stanford and Ward, 1993, Rhodes et al., 1994 Espinosa et al., 1997). Stanford and Ward (1993) termed this phenomenon the "illusion of technique." Furthermore, the mere existence of roads causes erosion and sediment transport (Waters 1995), raising serious questions as to whether BMPs can effectively reduce this impact to insignificant levels.</p> <p>The Forest Service proposes to reconstruct 37 miles of system roads, maintain 148 miles of roads, convert 5 miles of unauthorized roads, and construct 3 miles of new roads .. These activities will have significant impacts. Therefore, we request the FS fully assess the effectiveness of BMPs to ensure waters and soils are fully protected in the South timber sale area. The FS must first ensure that BMPs are effective. If the FS cannot assure the effectiveness of BMPs, then the agency must prepare additional analysis and assessment to address any uncertainty associated with soils and water impacts and to address the potential violation of</p>	<p>no treatments proposed that would affect large woody debris recruitment to streams.</p> <p>Refer to pages 32-68 of the FEIS for a discussion of hydrology, soils and related roads effects. See also Appendix B for soil & water protection design criteria.</p> <p>The road mileages identified in the comment letter regarding the South project are incorrect. See the Transportation section of the South FEIS (pages 202-205) for a discussion of road proposals.</p>
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		<p>State and Federal environmental laws. Additionally, we question the Forest Service's claims that roads will not cause any significant adverse impacts. Will roads cross streams? Will roads travel down drainages? Will roads disturb soil? If the answer to any of these questions is "yes," then there is a potential for significant adverse impacts.</p> <p>While the FS claims that mitigation measures will minimize impacts, by how much? How much will mitigation reduce impacts? Is this level of "minimization" adequate to render impacts insignificant? What thresholds does the Forest Service use to assess the significance of impacts to waters and soils?</p>	<p>Design criteria are used to minimize impacts during project implementation. See Appendix B.</p> <p>References were reviewed by the Watershed Specialist. Discussion is provided in the project file.</p>
9ee	Eric Molvar, BCA	<p>13. CUMULATIVE IMPACTS TO LYNX (<i>LYNX CANADENSIS</i>), A FEDERALLY THREATENED SPECIES, AND ITS HABITAT</p> <p>There is no mention of lynx in the DEIS.</p> <p>In the final rule to list the lynx in the contiguous United States, the USFWS (2000) stated:</p> <p>Lynx observations in Nevada, North Dakota, South Dakota, Iowa, Nebraska, Indiana, Ohio, and Virginia are considered individuals dispersing subsequent to periods of cyclic high lynx numbers in Canada. During the early 1960's, lynx moved into the Great Plains and Midwest Region of the U.S. associated with an unprecedented cyclic high in Canada. These records are outside of the southern boreal forests where most lynx occurrences are found. We conclude that these unsuitable habitats are unable to sustain lynx and that these records represent dispersing individuals that are lost from the metapopulation unless they return to boreal forest. We do not consider these states to be within</p>	<p>A Biological Assessment/Evaluation (BA/BE) was completed for the South Project in accordance with Forest Service Manual (FSM) 2670 and FSM Regional Supplement No. 2600-2007-1.</p> <p>The USDI Fish and Wildlife Service was consulted on December 4, 2007 (USDI Fish and Wildlife Service 2007) to determine the current list of Threatened, Endangered, or Proposed species that occur or have potential to occur within Custer County. The Lynx (<i>Lynx canadensis</i>) was not included on this list, therefore further analysis of this species and its habitat is not required.</p> <p>According to the book Wild Mammals of South Dakota (Higgins et al. 2002), the most recently verified lynx record was a specimen from the Cheyenne River in Pennington County (1973).</p>

		<p>the contiguous U.S. range of lynx.</p> <p>65 Fed. Reg. 16059 (citations omitted). However, with regards to historical lynx observations in South Dakota, historical records and the best available science flatly contradicts the USFWS. Indeed historical records and the best available science strongly indicate the lynx historically inhabited the Black Hills of western South Dakota and possibly northeastern Wyoming as a permanent resident and the USFS must address this information.</p> <p><u>Lynx in the Black Hills</u></p> <p>Reports have indicated that the lynx historically inhabited the Black Hills. Turner (1974) states:</p> <p><u>Lynx canadensis</u> is typical of the heavily forested boreal regions of North America, but formerly occurred sparingly in suitable habitat in the Northern Great Plains region. Grinnell (1875:79) and Dodge (1876:323) both indicated that this species previously inhabited the Black Hills, and there have been several recent reports of lynx in the area. (p.263)</p> <p>Turner (1974) further reports that one lynx was taken from Meade County in the Black Hills in 1944 and that two specimens that had been shot in the northern and western Black Hills were examined between the years 1964 and 1974. Some of these reports may coincide with the increase in lynx populations in Canada during the 1960's (USFWS 2000). However, the reports of Grinnell (1875) and Dodge (1876) strongly indicate the lynx historically inhabited the Black Hills as a permanent resident - not as dispersing individuals.</p> <p>Indeed, both Grinnell and Dodge were part of the first two European-American expeditions into the Black Hills and were the first European-Americans to report on the natural resources of the Black Hills. Grinnell accompanied the Custer expedition into the Black Hills in 1874 and Dodge</p>	<p>South Dakota does not presently have a viable population of Lynx, but rather has a rare transient visitor.</p>
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led the next expedition in 1875 (Ludlow 1875, Dodge 1876)? This is significant in two regards. First, their reports were the first European-American accounts of the natural

[FOOTNOTE] 2 It is important to note that both expeditions entered the Black Hills illegally and are probably better characterized as invasions. The U.S. Government had previously entered into the Ft. Laramie Treaty of 1868 with the Sioux Nation of Indians. The Treaty explicitly prohibited white people from entering the Black Hills. In complete disregard to the Treaty and the Sioux Nation, both Custer and Dodge entered the Black Hills.

resources of the Black Hills. Thus, their reports most likely reflect an accurate baseline with which to assess historical conditions on the Black Hills. Second, both the Custer and Dodge expeditions entered the Black Hills with a mission to inventory natural resources. Both Ludlow (1875) and Dodge (1876) provide extensive accounts of various natural resources of the Black Hills, including flora and fauna. Finally, the fact that the first two European- American expeditions into the Black Hills both reported lynx is uncanny. These consistent findings lend a significant level of accuracy to the reports, strongly indicating that the lynx historically inhabited the Black Hills as a permanent resident.

Although there are few subsequent reports of lynx in the Black Hills, the lack of further reports is most likely attributable to the extensive exploitation of timber and wildlife that occurred after European-American settlement. Reports of gold in the Black Hills in 1874 marked the beginning of European-American settlement and the beginning of widespread and intensive exploitation of timber, wildlife, and other resources (Graves 1899, Shinneman 1996, USFS 1996). In his 1891-1897 forest inventory, Graves (1899) reported widespread logging and human-caused fires had already impacted much of the Black Hills. Additionally, from the years 1875 through 1898, over 1.5 billion board

feet of timber was cut in the northern Black Hills alone (USFS 1948). As a result of hunting pressure, other mammals, like the grizzly bear (*Ursos arctos horribilis*), Audubon's bighorn sheep (*Ovis canadensis auduboni*), Manitoban elk (*Cervus eleaphus subsp.*), and gray wolf (*Canis lupus*), were either extinct or very near extinction on the Black Hills by the 1900's (Froiland 1990, Raventon 1994, USFS 1996). It is likely this early unchecked exploitation of timber and wildlife caused the decline and possible extirpation of the lynx on the Black Hills following the reports of Grinnel and Dodge. Indeed, such activity is believed to have caused declines of lynx elsewhere within its range (USFWS 2000).

Overall, historical reports of lynx inhabiting the Black Hills seem accurate and valid. These reports indicate that the lynx historically inhabited the Black Hills as a permanent resident (Grinnel 1975, Dodge 1876, Turner 1974), but that extensive habitat modification and unchecked hunting pressure has most likely caused the decline and possible extirpation of the species (Graves 1899, Shinneman 1996, USFS 1996), similar to what has occurred in other portions of the species' contiguous United States range (USFWS 2000). The Black Hills should therefore be considered as within the contiguous United States range of lynx.

Lynx Habitat in the Black Hills

While historical reports of lynx inhabiting the Black Hills strongly indicate that the Black Hills are within the contiguous United States range of the lynx, the historical and present-day existence of suitable habitat further supports these findings.

