Appendix H-1: Response to Comments on the Draft EIS

Introduction

A Notice of Availability for the Draft Environmental Impact Statement (DEIS) was published in the Federal Register on May 29, 2015, initiating a 45-day comment period on the DEIS. In response to requests from multiple commenters, the comment period was extended from July 13, 2015 to July 31, 2015.

The Forest Service received 97 comment letters from interested parties—both supportive and oppositional. Some comment letters were duplicates of letters already received by other methods, and some comment letters had multiple names attached.

The Forest Service IDT entered all comments into a database, reviewed them for substantive comments, and parsed (divided) the comment letters into distinct issues. Contact information for each commenter was added into a database. These substantive comments provided the foundation on which this Response to Comments report is based.

Depending on the issue or topic addressed by the commenter, each substantive comment was organized into one of several categories. Similar comments were grouped according to common themes or concerns and were responded to as a group; other comments were unique and were responded to individually. Comments that resulted in a clarification or update to a particular component of the EIS were indicated as such. The Draft Record of Decision highlights some of the common concerns raised by the public that greatly influenced the ultimate proposal, analysis, and decision.

Per Forest Service Handbook 1909.15, Chapter 24.1(3), copies of comment letters received from Tribes, Federal, State and local agencies and elected officials are included as Appendix H-2 of the FEIS.

The response to comments report is ordered by:

- **Broad topic area -** Use the table of contents to navigate to groups of comments by broad topic area.
- **Concern: [Seq#X]** - The concern number is simply a tool to organize the comments. A concern number is assigned to an individual unique comment or to groups of similar comments. Some groups of comments are summarized in a complete concern statement, and some – though not all - are identified by a topic name.
- **Response: [Seq#X] -** This is the response to the comments for the particular concern number.
- **Associated Comments: [Seq#X] -** This portion contains the substantive comments associated with the particular concern number and the response. Each comment is followed by a comment number in brackets **(i.e., [22-2]).** The first number is the comment letter number. The second number corresponds to the specific parsed comment from the letter. The comment letter number associated with each commenter is shown in the table below, organized by alphabetical order of the commenter's last name.

Some responses refer the reader to a response for another, similar comment, i.e., “see response to comment 6-4”. In order to locate such a response, first use the “find” function to search the text for the appropriate comment, i.e., search for “6-4”. Scroll up from the comment in order to locate the associated response.

Table 1. Letter numbers associated with each commenter.

Last Name	First Name	Affiliation (If Applicable)	Letter #
Allerton	Deb		67
Ashmead	Paula		81
Batchelder	Don	Ouray County Board of Commissioners	45
Belau	Peter		54
Birtcher	Normand	Montrose Forest Products	3
Canaly	Christine		22
Cascade	Robyn		26
Casey	Dan	Colorado Timber Industry Association	25
Chamberlin	Judith	Uncompahgre Watershed Partnership	37
Chapman	Mary	Rural Resource Solutions	21
Christian	Kathryn		53
Clark III	Ralph E.		44
Colburn	Sara		68
Connolly	Carol		94
Coulter	Sara		50
Davis	Katrina		74
Day	Bill		34
Delaloye	Sarah		79
Dorsey	Patricia D	Colorado Parks and Wildlife	8
Dozier	Cindy	Hinsdale County, Colorado	17
Esty	Jon		90
Evans	Russell		86
Files	Ralph		15
Files	Judy Ann	City of Montrose, Colorado	16
Fillinger	Yvonne		85
Frank	Christine		72
Franklin	Audrey		88
Gardner	Colleen		92
Gingery	Suze		66
Goldman	Andrew		9
Goldstein	Elena		83
Green	Robert and Donna		31
Greene	Howard		64

Grother	Craig Backcountry Hunters and Anglers	4
Grother	Craig Backcountry Hunters and Anglers	13
Hayes	Joseph	65
Haygood	Jay	56
Head	Sandy Montrose Economic Development Corporation	10
Heller	Noble	51
Heuscher	Pauline Western Colorado Congress	11
Heuscher, MD	Enno	3
Hill	Barbara	60
Hollenbeck	Mary	52
Horn	Jon	40
Janzen	Paul	95
Johnson	Alex Western Slope Conservation Center	22
Keck	John	71
Kemper	Katie, Robyn Cascade Great Old Broads for Wilderness	22
Kirkpatrick	Jon	96
Kirkpatrick	Jim	70
Kirkpatrick	Jon	76
Kirkpatrick	Jim	63
Lewis	Wilson	73
Lipton	Ken	93
Manis	Gerald	29
Marquardt	Michael	69
May	Joan San Miguel County, Colorado	18
McClellan	Roz	22
McKenney	Tom	24
Melton	Allison High Country Conservation Advocates	22
Melton	Allison High Country Conservation Advocates	48
Melton	Allison High Country Conservation Advocates	47
Miller	Linda	46
Mueller	Kevin WildEarth Guardians	41
Niermann	Lisa	75
Ohlheiser	Dick	77
Oken	Tom	84
Padgett	Lynn	36
Parker	Jennifer	32
Parker	Randy	30
Parker	Tehri	22
Peirce	Susan	61
Pike	Christopher	91
Porter	Leslie	78

Pugliese	Rose	Mesa County Board of Commissioners	6
Ray	Austin		55
Robertson	Leigh	Sheep Mountain Alliance	33
Roeber	J. Mark	Delta County Board of Commissioners	42
Rosa	Nicole		62
Rubick	Linda		59
Saxton	Douglas		57
Schenk	Sherry		22
Shepherd	Janice		4
Shoemaker	Sloan		22
Silbert	Shelly		22
Smith	Vera		38
Smith	Rocky	Wilderness Society	22
Speakman	Elizabeth		58
Stephenson	Jim		39
Strobel	Phillip	Environmental Protection Agency	7
Swenson	Paula	Gunnison Board of County Commissioners	5
Terrill	Nancy		80
Troxel	Tom	Intermountain Forest Association	27
van West	Rein	Western Colorado Congress	40
Varnell	Lesa		82
Wait	Kendric	Evergreen Clean Energy Corporation	43
Walters	Betty		89
Warren	Greg		20
Warren	Michael	Colorado Parks and Wildlife	2
Warren	Greg		2
Weise	Jennifer		49
White	David	Montrose County Board of Commissioners	19
Whitmore	Marti		12
Williams	Sheelagh		28
Winzenburg	Jim		87
Wolf	James	Continental Divide Trail Society	14

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H-1.1: Procedural & General Comments

Scope and scale

Concern: [Seq#1] – Scope and scale of project
Commenters note general support and opposition for the size and scope of the proposed action. They oppose the size of the buffer for hazard tree; request additional analysis; request that we retain size/scope; express that forest health issues are not at center of project design; and request additional public input.