- Forest habitat

The USFWS (2000) reports that spruce forest is utilized extensively by the lynx, although other forest types may

also be utilized, depending on the abundance of prey and down woody debris, as well as climate. The Black Hills support white spruce forest (Hoffman and Alexander 19897), which is utilized by the lynx elsewhere within its range (USFWS 2000). White spruce forest on the Black Hills is locally abundant in the higher elevations, canyons, and moist sites, and appears to exist primarily in the northern and central Black Hills (Graves 1899, Hoffman and Alexander 1987,USFS 1996). See, Figure 2. There is currently over 20,000 acres of white spruce in the Black Hills.

However, there is evidence that white spruce forest was once more prevalent in the Black Hills. Graves (1899) reported "considerable bodies of spruce" in the northern part of the Limestone Range and that many northern slopes supported "pure" stands of spruce (p. 76). Graves (1899) reported the distribution of white spruce to be generally "in the northeastern section of the hills, above an elevation of about 4,500 feet" (p. 76). However, as is evident today, the northeastern Black Hills support little to no spruce (Figure 2), an indication that the tree species' distribution has been reduced and may be below historical levels.

Additionally, while Graves (1899) reported 15,000 acres of spruce to exist on the Black Hills, he also reported that much of the forest had been impacted by fires and logging. In particular, fires in 1881, 1891, and 1893 impacted much of the northern and central Black Hills and were reported to impact much of the Limestone Range (Graves 1899). Graves (1899) also reported heavy logging to have occurred throughout the northern and central Black Hills. And, although white spruce was not an economically important tree species, the tree was utilized for mine timbers, firewood, and sometimes for lumber (Graves 1899). These early reports strongly suggest that the historical extent of white spruce in the Black Hills may have been reduced by fires and logging.

Recent analysis of historical natural disturbance in the Black

Hills also indicates white spruce may have been more prevalent in the Black Hills. Based on climatic and structural conditions, as well as historical reports, the central and northern Black Hills are believed to have been historically dominated by infrequent stand-replacing wildfires that impacted large areas (e.g., 19,000 hectares) of the forest (Shinneman 1996, Shinneman and Baker 1997). As a result of this disturbance regime, the northern and central Black Hills are believed to have historically supported large, contiguous, and dense patches of old, even-aged forest (Shinneman 1996, Shinneman and Baker 1997). As white spruce is very sensitive to the effects of fire (Graves 1899, USFS 1996), the infrequent occurrence of stand replacing fires most likely stimulated the development of large, dense stands of spruce in the central and northern Black Hills. Thus, Graves' (1899) reports of "considerable bodies of spruce" in parts of the Black Hills seem consistent with the natural disturbance regime.

Unfortunately, the natural disturbance regime of the northern and central Black Hills has been greatly altered due to the effects of human activities (Shinneman 1996, Shinneman and Baker 1997). The occurrence of widespread historical and contemporary logging, road construction, and other activities (e.g., cultivation of land, largescale mine development) usually precludes the occurrence of largescale, stand replacing fires and the subsequent development of large, contiguous, dense, and old forest in the Black Hills (Mehl 1994, Shinneman 1996, USFS 1996, Shinneman and Baker 1997, Shinneman and Baker 2000). Furthermore, logging and associated activities (e.g., road construction, thinning) on the Black Hills directly inhibits the development of large, contiguous, dense, and old forest by reducing stand density over large areas, fragmenting the forest into smaller stands of varying ages, and by promoting the development of young stands over old stands (USFS 1996, Shinneman and Baker 1997, Shinneman and Baker 2000). Indeed,

management of the forest in the Black Hills has typically emphasized reducing forest density across the landscape (USFS 1996). Additionally, as white spruce is a climax species (USFS 1996), it is highly likely that widespread logging precludes the establishment and persistence of spruce in potentially suitable habitats. Because of the impacts of historical and contemporary forest management on the natural disturbance regime and forest structure of the northern and central Black Hills, it is highly likely that white spruce was historically more abundant on the Black Hills.

The status of certain native species on the Black Hills also seems to attest to the historical abundance of white spruce. Currently, the three-toed woodpecker (*Picoides tridactylus*) population on the Black Hills is dangerously low (Mohren 2002, Panjabi 2003). Recent reports suggest the bird's population is around 20 individuals (Mohren 2002). Observations and studies of the three-toed woodpecker in the Black Hills and elsewhere have shown the value of spruce forest to the health of the species' population (Imbeau and Desrochers 2002, Mohren 2002, Panjabi 2003). In particular, three-toed woodpeckers seem to be closely associated with mature spruce stands where natural disturbance processes (e.g., fire, insect outbreaks) are allowed to take place (Id.). The low population of three-toed woodpecker in the Black Hills has been attributed to the control or elimination of natural disturbance processes and the lack of mature spruce forest (Mohren 2002). Mohren (2002) states, "Currently ... white spruce is limited in the Black Hills area, and this may be an explanation for the low population size of the three-toed woodpecker" (p. 90). The status of the three-toed woodpecker and its habitat in the Black Hills also strongly suggests that white spruce forest was historically more abundant.

Finally, while the USFWS (2000) did not identify ponderosa pine (*Pinus ponderosa*) forest as potential lynx habitat, it is highly likely that ponderosa pine historically

provided lynx habitat in the Black Hills. In the northern and central Black Hills, the ponderosa pine grows naturally dense throughout its lifetime (Shinneman 1996, Graves 1899). This phenomenon results in the development of large, dense stands of large-diameter ponderosa pine that continue to grow until fire, insect outbreak, or other disturbances occur (Shinneman 1996, Graves 1899). As Duthie (1930) stated:

The western yellow pine of the Black Hills has a peculiar habit, when the old forest has been killed or cleared away; of reproducing in dense thickets. I say this is a peculiar habit because it is unlike the behavior of the same pine in forests farther west where the seedlings will not stand crowding, and come up sparsely. But in the Black Hills the western yellow pine has acquired a characteristic of the lodgepole pine in that the seedlings come up in dense stands crowding each other, yet clinging tenaciously to life until growth practically reaches a stalemate Some of these dense stands may be found where the trees are two hundred years old and the deadlock persists.

The resultant ponderosa pine forest also typically supports abundant down woody debris, an important component of lynx habitat (Mehl 1992, USFS 1996). While not reported as lynx habitat, it seems reasonable to conclude that dense ponderosa pine forest may have historically provided suitable lynx habitat in the Black Hills.

- Climate

The USFWS (2000) indicates climate may determine where suitable lynx habitat exists. The climate of the Black Hills also suggests that suitable lynx habitat historically occurred on the Black Hills and occurs today. Indeed, the northern and central Black Hills are normally cooler, receive heavier snowfalls, and receive more moisture than the southern Black Hills (Froiland 1990, USFS 1996). The USFS (1996b) states, "The Northern Hills is typically cooler, has heavier

snowfalls and more thunderstorms with resultant higher annual precipitation (26 inches in the DEISdwood-Lead area)" (p. III-7). The cooler and wetter climate of the northern and central Black Hills strongly indicates that suitable habitat for the lynx exists and historically existed in the Black Hills (USFWS 2000).

- Prey

Although the snowshoe hare (*Lepus american us*) may not have historically inhabited the Black Hills (USFS 1996), the forest does support many other species that may be prey for the lynx (USFWS 2000). The white spruce and ponderosa pine forests of the northern and central Black Hills and their associated vegetation (e.g., aspen (*Populus tremuloides*), birch (*Betula spp.*), box elder (*Acer negundo*), willow (*Salix spp.*), dogwood (*Comus spp.*)) support red squirrel (*Tamiasciurus hudsonicus dakotensis*), red-backed vole (*Clethrionomys gapperi brevicaudus*), northern flying squirrel (*Glaucomys sabrinus*), ruffed grouse (*Bonasa umbellus*) and other species of mammals and birds that the lynx may prey upon (Turner 1974, USFS 1996, Marriott et al. 1999, USFWS 2000, Panjabi 2003, Hall et al. 2002). As the lynx is at the southern periphery of its range in the Black Hills, the cat may not depend entirely on snowshoe hare as prey and it does not appear that the absence of the hare would preclude the existence of the species in the Black Hills (USFWS 2000). Historical reports suggest the lynx in the Black Hills may depend on prey other than snowshoe hare (Turner 1974).

Overall, the present-day and historical existence of suitable lynx habitat in the Black Hills strongly corroborates historical reports of lynx inhabiting the Black Hills. However, it is entirely likely that extensive habitat modification has most likely caused the decline and possible extirpation of the species (Graves 1899, Shinneman 1996, USFS 1996), similar to what has occurred in other portions

		<p>of the species' range in the contiguous United States (USFWS 2000). Because of the present-day and historical existence of suitable lynx habitat, the Black Hills should be considered as within the contiguous United States range of lynx.</p> <p>In summary, historical reports of lynx and the present-day and historical occurrence of lynx habitat in the Black Hills strongly indicates the Black Hills are within the contiguous United States range of the lynx. Thus, the FS must ensure that the South timber sale does not impact any lynx that may be potentially inhabiting the BHNF at this time and must ensure that suitable lynx habitat is not further degraded by the South timber sale. Accordingly, an EIS must fully analyze and assess the potentially significant impacts to lynx and lynx habitat and ensure that habitat recovers to the point of being able to support a population of lynx as the species recovers under the Endangered Species Act. Furthermore, the FS must consult with the U.S. Fish and Wildlife Service regarding the potentially adverse impacts to lynx and lynx habitat in the South timber sale area and the BHNF as a whole.</p>	
9ff	Eric Molvar, BCA	<p>14. IMPACTS TO OTHER SPECIES</p> <ul style="list-style-type: none"> • Northern Flying Squirrel <p>There also exists a wealth of research on northern flying squirrel, making it entirely feasible for the FS to analyze and assess the impacts of the South timber sale to the species.</p> <p>For instance, Reunanen et al. (2000) found that fragmentation of breeding habitat is a huge threat to the northern flying squirrel and that management of boreal forests must maintain a deciduous structure. The two recommended that forest managers recognize these habitat needs and strive to maintain and restore breeding habitat connectivity and maintain deciduous forest structure.</p>	<p>See pages 150-153 of the South FEIS for a discussion of alternative effects to northern flying squirrel habitat.</p> <p>Very little hardwood habitat occurs within South. Refer to pages 78, 81 and 87 in the FEIS for effects to hardwoods and Appendix B for design criteria specific to aspen.</p>

		<p>Additionally, Bakker and Hastings (2002) recommended that forest managers retain small groups of large snags and live trees with "conks, heavy mistletoe infections, and top damage" (p. 1632). This is to ensure an adequate supply of northern flying squirrel den trees. Furthermore, numerous reports have emphasized the importance of ectomycorrhizal fungi and lichen in the diet of the northern flying squirrel (Hall 1991, Hayward and Rosentreter 1994, Rosentreter et al. 1997). Typically, late successional or old growth forest structure has been found to provide the most abundant forage for northern flying squirrel (Carey 1999). The northern flying squirrel travels primarily by gliding from tree to tree. The distance of glides is limited. The Forest Service has failed to provide an analysis of what level of thinning would leave remaining trees too far apart to render gliding from tree to tree possible. This is a fundamental (and rather outstanding) flaw in the 'hard look' analysis.</p> <p>Furthermore, the agency has failed to undertake a direct or cumulative analysis on the impact of further habitat fragmentation on this species at both the project and Forest levels. This shortcoming must be rectified. We therefore request the FS ensure the South timber sale does not adversely impact the northern flying squirrel and its habitat. We request the FS develop measures to ensure connectivity between northern flying squirrel breeding habitat is maintained or restored, to maintain deciduous structure (even in pine stands), retain small groups of large snags and live trees exhibiting natural damage, and ensure that adequate foraging habitat is provided for. The FS must fully analyze and assess the potentially significant impacts of the timber sale to the northern flying squirrel.</p>	<p>See response to 9m regarding species viability.</p> <p>See responses at 9p and 9r regarding late succession.</p> <p>Refer to pages 105-108 in the FEIS concerning snags.</p> <p>Refer to pages 79, 83-85 and 88-89 of the FEIS for a discussion of alternative effects on pine structural stages and the very-large-tree component.</p> <p>Monitoring of northern flying squirrel status and trend on the BHNH is completed at the Forest level, with results found in the annual monitoring and evaluation report (USDA Forest Service 2007).</p> <p>The effects are within the bounds of the effects disclosed under the Phase II amendment FEIS. The Forest Plan addresses northern flying squirrel habitat diversity in part through maintaining hardwood communities (Objective 201,203,and 204), a desired mix of forested structural stages (See Objectives 5.1-204, 5.4-206) and maintenance of "very large tree" component in mature pine structural stages. The Phase II FEIS evaluated the effects of this combination of pine structural stages on this species and increasing hardwood community Forest-wide.</p> <p>Referenced literature was reviewed and discussion is found in the project file.</p>
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9gg	Eric Molvar, BCA	<ul style="list-style-type: none"> • <u>Sharp-shinned hawk, Cooper's Hawk</u> <p>Monitoring on the Black Hills has found these accipiter species to be in very low abundance on the BHNF, suggesting the species are either rare or experiencing declines (Panjabi 2001, 2003). Panjabi (2003) reports, "Although <i>Accipiter</i> hawks have low detectability, it appears that Sharpshinned hawk presently occurs in very low density in the Black Hills, an it is probably less abundant now than in earlier times, given the intensity of survey effort and low number of observations" (p. 36). Additionally, only four Cooper's hawk were found on the BHNF in 2002 (Panjabi 2003). These findings strongly indicate the sharp-shinned hawk and Cooper's hawk may not be viable or that their viability is at risk.</p> <p>We therefore request the FS fully analyze and assess the potentially significant impacts to the sharp-shinned hawk and Cooper's hawk.</p> <p>BLM notes that sharp-shinned hawks prefer canopy cover >40%. DEIS at 126. It appears likely that this project will eliminate the viability of this species within the project area. While the Forest Service claims that viability will be maintained forestwide, it has failed to make an accounting of all the other logging projects forestwide that also are eliminating closed-canopy forest types that are the preferred habitat for this species.</p> <p>This failure to undertake a cumulative impacts analysis both prevents the agency from reaching an informed forestwide viability determination for sharp-shinned hawks and constitutes its own violation of NEPA's cumulative impacts analysis requirements on its face. The Cooper's hawk prefers 60-80% canopy closure stands near openings. DEIS</p>	<p>These two accipiters are considered SOLC species.</p> <p>The effects of the alternatives on Sharp-shinned hawk and Cooper's hawk habitat are discussed in the FEIS (pages 137-141).</p> <p>The Forest Plan addresses these accipiter hawk's habitat diversity in part through a desired mix of forested structural stages (See Objectives 5.1-204, 5.4-206). The Phase II FEIS evaluated the effects of this mix on these species. See tables 3.34 and 3.35 to view how the South project alternatives would impact forestwide pine structural stages. Further discussion of structural stages is presented in the Silviculture section of the FEIS, pages 79, 83-85 and 88-89</p> <p>Known and suspected nests would be protected from disturbance and unacceptable habitat alternation. Appendix B of the South FEIS identifies specific design criteria to meet Forest Plan Standard 3204.</p> <p>All past, present and reasonably foreseeable future projects, as listed in Appendix E, were</p>
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		<p>at 127. The Forest Service once again claims that the Phase II Amendment EIS analysis indicates that this species will persist forestwide as long as standards are followed. DEIS at 129.</p> <p>However, this analysis did not consider the actual slate of projects which have been approved or are reasonably foreseeable across the forest, and does not constitute a reasonable substitute for actually undertaking a cumulative impacts analysis on the availability of remaining nesting habitat for the Cooper's hawk and the forestwide viability of the species.</p>	<p>considered during the cumulative effects analysis.</p> <p>Monitoring of the sharp-shinned and Cooper's hawks status and trend on the BHNH is completed at the Forest-wide level, with results found in the annual monitoring and evaluation report (USDA Forest Service, 2007)</p> <p>See response to 9m regarding species viability.</p> <p>References were reviewed and discussion is found in the project file.</p>
9hh	Eric Molvar, BCA	<ul style="list-style-type: none"> • <u>Atlantis fritillary and tawny crescent butterflies</u> <p>The environmental impact analysis for Atlantis fritillary is scant, less than one page total-and is combined with the analysis for the tawny crescent butterfly.</p> <p>While the two species are claimed to have similar habitats, their food sources are quite different. The DEIS does disclose that the tawny crescent is known from this area. The DEIS also states that there will be direct and indirect impacts to the species.</p> <p>One of the food sources for the tawny crescent is leafy spurge, a noxious weed species which undoubtedly will be</p>	<p>The preferred habitat for the Atlantis fritillary (spruce) is not found within the South project area, therefore there would be no effects to this species.</p> <p>The effects of the alternatives on tawny crescent butterfly habitat is discussed in the FEIS (pages 128-130).</p> <p>In summary, suitable habitat (stream, riparian) would be protected in the project area through design criteria (FEIS, Appendix B).</p> <p>Preferred host and nectar species for the tawny crescent is smooth blue aster, other composites and dogbane. (Marrone 2002). Although these</p>