Response: [Seq#1] - – Scope and scale of project
Regarding the hazard tree buffer, see response to comment 30-3; the buffer size is adjusted in the FEIS.

Regarding additional analysis, see response to comment 7-12, Need for site-specific analysis.

Regarding the concern that the Forests' operational capacity is overriding the scope and scale of needed treatments, Chapter 1 of the DEIS and FEIS discuss the background leading to the purpose and need for the proposed action. The Forests' proposal would treat a maximum of 25% of those acres affected by spruce beetle (60,000 acres of approximately 225,000 acres of spruce beetle infestation to-date); and a similar maximum of 25% of those acres affected by Sudden Aspen Decline to-date. Certainly, the scope and scale of existing forest health issues exceed the Forests' operational capacity, but the Forest is proposing to do as much as it can within its operational constraints to address the purpose and need.

Regarding the request for additional public input, see response to comment 6-14, Collaboration with stakeholders during implementation.

Associated Comments: [Seq#1] - – Scope and scale of project
I also believe that the scale of the proposed project is too large. That the Ntl Forest Service should start with a smaller project area and then build on successes and adjust plans based on what works and doesn't work [4-6]

A smaller more manageable SPEADMR project is recommended [9-9]

SBEADMR could lead the way to improving watershed health, overall forest health, and protection of critical habitat. In order to achieve these goals, the proposed treatment acreages should not be diminished in any way in size or scope. [17-8]

The proposed SBEADMR project is much too large and extensive. We are concerned that SBEADMR as proposed is an opened project, lacking necessary information that needs to be disclosed to the public and is essential for informed decision-making. SBEADMR, as proposed, would not provide essential public process and scrutiny throughout the 8-12 year period of implementation. SBEADMR proposed to treat many more acres than is justified by the possible benefits of action versus the adverse impacts.

The project thus needs to be smaller and more focused into areas where the treatments would help protect safety, i. e., in areas near infrastructure. The proposed treatment zones, for hazard trees and the wildland-urban interface, must be reduced. A smaller, more focused project would have considerably less adverse impact to soils and watersheds, wildlife (especially lynx), sensitive plants, and existing spruce regeneration. [22-72]

More than a one size fits all, 10 yr plan, the ability for the public to weigh in on specific stages occurring in specific areas would be far more beneficial. This way people with local knowledge of an are could weigh in in specific treatments. Although there are competing desires being used to arrive at potential outcomes, a list of prioritizations needs to top the list of things to be done. Along with HSW issues, creating yet more roads needs to be high on that list also. I believe that a smaller and more focused proposal designed to protect the public safety of our Western Slope communities will be a more effective use of taxpayer dollars. Please reconsider the size and scope of this project as you develop the final EIS. [24-2]

I am writing to raise a few issues. First, 120,000 acres is an enormous project. 12,000 acres pre year is also huge. We have personally treated our own small acreage (~5 acres) for beetles. It's expensive and invasive. I'm worried about the number of new road miles and their impact on wild life and possible invasive weeds, particularly where commercial logging is the treatment. Although visually disturbing, some beetle kill is potentially a good thing by reducing tree density. [28-1]

I do not believe that one formal EIS is adequate for a project of this scope and impact. It concerns me that the project is being designed based upon the resources and budget of the Forest Service and not on forest health issues. Additionally, the impact of the 260 temporary roads and 60 engineered roads is of particular concern to me, the forest and its' wildlife. Is it true that the FS will be funding the building of the roads but the logging companies may be reaping the financial benefits? I would hope that the health of the forest would be considered well before (if not exclusively) the forest industry. I am unclear as to the need for work along roadways having a 600 foot set back. This seems excessive and unnecessary. If the hope is that the spruce return, it is my understanding that they do not seed and grow well in extremely exposed areas. I have a wonder regarding this plan. Finally, I believe this project needs to be much smaller in scope and that there needs to be additional formal environmental analysis before moving forward. [32-1]

The proposed SBEADMR project is much too large and extensive. It would treat many more acres than is justified by the possible benefits of action versus the adverse impacts. The project thus needs to be smaller and more focused into areas where the treatments would help protect safety, i.e., in areas near infrastructure. The proposed treatment zones, for hazard trees and the wildland-- urban interface, should be reduced. A smaller, more focused project would have considerably less adverse impact to soils and watersheds, wildlife (especially lynx), sensitive plants, and existing spruce regeneration. [33-22]

I understand that the public often lets out a cry of "do something", but the Forest Service is the steward

of the resource and that mission, though difficult and fraught with ambiguity, truly is the bottom line. I encourage you to refigure the proposal, break it down to manageable segments and resubmit it to the public who wants to collaborate with you. [46-6]

This project proposes to treat 120,000 acres of forest in Western Colorado and will inevitably impact many resources, ranging from wildlife habitat to soils and watersheds to new road construction. However, only one formal analysis will be completed to disclose the impacts of this large project that will be active on the forest for over 10 years.... I believe that a smaller and more focused proposal designed to protect the public safety of our Western Slope communities will be a more effective use of taxpayer dollars. Please reconsider the size and scope of this project as you develop the final EIS. [50-1]

Concern: [Seq#92] - Colorado Roadless Areas
Response: [Seq#92] - Colorado Roadless Areas
Management of roadless areas is outside of the scope of this project, although line officers and their staff have the discretion to take on additional projects adjacent to SBEADMR treatment units and to conduct the associated NEPA.