		<p>targeted for eradication. How can this be helpful to sustaining the viability of this species of local concern?</p> <p>With both direct and indirect impacts to butterfly species, including loss of food sources and the spread of invasive species which will affect habitat long-term, we find it difficult to imagine how the proposed project will meet the criteria of Objective 221.</p> <p>Furthermore, the Atlantis fritillary is particularly vulnerable to impacts from prescribed burning. Guideline 3105 directs that the project be designed to conserve important habitat components and that host and larval resources be protected. This will not happen under Alternatives Band C. The project will therefore violate Objective 221 and Guideline 3105.</p> <p>The endemic Atlantis fritillary butterfly must receive attention from forest managers as there is concern over its viability on the Black Hills (Hall et al. 2002).</p>	<p>species utilize other nectar plants such as leafy spurge and Canadian thistle, they are not considered preferred species.</p> <p>Noxious weeds are discussed in the FEIS on pages 180-181. Leafy spurge, an introduced species from Russia, is highly invasive and difficult to eradicate. This species has replaced the natural flora (and fauna) where it has become established and has reduced forb species diversity even after effective biological control treatments (Butler et al. 2006). Treatments (chemical and/or biological) to control a non-native, invasive species such as leafy spurge, is in keeping with Forest Plan Objective 230, especially if this treatment maintains native host and nectar species.</p> <p>The effects are within the bounds of the effects disclosed under the Phase II amendment FEIS. The Forest Plan addresses butterfly habitat diversity in part through providing protection of stream health and riparian plant species and wetland areas. The Phase II FEIS evaluated the effects of management within these species preferred habitat.</p> <p>There is no Alternative Band C within the South project. The Alternatives analyzed in South are Alternatives 1, 2 and 3. See also first response to 9hh. Objective 221 and Guideline 3105 would be met via Standard 3125.</p> <p>See response to 9m regarding species viability.</p>
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9ii	Eric Molvar, BCA	<ul style="list-style-type: none"> • <u>TREATMENTS FOR FIRE AND BEETLES</u> <p>It is evident throughout the DEIS that timber production and harvest are the primary focus of the Forest Service. The agency intends to forge ahead with massive timber sales such as the South Project, despite a wealth of scientific information that concludes the proposed treatments will not stop the beetle cycle,</p> <p>nor will they prevent fires-even stand replacing fires.</p> <p>The Hanson and Odion (2006) study of the effectiveness of thinning as a tool to reduce fire severity, found that</p>	<p>The South project does not propose to stop the beetle cycle. The action Alternatives propose to reduce risks of mountain pine beetle infestation and related tree mortality. See: Schmid, J.M.; Mata, S.A.; Kessler, R.R.; Popp, J.B. 2007. The influence of partial cutting on mountain pine beetle-caused tree mortality in Black Hills ponderosa pine stands. Res. Pap. RMRS-RP-68 Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 19 p.</p> <p>The preponderance of evidence from published research indicates that low to moderate severity fires were historically most common in the Black Hills. Research (<i>Rhodes and Baker, 2008</i>), (<i>Dominik Kulakowski, Thomas T. Veblen,</i></p>

		<p>mechanically thinned areas had significantly higher fire-induced mortality and combined mortality than the adjacent unthinned areas. Thinned areas also burned at higher severity than unthinned areas.</p> <p>Another recent study of various forest types, including ponderosa forests, found that fuel treatments can have negative ecological costs, including impacts on aquatic systems, soils, and invasion by non-native plants. (Rhodes and Baker 2008) Using data from 1960 through 2006, the pair analyzed the likelihood that a fuel-treated area would burn. What they found is that approximately 2.0 to 4.2% of areas treated to reduce fuels are likely to encounter fires that would otherwise be high or high-moderate severity without treatment. In the remaining 95.8-90%, potentially adverse impacts on watersheds were not counterbalanced by benefits from reduced fire severity. In their study of fire in ponderosa pine forests, Rhodes and Baker concluded that fuel treatments would have to be repeated every 20 years for 340 to 700 years (17 to 35 times) before it is expected that high-severity fire affects more than 50% of treated areas.</p> <p>At the same time these treatments are ongoing, negative impacts to watersheds and potentially aquatic will occur while still 50% of the treated area will have <i>no reduction in fire severity</i>. Their results also suggest that western ponderosa pine forests are not currently being rapidly burned by high or high-moderate severity fire, counter to other previous work.</p>	<p><i>Peter Bebi, 2003), (Romme, W. H., J. Clement, J. Hicke, D. Kulakowski, L. H. MacDonald, T. Schoennagel, and T. T. Veblen, 2006), (Romme, W. H. 1982), (Romme, W. H., and D. H. Knight. 1981), that draws conclusions from high-severity, low frequency fire regimes {typically associated with subalpine forest types that do not occur in the Black Hills} does not characterize the situation we face in the Black Hills. Large scale, high-severity fires were historically “uncharacteristic” of the Black Hills. This forest has departed from the historical regime of fire frequency by multiple return intervals. As a result, we have seen a dramatic increase in acres burned in recent years.</i></p> <p>The current drought has undoubtedly created environmental conditions favorable for large fire growth, but other, more severe droughts have occurred in the past century such as the droughts of the 1930’s and 1950’s. More acres burned during a few days of the Jasper Fire in 2000 than all of the fires combined from the years 1911-1959 in the Black Hills. We find this to be compelling evidence that fuel loading and continuity across the forest has reached a critical threshold, and we are concerned by the magnitude of fire behavior that has begun to result from these conditions. Driven by unnaturally heavy fuel loadings, these “uncharacteristic” fires can move rapidly across the landscape. Unfortunately, the complex pattern of land ownership within the Black Hills places many humans within this path. High-severity, large-scale wildfire pose a significant threat to the citizens, emergency responders, and the natural resources of this forest.</p> <p>We agree with (Noss, R., J. Franklin, W. Baker, T. Schoennagel, and P. Moyle. 2006) that</p>
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		<p>Higher severity fires also benefit watersheds and aquatic ecosystems in several ways, including providing a bonanza of recruitment of large wood and pulsed sediment supply that can rejuvenate aquatic habitats and increase their productivity.</p>	<p>“Restoration of dry ponderosa pine and dry mixed-conifer forests—where low-severity fires were historically most common—is appropriate and desirable ecologically on many sites.” We also agree with the assertion (Hanson and Odion 2006) that thinning without slash treatment can increase fire severity. We propose to follow thinning projects with slash treatment within the South project area. Furthermore, we propose to implement up to 10,929 acres of prescribed broadcast burning. The careful application of prescribed broadcast burning can lessen the severity and extent of future fires and help restore fire-adapted ecosystems such as the Black Hills.</p> <p>High-severity fires can be beneficial to some watershed components in certain ecosystem and precipitation settings. This is not necessarily the case in the Black Hills. Post-fire watershed effects have been observed following several recent and historic fires. Because the dominant precipitation for the Black Hills region is high-intensity, short-duration thunderstorms, post-fire watershed responses are typically severe and long-lasting.</p> <p><i>These effects are detailed in the Soil and Water Resources specialist report and excerpted below:</i></p> <p><i>"If a wildfire occurred in the project area, effects to soils would likely be severe due to the increasing fuel loads. Wildfire effects to soil and water resources have been well documented (Neary et al, 2005). Potential impacts from such an event could include alteration of soil invertebrates, greatly reduced nitrogen content, significant pH changes, and loss of many soluble nutrients. In addition, the removal of all-or-most</i></p>
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			<p><i>of the organic matter within the soil would alter its moisture-holding capacity, leading to increased runoff and erosion, and decreased slope stability. If a wildfire should occur, post-fire flooding can be expected to cause significant changes to stream channels and banks through excess channel scour, bank erosion, channel abandonment, and excess deposition in low gradient reaches.</i></p> <p><i>These effects have been observed in other fires within the Black Hills following thunderstorm events, including the 1988 Galena Fire, the 2000 Jasper Fire, the 2001 Elk Mountain Fire, the 2002 Grizzly Gulch Fire, the 2005 Ricco Fire, and the 2007 Alabaugh Canyon Fire. An increased amount of runoff (more volume of water) as well as a decreased time to peak (runoff is concentrated in less time) lead to hill slope erosion, channel scouring, channel instability, and increased sediment loads. These floods transported ash, sediment, and debris through the stream networks and into lakes, clogging culverts, washing out roadways, eroding streambanks, scouring channels, filling ponds and reservoirs, clogging or damaging irrigation points, and threatened multiple residences, campgrounds, and major roadways. A case-in-point that demonstrates the far-reaching threat of these post-fire floods is the Jasper Fire, from which ash and debris-laden flood waters flowed all the way to Angostura Reservoir, over 120 stream miles downstream of the burned area.</i></p> <p>If post-fire flooding were to occur within South, it could lead to degraded water quality and impairment of beneficial uses within and downstream of the South project area. Many residences, located adjacent to streams, could be</p>
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		<p>We also recommend review of other studies such as:</p>	<p>threatened by post-fire flooding. Recovery of the watershed may be very slow due to relatively low annual precipitation, so runoff effects from wildfire could persist for several years".</p> <p>A wildfire could still occur within the Project Area even after implementation of any action alternative. However, vegetation treatments are expected to reduce fire behavior (intensity, duration) should a wildfire occur. Post-fire watershed effects may still occur, but to a lesser degree and in localized areas.</p> <p>The Klamath-Siskiyou ecoregion is much different than the Black Hills ecoregion. The climate of the Black Hills is much more conducive to the establishment and growth of ponderosa pine, owing to persistent seed crops and abundant summer rainfall. (Hunter et al, 2007). The Klamath Siskiyou ecoregion has "Plentiful winter rains followed by summer drought...." (Shatford et al. 2007). The result is forest structures and fire regimes that were historically different, thus fire behavior and fire effects being different. Please refer to the research performed by Hunter et al, 2007 for specifics related to Ponderosa Pine in the Black Hills.</p> <p>See responses above.</p>
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Noss, R., J. Franklin, W. Baker, T. Schoennagel, and P. Moyle. 2006. Ecological Science Relevant to Management Policies for Fire-prone Forests of the Western United States. Society for Conservation Biology Scientific Panel on Fire in Western U.S. Forests, Feb. 2006, Arlington, VA.

Shatford, J.P.A., D.E. Hibbs, and K.J. Puettmann. 2007. Conifer Regeneration after Forest Fire in the Klamath-Siskiyou: How Much, How Soon? *Journal of Forestry*; April/May 2007.

Dominik Kulakowski, Thomas T. Veblen, Peter Bebi (2003) Effects of fire and spruce beetle outbreak legacies on the disturbance regime of a subalpine forest in Colorado. *Journal of Biogeography* 30 (9), 1445-1456.

Romme, W. H., J. Clement, J. Hi-ke, D. Kulakowski, L. H. MacDonald, T. Schoennagel, and T. T. Veblen. 2006. Recent forest insect outbreaks and fire risk in Colorado forests: a brief synthesis of relevant research. *Colorado Forest Restoration Institute*, Fort Collins, CO.

Romme, W. H. 1982. Fire and landscape diversity in subalpine forests of Yellowstone National Park. *Ecological Monographs* 52:191-221.

Romme, W. H., and D. H. Knight. 1981. Fire frequency and subalpine forest succession along a topographic gradient in Wyoming. *Ecology* 62:319-326.

We also recommend a thoughtful guest commentary in the Denver Post by Dr. Merrill R. Kaufmann, emeritus scientist with the Rocky Mountain Research Station and contract scientist with The Nature Conservancy. The commentary, titled "Battling the pine beetle epidemic," appeared March 22, 2008.

We continue to strive to convince the Forest Service,

The specialists involved with the South Project EIS used the best available science, including

		through the use of the best available science, that there are sound alternatives to the current ravaging of the public lands, alternatives which will protect the forests as much as the treatments currently being used. We ask that the Forest Service give serious consideration to these studies and rethink its current practices in light of the best available science.	the most recent Forest Plan monitoring report, the Phase II Amendment FEIS, species conservation assessments and peer-reviewed journal articles. Citations submitted during public involvement have been reviewed. A declaration on the use of best available science is contained in the project file for each resource specialist.
9jj	Eric Molvar, BCA	<p>23. <u>ANALYSIS OF SOUNDSCAPE IMPACTS</u></p> <p>The Forest Service has conducted no analysis of impacts of the proposed activities on the soundscape of the forest, despite a growing body of scientific information that concludes the level of noise produced by logging and associated activities has significant impacts on wildlife species. We request that the Forest Service conduct full and rigorous analysis of these impacts on wildlife species found in the project area.</p>	Noise created by harvest activities would be short-term and generally contained to the specific area of work. This level of disturbance would cause a slight change in wildlife distribution and use. Activities would not occur throughout the entire project area concurrently. There would be ample area without disturbance available to wildlife species. Once equipment left an area, wildlife use would resume.
9kk	Eric Molvar, BCA	<p>24. <u>NET INCREASE IN SYSTEM ROAD MILEAGE</u></p> <p>In a national forest that already has far too great an open road density and which already suffers from an intense level of forest fragmentation, it is unacceptable that the project will result in an increase in road mileage on the transportation system.</p> <p>The Proposed Action and Alternative 3 would approve the</p>	<p>Alternatives 2 and 3 propose to reduce overall road miles and reduce open road density. Tables 3.54, 3.55 and 3.56 in the Transportation section of the FEIS were revised to improve clarity.</p> <p>See also response at 7b, 7c and 7d.</p> <p>No system roads were identified as either</p>

		<p>upgrade of 29 miles of unclassified roads (essentially user-created) while closing 66 miles of unclassified roads; no miles of system roads are proposed for decommissioning under the project. DEIS at 20.</p> <p>This will result in a net increase of 29 miles of roads to the transportation system. Instead, the Forest Service should close all unclassified, nonsystem roads or compensate for upgrading them to system roads by closing not less than 29 miles of unnecessary system roads within the project area.</p> <p>This is a reasonable alternative that has not been considered in the EIS, in violation of NEPA's range of alternatives requirements.</p>	<p>unnecessary or causing resource concerns during the Roads Analysis Process, therefore they were not selected for decommissioning. Some system roads are proposed for administrative closure.</p> <p>The range of alternatives considered but eliminated from detailed study is found on pages 26-28 of the FEIS.</p>
9ll	Eric Molvar, BCA	<p><u>OTHER CONCERNS AND COMMENTS</u></p> <p>Overall, the DEIS is entirely inadequate in many regards and needs to be revised before a meaningful analysis can be completed. In accordance with 40 CFR § 1502.9(a), "If a draft statement is so inadequate as to preclude meaningful analysis, the agency shall prepare and circulate a revised draft of the appropriate portion."</p> <p>Given the inadequacies identified above, including an inadequate range of alternatives, inadequate discussion of potentially significant impacts, failure to include key information, oversight of key impacts, and an overall inadequate assessment, a revised South DEIS must be prepared.</p> <p>At the same time, existing research strongly indicates that the Black Hills lack adequate old growth forest and that old growth-dependent species are declining toward extirpation or extinction on the forest.</p>	<p>The South FEIS tiers to the Forest Plan, as amended, to reduce bulk and focus on the issues which are ripe for decision, and exclude from consideration issues already decided or not yet ripe (CEQ 1502.20, 1502.21, 1508.28).</p> <p>The use of the best available science is documented within the project file, and the effects of the alternatives are described and disclosed.</p> <p>Refer to response at 9p and 9r concerning late succession.</p>
10a	Jeff Vonk, SDGFP	<p>Thank you for the opportunity to comment on this DEIS. We appreciated the field trips with your ID team and</p>	<p>Thank you for your interest in the South project.</p>