Associated Comments: [Seq#92] -- Colorado Roadless Areas
Roadless Areas We understand vegetation treatment of the vast acreages of land identified as Colorado Roadless Areas will require separate NEPA processes and are not considered in this project. We encourage the Forest Service to give a high priority to any of these areas that may render treatment of other areas covered in SBEADMR ineffective. [6-16]

Concern: [Seq#27] - Add more acres to Alternative 2
Response: [Seq#27] -- Add more acres to Alternative 2
Since the DEIS was released, a prioritization process was utilized to more fully focus treatment areas in specific locations. WUI was a significant portion of that prioritization process and included parcel size (a surrogate for density of homes/structures/life, ie, values), communication sites, powerline corridors, campgrounds, etc. Reservoirs and water supply infrastructure were not prioritized, because all watersheds on the National Forest are a domestic water supply for a downstream community. See also response to comment group, “Scope and scale of project.”

Associated Comments: [Seq#27] --- Add more acres to Alternative 2
Alternative 4 is focused too narrowly and too short-term. That said, we recommend adding salvage acres considered in Alternative 4 into Alternative 2. Further, strategic acres could add to wildland fire fuel breaks and provide fuel breaks around powerlines, emergency service cell sites, and around reservoir and water supply infrastructure. [25-4]

Concern: [Seq#28] – Size of hazard tree buffer and WUI buffer
Response: [Seq#28] – Size of hazard tree buffer and WUI buffer

Based on comments, the 'opportunity acres' have been reduced from approximately 700,000 acres to ~250,000 Priority Treatment Area acres (Alternative 2) (110,000 for potential commercial treatment and 150,000 for potential noncommercial treatment); fewer in Alternative 3. The priorization process considered existing road infrastructure, Wildland Urban Interface, drainage density, and lynx and sage-grouse habitat. Existing road infrastructure was included, as areas close to roads are better suited for treatment since no, or fewer, new roads would need to be constructed.

Regarding the scope/scale of the proposed action, see response to comment 4-6, "Scope and scale of project".

Regarding the range of alternatives and the total treatment acreage in each alternative proposed, see response to comment 9-2, "Range of Alternatives".

Regarding monitoring and mitigation, compliance and effectiveness monitoring is explicitly identified, including triggers that would signal need for additional monitoring and/or pause the implementation in a given administrative unit/watershed. Design features are incorporated into all action alternatives to minimize impacts to resources.

Regarding the hazard tree buffer, the 600 foot buffer in the DEIS was a 300-foot buffer on either side of the road, and was designed to take into account the same area in which dispersed roadside camping is permitted on NFS lands. However, in response to public comments, the FEIS limits this buffer to 150 feet on either side of the road (300 foot total), unless located on a slope >40%, in which case the original 300 foot (600 foot total) buffer would be applied to take into account rolling hazard trees.

Regarding the WUI buffer, the 1 mile WUI distance would give fire managers an opportunity to manage the fire perimeter before the fire impacts a structure, or multiple structures. There would not be a 1 mile wide fuel reduction zone or fuel break but only strategically placed treatments within that 1 mile buffer (as identified in the FEIS Priority Treatment Areas) that would aid firefighters in controlling potentially difficult perimeters of the fire. The values of treatments within the 1-mile buffer relate to two of the benefits of treatments to firefighters managing wildland fire: 1) areas with few to no dead trees in which firefighters can work safely and 2) areas where firefighters have the opportunity to manage fire, such as a road which already has dead trees removed (p190, DEIS), or an area where dead trees have already been removed which can be more quickly turned into a safety zone if needed. Having treated areas which can function as safety zones would allow for firefighters to return to structures immediately after the fire front passage, and potentially save additional homes from blowing embers or smoldering/combusting material.

Regarding the request to only treat defensible space for public safety, Cohen's research only considers 'last resort' defense of a structure from a passing fire and does not consider managing the fire perimeter so that it does not continue across the landscape indefinitely, impacting additional structures or values. Defensible space around structures, which largely must occur on private land, is still recommended by fire managers as a last resort to protect structures, but is often not under the authority of the Forest Service. Additionally, having treated areas which can function as safety zones

within 1 mile of structures (the WUI) would allow for firefighters to return to structures immediately after the fire front passage, and potentially save additional homes from blowing embers or smoldering/combusting material. See also response to comment 22-74.

Associated Comments: [Seq#28] – Size of hazard tree buffer and WUI buffer
Hazard trees could be removed in a 600-foot wide area surrounding infrastructure. DEIS at 45. This is much greater than is needed to protect nearby infrastructure, because the height of the tallest tree is not likely to be over about 85 feet or so, and in many stands will be much less. We recommend instead that hazard trees be removed from areas near infrastructure for a distance equal to that of the tallest tree plus 10 percent. Where steep slopes rise above infrastructure, this distance could increase slightly. [22-26]

The wildland-urban interface would be one-mile from communities and infrastructure. Id. This, again, is a much greater distance than is needed to protect nearby infrastructure. Cohen, 1999 (Exhibit 33), found through research that even pure wood structures will not ignite at a distance from flame of more than about 30-40 meters. Thus fuel reduction efforts should be concentrated in such areas, plus a safety zone where firefighters could operate if a fire were to occur. A total distance of a few hundred yards from infrastructure should be sufficient for protection. It is true that wildfires can "spot", i. e., send burning embers ahead of a flaming front, and start new fires. These spot fires are known to have occurred at least 1.5 miles ahead of the main fire, such as in the Hinman Complex Fire on the Routt National Forest in 2002.28 It is not at all realistic (financially or otherwise), let alone desirable, to remove fuel for that distance around infrastructure. If fuels are greatly reduced in the area immediately surrounding the feature or structure to be protected, there would be little to burn if a flaming ember landed there.... 28 Andy Cadenhead, Routt National Forest, personal communication with Rocky Smith [22-27]

The size, scale and scope of this project are massive - both in its geographic reach and time span. Such a project warrants more than one formal environmental analysis over the 10 year period regardless of the adaptive implementation cycle proposed. Specifically defined monitoring at regular intervals and mitigation strategies must be included in the DEIS allowing for the flexibility to significantly alter the project if necessary to protect natural resources. It is disturbing that alternatives 2, 3 and 4 regardless of their focused goals still propose to treat 120,000 acres with approximately half of those acres designated for commercial logging. I am not opposed to cutting some trees - specifically diseased trees - to ensure public safety, protection of infrastructure and defensible space for firefighters. However, although alternative 3 addresses these goals, the 120,000 acres far exceeds the area required to meet these objectives. Furthermore, a 600 foot buffer around infrastructure is excessive when our tallest spruce are 80-90 feet tall. Similarly, a wildland urban interface (WUI) defined as one mile is too vast. [26-2]

A project of this size will require an excessive number of roads. Decreasing the size will significantly lower this requirement. Also, a 600-foot wildlife urban interface is far too large as is a 1 -mile WUI figure. [31-11]

7) I am also concerned about the size and scope of this project, especially in terms of public safety treatments around the WUI, one mile from communities and infrastructure and removal of hazard trees up to 600 ft away from infrastructure. The size of the "public safety" treatment area definitions are very high and the proposed criteria make even Alt 3 seem like an alternative that has been designed to put recovery first rather than public safety. The clear cuts are too generally too large and and even two acres clear cuts would be too great a distance from seed sources. [39-7]

VIII. TREATMENT ZONES ARE TOO LARGE WCC continues to be concerned about the size and scope of this project. Especially in terms of public safety treatments around the wildlands urban interface (WUI) one mile from communities and infrastructure and removal of hazard trees up to 600 ft. away from infrastructure. 3 This ASQ is specifically for the 2001-2010 decade. The Plan does not specify the ASQ for any later decades, but this ASQ is the same as for the previous decade, 1991-2000. Id. At the working group meeting on July 23, FS employees said that the one mile WUI definition is standardized for FS mapping of the WUI and that many county protection plans allow for a 1.5 mile definition of the WUI. Although that may be true, we are alarmed by the size of these "public safety" treatment area definitions. These proposed criteria make even Alternative 3 seem like an alternative that has been designed to put recovery first to maximize CCF. We refer to HCCA et al. letter Section X, page 26 for alternative information that can be used to define the distance of WUI and hazard tree treatments. [40-10]

Concern: [Seq#85] – Request for more salvage acres
Response: [Seq#85] – Request for more salvage acres
There is misunderstanding about the "additional salvage acres" from Alternative 4 in the Draft EIS; it had a broader opportunity area and it did not include any resiliency treatments, therefore all 60,000 acres of commercial treatment would have been salvage. "Adding" salvage treatments from Alternative 4 to Alternative 2 would have exceeded the Forests' operational capacity during the implementation timeframe of SBEADMR. For the Final EIS, all spruce-fir and aspen outside of Wilderness, Roadless, etc. -- irrespective of existing stand condition -- was prioritized, as detailed in Appendix F. The resulting number of likely resiliency vs. salvage acres are noted in Chapter 2 of the FEIS for both Alternative 2 and Alternative 3. Note Alternative 4 was eliminated from further analysis, as the lack of spruce resiliency treatments did not meet the stated purpose and need. See also response to comment group addressing Priority Treatment Areas.

Associated Comments: [Seq#85] -– Request for more salvage acres
We commend the Forest Service for maintaining a relatively consistent acreage total for the treatment in the alternatives. Delta County requests that these acreage targets be maintained throughout the entire NEPA and implementation process. We support Alternative 2, the preferred alternative with the caveat that additional salvage treatments from Alternative 4 are added per resource needs, and that our comments are considered and incorporated into the selected alternative. Specifically, Delta County would ask that the 21,000 ccf of salvage timber from Alternative 4, the Salvage Alternative, with the resiliency and salvage timber already included in Alternative 2, the Preferred Alternative. This would add

additional safety precautions in several of the previously identified WUI areas and objectives and add flexibility to respond to changing conditions on the ground. Data previously obtained for historical timber projects indicate that adding additional salvage timber to Alternative 2 would provide 332 jobs to those already detailed in the preferred alternative. Delta County has lost 500 coal mine jobs in the last two years and this job boost would help bridge our current deficit in good paying jobs for families in the area. [42-2]

Alternative 4 is clearly the most conventional timber program and timber supply oriented choice. We believe that it would be economically and operationally feasible to add additional salvage acres from 4 into Alternative 2. We also believe that strategically chosen acres could add to wildland fire fuel breaks and could provide fuel breaks around powerlines, emergency service cell sites, and around higher risk reservoir and water supply infrastructure. In epidemic conditions, which may be exacerbated by climate change, maximum flexibility should be the goal. [97-15]

Purpose & Need

Concern: [Seq#2] – Purpose and need
Comments express general support and opposition for the stated purpose and need of the project. With respect to opposition of the purpose and need, commenters are concerned that the scoping letter and initial project dialogue about forest health has shifted to focus on commercial timber; that the scale of resiliency treatments is not enough to make an impact at a forest-level; that commercial value of dead trees is time-limited; that climate change renders aspen treatments pointless.