		<p>coordinating our big game habitat management concerns in Pleasant Valley. Interagency cooperation in Pleasant Valley greatly improved habitat for various species and certainly will offer exceptional big game hunting opportunities. We sincerely thank you.</p>	
10b	Jeff Vonk, SDGFP	<p>Prescribed Fire, Small Diameter Treatments We support the additional burned and treated storm damage acres in Alternative 3.</p> <p>Pleasant Valley Stands 030012-11 and 16 We support deferring treatments in these sites in Alternative 3. Thank you.</p> <p>Habitat Enhancement Through Travel Management We are thrilled with Alternative 3 proposal to close roads within the Pleasant Valley Elk Management zone. Coordinated habitat management is holistic when both agencies work on vegetation and travel management. Please contact us for possible cost-share projects if Alternative 3 is chosen. We also support the road closures in Alternative 3. Page 185+ - we offer an additional thank you for making a travel management decision in this Project.</p> <p>Page 22. Post-Sale Projects We appreciate this section discussion.</p>	Thank you for your support of the South project.
10c	Jeff Vonk, SDGFP	<p>Hardwood Treatment, Appendix B page 22, Appendix G page 1. We ask why 5 acres of pine slash will be burned in the hardwood treatments.</p> <p>We do not support whole tree harvesting in hardwood sites as the tree tops and limbs should be left on site and not be taken down to the required 15 inches (as emphasized by Drs. Dale Bartos .and Wayne Sheppard, FS Aspen Ecologist</p>	<p>The hardwood site (aspen) to be treated is a 5-acre site. Commercial-size pine would be removed from within this site. If slash were burned, design criteria (Appendix B) directs that burning must occur one aspen tree-height away from the clone to avoid damage to the roots from intense heat (Sheppard, 2004).</p> <p>See the Silviculture section of Appendix B which discusses removal of pine from hardwood sites. We agree that slash can be an inexpensive and effective tool to use when regenerating</p>

		<p>and Research Silviculturalist.)</p> <p>We prefer the smaller diameter pine be hinged and left on-site as inexpensive barriers to ungulates which helps meet Guideline 2307 as well. Fencing is too expensive and should not be assumed as an economical treatment. Hinge all non-commercial pine within 2 chains, not just 66 feet. This is recommended by Sheppard. Please re-write the design criteria to best protect new hardwood shoots and shrubs as we have suggested and to best meet Forest Plan directives to retain aspen, not just remove pine.</p> <p>Monitoring of aspen treatments was not included in Appendix C. Please contact Lou Conroy at Mystic for his expertise.</p>	<p>aspen clones, However, there is no proposed aspen regeneration cutting in the South project, Instead, “cleaning” of clones and/or individual aspen would occur, which means that pine would be removed and the mature aspen would remain. Slash would be removed from aspen sites because too much shading of the ground by slash inhibits warming of the ground by the sun, which reduces vigor of aspen.</p> <p>No fencing or hinging of pine is proposed as part of the South project because these techniques are employed when aspen clones are regenerating and need protection from browsing. No aspen regeneration harvests are proposed.</p> <p>Acreage of aspen is updated annually in the Forest Plan Monitoring Report.</p>
10d	Jeff Vonk, SDGFP	<p>Mechanical Site Prep on 125 Acres. Appendix B, Appendix F(2), Appendix G page 2.</p> <p>We have seen the disturbances created by this treatment and ask for literature support. The soil and native vegetation disturbances are too great and it alters the landscape as if a roto-tiller had been let loose.</p>	<p>Site preparation is proposed as an alternative to planting where sufficient regeneration has not been established.</p> <p>Recent field monitoring of past site preparation in the Painter and Sanator timber sale areas revealed that site preparation treatment was effective in achieving regeneration objectives. In addition, the soil disturbance was nearly recovered at 2 years (Painter) and completely</p>

		<p>Considering how prolific pine establishment is in the Black Hills, this treatment appears archaic, unnecessary, and provides seed bed for weeds.</p> <p>We ask that this treatment not be implemented since we did not see in the effect analysis how it will alter existing plant communities and encourage weeds and expensive weed treatment.</p>	<p>recovered at 12 years (Sanator).</p> <p>Field surveys of the 125 acres proposed for site preparation will occur after harvest treatments to check the status of pine regeneration. If these sites contain sufficient regeneration, site preparation would not be implemented</p> <p>Information has been added to the FEIS to clarify implementation of site preparation, see pages 45, 53, 55, 57 and 82.</p> <p>In both areas recently monitored, very few noxious weeds were observed. See Appendix B for design criteria specific to site preparation.</p>
10e	Jeff Vonk, SDGFP	<p>Windmill Pipeline. Will the pipeline be above ground or trenched? We request a field trip.</p> <p>Springs, Seeps and Springs. We support protection of all seeps, springs and streams and frequent maintenance of fences. Fence maintenance should be incorporated into Allotment Management Plans and be part of the permit requirement on a bi-annual basis. Please ensure adequate waters are available in native habitat before pumping and directing all waters to a tank.</p> <p>Please contact us for possible cost-share habitat projects. Page 101 - we support all measures, standards and mitigation to best protect and enhance riparian areas affected by this project.</p>	<p>The Windmill Draw pipeline would be above-ground. On 8/21/08, by phone, SDGF&P personnel declined a field visit when informed that the pipeline would be above-ground.</p> <p>Comments noted.</p> <p>Thank you for your offer to support projects through cost-share agreements.</p>
10f	Jeff Vonk, SDGFP	Layton Bike Trail. Page 35 states there is an intermittent stream. We ask that the bike trail not cross this stream or	There is a 0.7 mile section of Layton Canyon that was originally classified as intermittent.

		<p>that use not be allowed during wet periods (Appendix B page 1 – avoid crossing intermittent streams). Streams in the Southern Black Hills are uncommon and the riparian habitats they provide when wet is too limited and critical to allow for seasonal degradation.</p> <p>Also, will trash and bathroom facilities be provided?</p>	<p>This section is all on National Forest. This portion is in a narrow canyon where water is concentrated when it does flow. However, water does not flow on a regular basis. A rocky channel is present, and there are ephemeral channels above and below this section. The stream health rating would be “robust” on this section because all of the rock creates a stable stream channel.</p> <p>This stream was originally classified as intermittent based on the defined channel and evidence of scour and deposition. Another part of the definition of an intermittent stream discusses groundwater connectivity. Intermittent channels are connected to the local groundwater table, which provides flow, sometimes for an extended period. This is not the case in Layton Canyon as there is no connection to the local groundwater table. Layton Canyon does not have flows for extended periods of time. Using this updated information, Layton Canyon would be classified as an ephemeral channel. Text (page 39) and maps (14, 15 and 16) in the FEIS have been updated with this information.</p> <p>The majority of the proposed trail would utilize the existing road system, which does cross the ephemeral drainage. No resource concerns were identified for Layton Canyon during the Roads Analysis Process and no changes are proposed for the existing road.</p> <p>No riparian area is associated with this stream channel within Layton Canyon, therefore there would be no adverse effects to riparian systems associated with the Layton Canyon bike trail.</p>
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10g	Jeff Vonk, SDGFP	<p>Page 62. BMP's</p> <p>We have participated in BMP Audits and were part of the team that wrote the conclusions and findings. One thing the DEIS did not mention, is the chronic problem with culvert placement on state, federal, and private lands. Culverts are often placed too high and restrict aquatic species movements, are placed in an incorrect angle along the streambed and create cutting of stream banks, and are often too small to handle high water events in spring and late summer.</p>	<p>Culverts that do pass aquatic life are a general concern, and these issues are fixed when the opportunity arises. However, no new roads that cross perennial streams are planned as part of this project. One culvert was identified for replacement on FSR 287.1B. The culvert is on an ephemeral drainage and it has a hole in it which makes a hole in the road. There are no aquatic concerns.</p>

		Please contact Ron Koth, Fisheries Habitat Biologist in Rapid City (394-2391) for culvert design criteria as we did not find it in Appendix B page 14.	The Transportation Specialist and Watershed Specialist were supplied with the contact information concerning culverts.
10h	Jeff Vonk, SDGFP	Appendix B page 22. Design Criteria for Timber Treatments, Appendix G Definitions A concern stated in our scoping comments was blanket application of even-spaced trees. There are opportunities to provide a more natural spatial design and still provide for fiber and reduce fire risk. We appreciate that POL may be irregularly spaced and encourage movement away from un-natural plantation look.	Group shelterwood and group selection would result in different basal areas within a site.. Restoration thinning and the POL-irr would result in irregularly-spaced trees within sites. Approximately 10,000 acres in Alternative 2 and 9,400 acres in Alternative 3 have the above treatments proposed. Refer to the Visual Quality/Scenery section, Chapter 3 of the FEIS. See also definitions of treatments in Appendix G.
10i	Jeff Vonk, SDGFP	<p>Page 96, 105 - Late Successional Stands We greatly value the effort spent to correctly identify SS4 stands to SS5. However, recruitment into SS4 and SS5 appears to be non-existent in the South Project. Our scoping comments in 2007 reflected the opinion that treatments focused too heavily on the larger-diameter trees, regardless of the stand classification.</p> <p>The DEIS confirms that the project area will alter the stands towards younger structure and ages of pine which won't necessarily be additional forage of grass, forbs and shrubs.</p> <p>We hope the addition of Rx acres, small-diameter treatments will pickup additional forage where the young pine stands will not.</p>	<p>Refer to the structural stage discussion in the FEIS (pages 74-76, 79-80, 83-85 and 88-89).</p> <p>Refer to definition of CT treatments in Appendix G, which was edited in the FEIS</p> <p>Forage (grass, forbs, shrubs) would be increased after implementation as tree stands were treated and canopies were opened. Forage can occur within young, as well as older pine sites. All harvest treatments would encourage growth of forage.</p> <p>Precommercial thinning is proposed on 3,556 acres in Alternative 2 and 3,541 acres in Alternative 3 (See Table 2.1). The FEIS has been updated with this information.</p> <p>Prescribed fire is proposed on up to 8,796 acres in Alternative 2 and 10,929 acres in Alternative 3. Grasses, forbs and shrub growth would be encouraged where prescribed burning takes</p>

		<p>Page 111 mentions Alternative 3 will provide 520 acres in the "very large" size category, which we support. However, 520 acres is still a very small percentage and may not be very effective late successional habitat across a watershed or landscape.</p> <p>Our scoping stated that the Forest Plan Standard directs project design must meet the minimum of 10% of very large diameter trees in all SS 4 stands be retained and we do not know if 520 acres is at least 10%. Never-the-less, we support 520 acres vs. none.</p> <p>Also, the Improvement Cut appears to focus on retention of larger-diameter trees to reduce competition and fuels of the smaller-diameter trees. We suggest retention of the largest (not just larger) diameter trees in the design criteria to benefit brown creepers, tree-roosting bats, cavity-dependent species and promote larger future snags.</p>	<p>place.</p> <p>Late succession differs from sites with "Very Large" tree average tree size. Late succession is characterized by very large trees (16"+ DBH) at least 160 years in age. Refer to response at 9p and 9r for a discussion of late succession. Sites with Very Large tree size is where the majority of tree stocking, based on basal area, is in live trees 9.0 inches in diameter and larger, and within that group, the majority of the basal area is in live trees 16.0 inches and larger in diameter. (RMRIS Data Dictionary, March 4, 1998, pg 288).</p> <p>There is no Forest Plan Standard which directs that project design must meet a minimum of 10% of very large diameter trees in all SS 4 stands. Forest Plan Objectives 5.1-204 and 5.4-206 state, in part, that 10% of the SS 4 ponderosa pine acreage in the management area will have an average tree size of very large. Refer to Tables 3.30, 3.31, 3.36 and 3.37 on pages 85 and 89 which have been added to the FEIS and illustrate how alternatives impact the percentage of very large size ponderosa pine sites in both management areas.</p> <p>The improvement cut would only treat pine less than 9" DBH. Refer to Appendix G for further definition.</p>
10j	Jeff Vonk, SDGFP	Page 167, 169, Appendix B - Rx and Grazing Plans We support close coordination of programs to ensure Rx have enough fuel to bum and areas are allowed more than one	Forest Plan Guideline 4107: Defer prescribed burned areas from livestock grazing for a portion or all of the following growing season to ensure

		growing season (especially during low precipitation and drought) to fully recover native species prior to resuming grazing. Exceptions would be site-specific adjustments to target non-native species in the spring but allow native warm-seasons to recover.	regrowth of forage species. This Guideline has been added to Appendix B of the FEIS. The grazing permit administrator and the burn boss would coordinate to ensure success with the prescribed burning program and the grazing program.
10k	Jeff Vonk, SDGFP	In closing, thank you for all the considerations offered in Alternative 3. The DEIS was complete and easy to follow. Because of the greater emphasis put on wildlife habitats while still striving to reduce fuels, we support Alternative 3 with the added suggestions above, especially for a 5 acre hardwood treatment and the roto-tilling site bed treatment. Again, contact us for possible project cost-share opportunities.	Thank you for your interest in and support of the South project.
11a	Wes Wilson, EPA	<p>Pursuant to our authority under Section 309 of the Clean Air Act, the Region 8 Office of the Environmental Protection Agency (EPA) has reviewed the Draft Environmental Impact Statement (DEIS) for the South Project, Hell Canyon Ranger District, Black Hills National Forest and offers the following comments for your consideration.</p> <p>The Proposed Action includes: thinning of pine sites to reduce fire risk and hazard especially adjacent to private lands, to improve wildlife habitat, and to lower susceptibility to Mountain Pine Beetles (MPB), and pine encroachment treatments to preserve and increase meadows. The Proposed Action is intended to reduce the hazards of large-scale wildfires on the at-risk communities of Custer, Pringle and Argyle, South Dakota. Two action alternatives were evaluated in the DEIS in detail including: Alternative 2, the Proposed Action, which involves commercial and non-commercial vegetation treatments and road management, and Alternative 3, the Preferred Alternative, which would allow larger timber to remain to avoid wind damage, forego treatment near property owned by the State of South Dakota, and apply prescribed fire and increase</p>	Comments noted.

		<p>cutting by 2,354 acres compared to Alternative 2.</p> <p>There are approximately 186 miles of stream channel in the two watersheds (Upper and Lower Pleasant Valley creeks) within the project area. All streams and water bodies within the South project area are currently meeting their beneficial uses as assigned by SD DENR. According to the Forest Service, the Preferred Alternative would improve road drainage and stream crossings to reduce the potential for stream sedimentation, and would augment stream flows through management of upland vegetation. In April 2000, high tree mortality occurred following a significant ice storm. Much of this woody debris is now on the forest floor, which increases the likelihood of over-heating of the soil during a wildfire.</p> <p>The Bugtown Project Area lies immediately adjacent to the north/northeast portion of the South project area. The focus of the Bugtown project was reducing the epidemic levels of MPB affecting Ponderosa pine. Elevated numbers of beetles were detected in pine in the northern portions of the South project area during silvicultural surveys.</p>	
11b	Wes Wilson, EPA	<p>Environmental Concerns</p> <p><u>Soil erosion and water quality.</u> The EPA appreciates the qualitative evaluation of soil erosion, sedimentation, and overall water resource quality in the National Forest. The Draft EIS projects no serious concerns about soil erosion and water quality or potential impacts from the Proposed Action to additional runoff, erosion, and sediment to streams and other water resources such as riparian areas.</p> <p>Given the extensive timber harvesting proposed, however, combined with the extensive acreage affected by the Jasper fire immediately to the northwest of the Project, EPA has some concerns about water quality because of significant land disturbance and potential erosion and runoff from extensive harvesting and other activities,</p>	<p>The majority of the Jasper fire lies within watersheds outside of the South project area. Only 1,758 acres of the 83,000+ acre Jasper fire burned within the South project boundary (3% of the area). The majority of stream channels within South are ephemeral. Six miles of perennial stream occur within the project area,</p>

		<p>in conjunction with the high road density in the project area.</p> <p>Combined with habitat reductions in ponderosa pine, the high density of roads and their stream crossings contribute to concerns about wildlife habitat and its fragmentation and wildlife disturbance or mortality.</p>	<p>and only 1.5 miles of perennial streams occur on National Forest lands.</p> <p>See 9dd concerning BMPs and WCPs.</p> <p>Refer to pages 32-68 of the FEIS concerning soil and water.</p> <p>See the Transportation section of the FEIS (pages 202-205) for a discussion of road proposals, including road density. Overall open road density would be reduced with implementation of either action alternative.</p> <p>Refer to pages 103-178 in the FEIS concerning wildlife habitat and effects to wildlife species.</p> <p>Refer to response at 9v about fragmentation.</p>
11c	Wes Wilson, EPA	<p><u>Cumulative impacts resulting from climate change.</u> As you may be aware, recently available research from the Rocky Mountain Research Station has provided information regarding the correlation between epidemic native bark beetle infestations and warming due to climate change.</p> <p>(See: “Western U.S. Bark Beetles and Climate Change”, U.S. Department of Agriculture, Forest Service, Climate Change Resource Center, Barbara Bentz, preparer, May 20, 2008, http://www.fs.fed.us/ccrc/topics/bark-beetles.shtml.) This work describes the increasing probability of temperature-dependent beetle survival which suggests that elevated minimum temperatures, which are rising faster than maximum temperatures, have altered the survival conditions for the mountain pine beetle.</p>	<p>There is currently no mountain pine beetle epidemic (outbreak) within the South project area.</p> <p>See response at 9c concerning climate change.</p> <p>Response to referenced article:</p> <p>In the Black Hills, mountain pine beetle reproduction has always been univoltine, or occurring every year. Semivoltine beetle reproduction occurs in populations at higher elevations and is not relevant to the Black Hills.</p> <p>There is some implication about climate-change-induced drought and drought stress making trees more susceptible to beetles. Those referred to in the paper are mostly SW pinyon pine. There could be a loose connection to the situation in</p>