Response: [Seq#2] – Purpose and need
The original purpose and need was stated in the July 2013 scoping letter and is carried through to the Final EIS: "treat affected stands, improve resiliency of stands-at-risk, and reduce the safety threats of falling, dead trees and large-scale wildfires" (July 2013 scoping letter). In that letter, the Forest Service noted consistency between the project goals and the 2011 Western Bark Beetle Strategy, including, "promoting recovery from the insect outbreak, improving the resiliency of green stands.... and providing for human safety". "Recovery" is admittedly a poor term, as for some it implies exclusively "ecological recovery" whereas to others it implies exclusively "economic recovery". The Forest Service did include clarifications to the purpose and need between the scoping letter and the DEIS to very explicitly articulate the nature of each of the objectives: public safety, resiliency, and recovery. The Draft EIS articulates that recovery in the context of this proposed action encompasses both the recovery of economic benefit from salvageable, merchantable timber, and the re-establishment of desired forest conditions by replanting where seed sources are lacking. The project was never conceived as a project exclusively for ecological benefit; it has always included economic, social, and ecological objectives.

Regarding the comments that resiliency treatments are moot given the limited scale of treatment, the Forest Service acknowledges that resiliency treatments are unlikely to prevent future spruce beetle epidemics and aspen decline across the entire Forest. That is not the intent. Rather, in prioritized

treatment units as appear in the Final EIS, treatments would be implemented to meet specific silvicultural, fire/fuels, and wildlife objectives for that particular stand.

Regarding the time-limited value on dead timber rendering the project pointless, commercial operations would only proceed in a given unit in the event that timber is still merchantable; to-date, there is salvageable timber and the epidemic is continuing to affect new thousands of acres of trees.

Associated Comments: [Seq#2] – – Purpose and need

Purpose and Need Mesa County supports the stated purpose and need for the SBEADMR project. We understand the urgency of the project given the scope and rate of infestation of spruce beetle and SAD on the GMUG National Forest. Multiple-use of our national forests is a critical part of our local economy, culture and quality of life. Ensuring public safety, resilient forests, and a plan to recover commercial products for local industries, in the short and long term, are laudable goals. [6-12]

The second of three basic things we are asking for is]Improved protection of people and infrastructure, capacity to implement the maximum number of resiliency treatments available to improve the overall long-term health of the forest, and establish essential timber supply to our local timber industry and the significant number of jobs it generates throughout our community. [15-3]

The last of three things we are asking for] Support for the unquantifiable benefits such as decreased threat to life, property, water supply and quality, as well as values such as habitat improvement. [15-4]

The urgency of this situation in our forests demands that the quickest remedy be applied. Commercial treatments offer the most effective fuel reduction leading to healthy, resilient forests in the most expeditious way. As we anticipate future wildfires (not if, but when), these treatments should include fire breaks, adequate space for firefighting staging, and escape route protection to assure the health, safety and welfare of the public. [17-7]

Three priorities are listed under requirements: 1. Public safety. This should be limited to existing features, such as roads and campgrounds. 2. Resiliency. Treatment of 4% of the existing forest is not going to alter spread. 3. Recover/salvage logging. By the time that the project will be initiated, the usefulness of forest products may have been exceeded making the product unusable. [31-3]

The forest service should emphasize protecting infrastructure, for instance, existing roads and campgrounds. Considering the fact that treating existing spruce invasion has little effect on progression of the disease, there should be little, if any, involvement of the backcountry. [31-8]

After two years of meetings and field trips, and reading the 600+ page DEIS and some of the reference material, I am making my comments shorter than I had planned. Some of them are just regarding the outcome, rather than micromanaging the prescriptions. First of all, this has been billed as a Forest Health project from the beginning. Everyone has agreed that public safety is an important part of it,

also. The July 29, 2013 scoping letter presented it this way, with wood products being incidental to work that is needed. The DEIS Purpose and Need seems to have elevated providing wood products to a higher standing than what we have understood for the last two years. This is causing a lot of involved citizens to mistrust SBEADMR. It is not appropriate to change a Forest Health project to a logging project. In fact, by having the same amount of timber production under all alternatives, it makes the range of alts unacceptably narrow. [34-1]

5) The entire focus of this project seems to have shifted over the past two years. When this project was first presented in July 2013, it was characterized to the public as a project designed to reduce the safety threats of falling, dead trees and of managing wildfires on the landscape (safety); improve the resiliency of stands at-risk of insect and disease (resiliency); and subsequent re-establishment of desired forest conditions to promote forest health. Over the past two years, there has been much discussion about this stated purpose and therefore the stated objectives of resiliency and public safety should apply and be prioritized. The project is now more focused on recovery actions than forest health treatments or public safety treatments. [39-5]

Concern: [Seq#83] – Shifting project focus
Response: [Seq#83] -– Shifting project focus
The original purpose and need was stated in the July 2013 scoping letter and is carried through to the Final EIS: "treat affected stands, improve resiliency of stands-at-risk, and reduce the safety threats of falling, dead trees and large-scale wildfires" (July 2013 scoping letter). In that letter, the Forest Service noted consistency between the project goals and the 2011 Western Bark Beetle Strategy, including, "promoting recovery from the insect outbreak, improving the resiliency of green stands.... and providing for human safety". "Recovery" is admittedly a poor term, as for some it implies exclusively "ecological recovery" whereas to others it implies exclusively "economic recovery".

The Forest Service did include clarifications to the purpose and need between the scoping letter and the DEIS to very explicitly articulate the nature of each of the objectives: public safety, resiliency, and recovery. The Draft EIS articulates that recovery in the context of this proposed action encompasses both the recovery of economic benefit from salvageable, merchantable timber, and the re-establishment of desired forest conditions by replanting where seed sources are lacking. The project was never conceived as a project exclusively for ecological benefit; it has always included economic, social, and ecological objectives.

In considering the range of alternatives, note that the prioritization process for the Final EIS most heavily weighted WUI areas, irrespective of the alternative, thereby emphasizing the importance of the public safety objective across the board (See Appendix F for full description of the prioritization process).