		<p>This trend is predicted to increase in the next thirty years, particularly at high elevations throughout the Rocky Mountains. As a result, the current beetle infestations due to increased warming in the Black Hills may result in significant changes to the long-term ecological conditions which could shift future vegetation patterns in some hard-hit forests.</p> <p>While there are no known management options to prevent the spread of a large-scale bark beetle outbreak, land-use activities that enhance forest heterogeneity, such as creating large patches that contain diverse species and ages of trees, can reduce susceptibility to bark beetle outbreaks, according to this report. As noted in this report, beetle reproduction may have changed from every other year (semivoltine, meaning two years are required for a single generation) to every year (univoltine) due to warming minimum temperatures. (See: “Temperature-based model for predicting univoltine brood proportions in spruce beetle, <i>Coleoptera: Scolytidae</i>”, <i>The Canadian Entomologist</i>, vol. 133: 827-841, Hansen, et. Al., 2001.) EPA recommends that the Final EIS describe this newly available information regarding the nexus between the current beetle infestation and climate change.</p> <p>The Final EIS should also describe what options are available to the Forest Service to adapt their land management to a changed set of ecosystem conditions that is not duplicative of observed past conditions.</p>	<p>the Black Hills due to below-average precipitation of the last few years.</p> <p>Also stated in the article is that a wide set of circumstances must be present for a beetle outbreak to occur, with one of the main ones being large areas of suitable host (trees) as a requirement for an outbreak. If the host conditions aren’t present, widespread outbreaks would not occur regardless of climate change. Refer to pages 77, 80, 85-86 and 90 in the FEIS for effects of the alternatives on mountain pine beetle risk.</p> <p>The article does allude that no single management action deals with outbreaks across all landscapes. Past disturbances have produced large acreages of trees that are similar in size and age. In overcrowded stands, that can lead to the start of an outbreak. To lessen the potential of an outbreak, creation of more diverse stands across the landscape is one possible action to consider.</p> <p>In the Black Hills, reducing stand density of pine has proven to be effective in reducing mountain pine beetle susceptibility. (<i>Schmid, J.M.; Mata, S.A.; Kessler, R.R.; Popp, J.B. 2007. The influence of partial cutting on mountain pine beetle-caused tree mortality in Black Hills</i></p>
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11d	Wes Wilson, EPA	<p><u>Cumulative impacts from proposed actions.</u> Related to our concerns about soils and water quality, we are concerned about the cumulative effects in the Black Hills National Forest for some water resources, fish and wildlife habitats and populations, soils, and other resources.</p> <p>Several recent projects have proposed aggressive harvest and thinning of large-diameter and other trees for fuels reduction and beetle management that are important for wildlife habitats. Larger ponderosa pine and other trees reduce large-scale fire risks, and these old forest structures and habitats are declining in the Black Hills because of recent projects and recent fires.</p> <p>The EPA recommends careful evaluation of cumulative impacts in the Final EIS that considers the overall effects of this and other fire fuels- and MPB risk-reduction projects that are being conducted jointly.</p>	<p>See pages 61-67 in the Watershed and Soil section of the FEIS for a discussion of cumulative effects on soils and water quality.</p> <p>See page31, which defines the cumulative effects analysis area for the South project.</p> <p>Refer to Appendix E for a list of past, present and future projects considered during cumulative effects analysis.</p>
11e	Wes Wilson, EPA	<p><u>Hydrology.</u> We noted previously some concerns stated in this EIS and similar documents regarding whether logging would positively affect the water flow regime.</p> <p>The hydrologic discussion does not evaluate the effects of the Preferred Alternative on the annual hydrograph. Those effects include potential reductions in base flows, soil moisture, hydrologic support of downstream wetlands and riparian areas, and other effects that relate to greater storm runoff but less soil moisture and stream base flow during</p>	<p>Due to the geology, most of the precipitation falling within the project area recharges ground water. As a result, most stream channels are ephemeral and only flow as a result of very intense rainfall events. Refer to pages 46-50 of the FEIS concerning flow regimes and pages 63-64 of the FEIS for a discussion of pertinent cumulative effects.</p> <p>The annual hydrograph is commonly a flat line or no flow. It is not a typical hydrograph that is usually a nice bell shaped curve. Reducing the basal area will not affect or change the hydrograph as any increase in water availability will go into ground water recharge.</p>

		<p>drought. Altering the forest hydrographs may have significant adverse impacts in the long run.</p> <p>We suggest that the Final EIS address hydrologic and water quality issues in detail and consider revising some of the conclusions in the Draft EIS.</p>	<p>No new information was presented to warrant revision of the conclusions in the FEIS.</p>
11f	Wes Wilson, EPA	<p>EPA recommendations for Final EIS</p> <p>We suggest that the Final EIS include the following information and actions:</p> <ol style="list-style-type: none"> 1) Quantify soil erosion and stream sedimentation impacts to understand differences among the alternatives and to confirm that adverse impacts will be fully mitigated and that there will be no degradation or impairment of stream systems. 	<p>Quantifying soil erosion and stream sedimentation is not necessary to understand the differences among the alternatives. Stream sedimentation is not an issue within the South Planning area because, of the 186 miles of stream, there are only 6 miles of perennial stream of which only 1 1/3 miles are on National Forest. Models could be run to get the suggested information, however, an effective indicator that is simple and cost-effective is comparing proposed units on soils with severe erosion ratings to show the differences among the alternatives.</p>
11g	Wes Wilson, EPA	<ol style="list-style-type: none"> 2) To increase protection of environmental resources, we recommend that the Final EIS include an alternative that focuses fire risk-reduction treatments in private land interface areas only. 	<p>Approximately 7,840 acres of private lands occur throughout the project area. See alternative treatment maps in Appendix A. The proposed activities are within the private land interface.</p> <p>See pages (97-99) of the FEIS for a discussion of fire risk and fire hazard.</p>
11h	Wes Wilson, EPA	<ol style="list-style-type: none"> 3) Consider the probability of the cause of the beetle epidemic to be related to climate change and the options for forest management in a warmer and drier ecosystem due to climate change. 	<p>There is currently no MPB epidemic within the South project area.</p> <p>See response at 11c concerning MPB and</p>

			climate change.
11i	Wes Wilson, EPA	4) Consider habitat management practices particularly in important wildlife habitat management areas for species listed as Management Indicator Species or sensitive wildlife species that have documented declines over the National Forest.	See the discussion on pages 112-126 of the FEIS concerning Management Indicator Species. See the discussion on pages 153-168 of the FEIS concerning R2 Sensitive Species.
11j	Wes Wilson, EPA	5) To reduce cumulative effects, including erosion, sedimentation, and habitat fragmentation, EPA recommends that the project include reducing the number and miles of roads that are unneeded for healthy forest management, as part of the Preferred Alternative.	Reducing unnecessary roads is included in both action alternatives. See the Transportation section (pages 202-205) in the FEIS for details.

11k	Wes Wilson, EPA	<p>EPA's Draft EIS Rating</p> <p>EPA evaluates the potential effects of proposed actions and the adequacy of the information in a DEIS. The DEIS is rated "EC-2" (environmental concerns, insufficient information) under EPA's ratings criteria (enclosed). The "EC" rating means that the Preferred Alternative does not require substantial changes, but EPA has identified environmental impacts that should be avoided to fully protect the environment. The EC rating is based on EPA's concerns regarding the potential adverse impacts to water quality, soil erosion, and wildlife habitats from the Preferred Alternative. The potential for significant environmental degradation can be reduced by modifying the project to (1) reduce the overall impacts from timber harvesting in important wildlife habitats and (2) encourage natural succession to mature ponderosa pine forest structure in back country and important wildlife habitats. The "2" rating means that the DEIS lacked sufficient information to thoroughly assess an alternative with the potential to achieve objectives to minimize fire and MPB risk while minimizing or fully mitigating the adverse environmental impacts to soil, water, wildlife, and other resources. Impacts to those resources could be quantified and better described in the Final EIS.</p>	Comments noted.
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