Associated Comments: [Seq#83] -– Shifting project focus
IV. ALTERNATIVE ANALYSIS & STATED PURPOSE The HCCA et al. letter also presents many provocative concerns about the range of alternatives that have been presented in the DEIS. Of these, our main concern is that the focus of the projects seems to have shifted over the past two years. In the scoping letter that was sent in July of 2013, the stated purpose of SBEADMR was described as follows: "The

purpose of the project is to treat affected stands, improve resilience of stands at risk of these large scale epidemics and reduce safety threats of falling, dead trees and large scale wildfires" (FS Scoping letter, July 29 2013) To us, this indicated the project was designed to manage the forest health of the GMUG, a message that was reiterated in the initial public meetings and the CFLRP field trip that year. Over the past two years, there has been much discussion about this stated purpose and how the stated objectives of 1) recovery, 2) resiliency, and 3) public safety should apply and be prioritized. The stated purpose has thus changed to the following: "The purpose of the project is to reduce the safety threats of falling, dead trees and of managing wildfires on the landscape (safety); improve the resiliency of stands at-risk of insect and disease (resiliency); and to treat affected stands via recovery of salvageable timber and subsequent re- establishment of desired forest conditions (recovery)" DEIS at 22. Although recovery is listed last in the purpose statement, when one looks at the range of alternatives, the project seems to be driven by recovery options over forest health or public safety needs. To be clear, as we stated in our February letter, WCC can support recovery actions that supply Montrose the mill as long as there is a robust and NEPA compliant adaptive management strategy in place. WCC has many members in the greater Montrose community and we are sensitive to the economic conditions of the area. However, we are concerned that the range of alternatives seem to be designed not based on forest health information, but on the maximum amount of treatable areas and the CCF available for recovery. This is backwards to us; the alternatives should have been designed based on scientific data and treatments prioritizing forest heath and public safety. [40-6]

Concern: [Seq#267] – Purpose and need in specific locations
Response: [Seq#267] -– Purpose and need in specific locations
In cooperation with Colorado State University, a GIS optimization tool was developed to identify high priority commercial and non-commercial mechanical areas for treatment. Parameters used to identify high priority commercial treatment areas include: low use areas for Canada lynx, presence of an adequate transportation system to complete commercial treatments, stands previously managed and there is no need to re-enter over the next 10-12 years, presence of high priority wildland urban interface, and areas have low stream density (fewer streams that could be affected by management activities). The modeling identified approximately 113,000 acres of high priority commercial treatment. Areas of high priority non-commercial treatment were also modeled. Non-commercial factors include: high priority wildland urban interface, aspen stands affected by Sudden Aspen Decline (SAD), and areas important to wildlife (transition winter range aspen stands affected by SAD adjacent to Gunnison sage grouse habitat, etc.). The modeling identified 77,000 acres of non-commercial treatment areas in the target vegetation cover types (aspen, aspen-spruce). The modeling eliminated commercial treatment in the Red Creek and the Pitkin areas. Non-commercial treatment is proposed in the Pitkin area to help address fuels in the WUI and to improve wildlife habitat. Regarding treatment on the Grand Mesa near Lake Eggleston, east of the resort and east of Crag's Crest, the 2,418 acre commercial PTA called Youngs Creek is located here, and our remote change detection analysis indicates a spectrum of beetle-induced mortality from <10% mortality to >90% mortality. During treatment design, remote detection of mortality would be verified and the appropriate silvicultural prescription (ranging from resiliency to salvage) would be applied accordingly. Treatments will also be laid -out to minimize blow-

down in resiliency cuts by retaining at least 60% of the matrix (no cut areas) and placing units away from ridge-tops and the edges of meadows that may be vulnerable to high winds.

Associated Comments: [Seq#267] -– Purpose and need in specific locations
SITE-SPECIFIC COMMENTS Some of the undersigned wished to visit some of the opportunity areas during the DEIS comment period. However, the maps in the DEIS are on such a large scale that it is difficult to determine exactly where the possible treatment areas might be. Nevertheless, we visited a few areas that appear to be within opportunity areas, and we have the following comments... RED CREEK. This area is south of the West Elk Wilderness and is accessed by FSR 723 off U. S. 50. This area is primarily spruce-fir, and has already been patch cut. Additional cutting could remove too much of the canopy, fragmenting habitat for species needing continuously forested areas for habitat. Additional logging could also violate the Southern Rockies Lynx Amendment. Standard Veg S1 prohibits treatment that would put more than 30 percent of the lynx habitat in an LAU in the stand initiation stage with no snowshoe hare habitat. SRLA ROD at Attachment 1-3. Standard Veg S2 prohibits more than 15 percent of an LAU being regenerated within a 10 year period. Ibid. No portion of the opportunity area in the Red Creek watershed is in the WUI, so the exceptions to these standards in the SRLA do not apply. Additional logging would risk windthrow, which would in turn increase SBB breeding. We noticed large slash piles at least partially composed of large-diameter logs. With SBB attack a possibility, freshly cut logs must not be piled without treatment to reduce SBB breeding habitat. These treatments can include debarking; solarizing (placing logs in the sun and rotating them to make them too hot for SBB), chemical treatment (not recommended except as a last resort); chipping (can reduce or prohibit growth of ground vegetation); or transport and treatment off site. The Red Creek area should be removed from the opportunity area for all alternatives. PITKIN. We looked at an area south of Pitkin that was mostly lodgepole pine with some aspen. The aspen had almost no conifer invasion, nor did it have any evidence of SAD. We do not see any need for treatment here. GRAND MESA. We looked at an area located a short distance east of Mesa Lakes Resort. This area is mostly aspen-dominated, with some stands in various stages of succession to conifer (mostly subalpine fir). Many pure aspen stands had an aspen understory. Another area we looked at was near Eggleston Lake along the Crag Crest Trail. This was primarily spruce-fir. There are numerous blowdowns that have recently been cleared from the trail. There was no indication of SAD in the aspen stands, and only a few SBB hits. It appears that these areas would not benefit from treatment. Blowdown would likely increase if treatments were implemented in the Crag Crest Trail area. [22-17]

Adaptive Management

Concern: [Seq#3] – Need triggers in adaptive management
Commenters requested that the adaptive implementation framework for the SBEADMR action alternatives include thresholds/triggers for: watershed protection, lynx habitat, lynx linkage areas (crossing zones). They contend that adaptive management must necessarily include an identification of

"what will be monitored, when monitoring will occur, when monitoring information will trigger a change in management action, where the trigger points are set, when the mitigation will be implemented, and what activities can continue while monitoring or mitigation decisions are ongoing". They note uncertainty about treatment location and associated impacts in the Draft EIS, and contend uncertainty regarding how much treatment would occur in the action alternatives. They request a multi-party monitoring oversight board.

Response: [Seq#3] – Need triggers in adaptive management
Regarding triggers, the Draft EIS incorporated specific (red light) triggers/thresholds by watershed (for maximum treatment) and LAU (for maximum impact), as noted in the Draft EIS resource sections for water and wildlife resources. Additional treatment beyond such acreage (by watershed) and impacts (by LAU) would require additional project-specific NEPA and not be authorized by the SBEADMR decision. This is made more explicit in the Final EIS in Chapter 2's summary of triggers. In response to public comments and supporting literature on adaptive management, the Final EIS also identifies "yellow light" triggers for both the cumulative watershed disturbance and lynx habitat impacts, as well as additional resources. This framework satisfies the public comments requesting the explicit incorporation of triggers that would trigger not only a change in management for the proposed action alternatives, but also absolute thresholds after which additional NEPA analysis would be required.

Regarding uncertainty of how much treatments would be implemented, the Draft EIS noted the landscape-scale maximum amount of commercial and noncommercial treatments, so there was no uncertainty regarding how much treatment would occur. At the watershed scale, the DEIS noted a maximum disturbance amount, which further delimits how much treatment would occur within a given watershed. However, the Forest Service acknowledges that in any given watershed, there is uncertainty regarding how much of that maximum and which subset of the identified acres would actually be treated and over the lifetime of the proposed project. In the Draft EIS, the gap between potential treatment ("opportunity areas" 350-700,000 acres) and maximum actual treatment (120,000 acres) was a ratio of approximately 1:3 - 1:6, actual treatment total: potential treatment area. The prioritization of the original "opportunity areas" into discrete Priority Treatment Areas for the Final EIS resulted in a narrowing of this ratio to 1:1.2 - 1:3, reducing the uncertainty regarding where treatments would occur. The Forest acknowledges that for an individual vegetation treatment, the same amount of uncertainty may exist, but is constrained to one area; in a landscape-scale EIS, this uncertainty becomes distributed across the landscape. It is a tall order to ask the public to engage and comment on proposed treatments in the Draft EIS that would have had, in the most uncertain scenario, no greater than a 1 in 6 likelihood of occurring. Therefore, in consideration of this and in response to public comments on the Draft EIS, the Final EIS action alternatives incorporate a 30-day public notice and comment period for successive annual implementation of treatments associated with SBEADMR (see Chapter 2 and Appendix E).

Regarding a multi-party monitoring board, the Draft EIS, Appendix E does not identify or establish a "board" to oversee monitoring and other aspects of implementation. However, SBEADMR action alternatives does continue a partnership with CSU for a SBEADMR "Science Team" of independent scientists to review existing best available science and monitoring information throughout the

implementation of SBEADMR and make associated recommendations to the Forest Service. This annual feedback loop would further incorporate stakeholder input at a mid-winter/annual offseason meeting. The Science Team and explicit process for stakeholder input would shape both additional research questions for the Science Team to pursue in relation to SBEADMR's impacts, as well as review the results of compliance and basic effectiveness monitoring that SBEADMR includes. While the Forest Service cannot cede decision-making authority to any external body, the framework noted here provides for effective public and scientific influence and oversight of monitoring implementation.

Associated Comments: [Seq#3] – Need triggers in adaptive management
Additionally, it would be useful to have specific targets for the adaptive management portion of the EIS, especially for planning the success of the revegetation and restoration projects, so that adjustment decisions can be achieved rapidly. Success or failure in watershed protection requires targets, as does lynx habitat and safe lynx crossing zones. Such targets should be addressed directly in the EIS. [3-12]

In theory, the adaptive management plan is workable if sufficient opportunity is offered for adequate input and influence. This is especially true if unforeseen problems or untoward results arise. There should be triggers for changes in the plan for this purpose [31-4]

Triggers and/or adaptive management have been used in the Final Environmental Impact Statement for the Four--Forest Restoration Initiative Coconino and Kaibab National Forests (see 4FRI'sAppendix E) and have been proposed in the San Juan National Forest's Glade Rangeland Management Analysis. Much of the information that should go into this triggers section can be found in various tables in the DEIS that contain design features. Columns would need to be added so that areas, such as the following, would be included: Undesired Conditions, Desired Conditions, What's Acceptable, Indicator, Metric, Method & Sampling Techniques, Soft Trigger (warning that indicator is trending in an undesired direction), Hard Trigger (stop action and address immediately), and Adaptive Management Options. The latter would be suggested actions that would address the problem. Triggers and adaptive management are crucial to provide the assurances the public and stakeholders require. These triggers and suggested adaptive management actions should be developed by a team composed of Forest Service IDT members and various stakeholders and circulated to the public for comment before inclusion in the Final EIS. We also recommend the establishment of a multi--party monitoring oversight board that includes stakeholders to ensure implementation, accountability, and transparency. [33-11]

III. ADAPTIVE MANAGEMENT The SBEADMR DEIS, as written, lacks specificity that could provide assurances to the public that ecosystems will be sufficiently protected from harm. One way to provide these assurances is through the use of triggers and adaptive management. Triggers are thresholds indicating a possible need for change in management, or at least evaluation of existing management. In the report Decision Making Triggers in Adaptive Management the authors state that triggers are, ". . . predetermined decision points that are built into the decision making framework at the outset (i.e., if this, then what)." (Nie and Schultz, 20112). The report identifies various cases where triggers and adaptive management have been used in timber sales and in other federal plans and projects. The report also describes case law related to adaptive management. One of the primary lessons described is:

"If they (the agency) acknowledge uncertainty, they must show that they have a clear monitoring and mitigation strategy that is within their power to implement if unexpected or unacceptable effects are detected." As discussed in Section II., there is considerable uncertainty with SBEADMR concerning exactly where treatments will be implemented, how much treatment will be implemented, and what the impacts will be. Nie and Schultz say, "[i]t is necessary to identify what will be monitored, when monitoring will occur, when monitoring information will trigger a change in management action, where the trigger points are set, when the mitigation will be implemented, and what activities can continue while monitoring or mitigation decisions are ongoing . . . Agencies also should consider incorporating a continuum of trigger points instead of a single red-light trigger that must not be crossed. This allows for proactive intervention before resource conditions reach a crisis point." The Report concludes with five recommendations for the effective use of triggers. First, more effort should be made to ensure that adaptive management includes a clear feedback loop and is conducted in a way that allows for learning. Second, monitoring programs and triggered mitigation measures should be enforceable and include pre-specified timelines. Third, agencies must demonstrate that they will not violate substantive legal requirements in order to survive judicial review. Fourth, the responsibilities for designing, conducting, interpreting, and funding monitoring should be made explicit and up front. And finally, decisions about trigger points and trigger mechanisms should be clearly explained and be made transparently. (Nie and Schultz, 2011). Triggers and/or adaptive management have been used in the Final Environmental Impact Statement for the Four-Forest Restoration Initiative Coconino and Kaibab National Forests (see Appendix E) and have been proposed in the San Juan National Forest's Glade Rangeland Management Analysis. Unless additional specific NEPA is conducted for projects under SBEADMR, triggers and adaptive management are crucial to provide the assurances that public and stakeholders require. These triggers and suggested adaptive management actions should be developed by a team composed of Forest Service IDT members and various stakeholders and circulated to the public for comment before inclusion in the Final EIS. We also recommend the establishment of a multi-party monitoring-oversight board to ensure transparency and accountability. 2 MARTIN NIE AND COURTNEY SCHULTZ, REPORT TO USDA PACIFIC NORTHWEST RESEARCH STATION, NEPA FOR THE 21ST CENTURY, DECISION MAKING TRIGGERS IN ADAPTIVE MGMT. (2011) ("Nie and Schultz"). Under such a model, concerns about additional NEPA could be addressed by creating a system whereby if a certain number of triggers are tripped (i.e. large scale treatments determined by a certain acreage (1) occurring in a watershed (2) with predominant spruce cover (3), additional NEPA would be required, such as a project-specific Environmental Assessment. [40-5]

Public Involvement

Concern: [Seq#8] – Coordination with Mesa County
Response: [Seq#8] – Coordination with Mesa County
The GMUG contacted Mesa County to coordinate and address concerns prior to the release of the FEIS.

Associated Comments: [Seq#8]

We are pleased with our long-term cooperative relationship with the Forest Service. Mesa County's memorandum of understanding (MOU) with the Forest Service (FS Agreement No. 13-MU-11020402-008) is an important foundation for this arrangement. It appears many of the issues we raised in our 2013 scoping letter (enclosed) are addressed in the DEIS. However, we are disappointed to have not heard back from you regarding our request for the opportunity to participate in the EIS as a cooperating agency in that same scoping letter. [6-10]

We would also like a timely response to our request to participate in the EIS as a cooperating agency.... Sincerely, Mesa County Board of Commissioners [6-19]

Concern: [Seq#9] - Collaboration with stakeholders during implementation/ Appendix E
Commenters note general support for the GMUG's engagement of the public for the development of the DEIS and the proposed approach to include stakeholder input throughout project implementation. They also request a more defined role for such input and explicit mechanisms for the Forest Service to be responsive to substantive public input throughout implementation.

One comment recommends that the GMUG establish a formal FACA committee of stakeholders to serve throughout implementation; others recommend a formal stakeholder collaborative with balanced representation and clear roles in the implementation process be identified in the FEIS.

One comment recommends additional NEPA in the form of CEs in order to provide an opportunity for more widespread public comment on specific treatments implemented in SBEADMR, in the event that such stakeholders cannot directly participate in annual meetings and site visits. They request that stakeholders have access to Science Team findings and/or recommendations during implementation, and that this relationship is indicated in the process diagram. They also request there be an "emergency break" established for stakeholders to halt continued implementation until stakeholder concerns are adequately addressed; one suggests that the "triggers" for adaptive management could function as this break.

Response: [Seq#9]- Collaboration with stakeholders during implementation/ Appendix E
Regarding a defined stakeholder group for adaptive implementation, the Forest Service has never intended and does not intend to establish a FACA committee for SBEADMR implementation. However, the informal working group of stakeholders convened by the Public Lands Partnership between 2014-ongoing has expressed interest in establishing a more formal, balanced group of stakeholders to continue to engage with SBEADMR. The adaptive implementation framework outlined in Appendix E identifies how the public, including any such self-organizing body of stakeholders, can influence and participate in SBEADMR's implementation.

In response to the public comment requesting more widespread opportunity for the public to comment on specific treatments implemented in SBEADMR, the process now includes an annual 30-day public notice and comment period for outyear SBEADMR treatments; comments would be considered by the responsible official. The process steps identify that the annual implementation report would note how

public input from public comments, the midwinter/annual off-season meeting, and annual site visits was factored into treatment design, implementation, and monitoring, as well as in determination that the original NEPA disclosed the impacts.

Regarding availability of new science/research during implementation, the DEIS framework for public engagement in adaptive implementation explicitly noted this in Appendix E. The framework provides for continued interaction between the Science Team, the stakeholders, and the Forest Service. The mid-winter meeting/annual off-season meeting is only one such avenue for presenting monitoring results and/or new scientific information pertinent to the project. The diagrams are a simplified representation of the processes that are more fully explained in the accompanying text; a new diagram is presented in the FEIS to clarify steps in the implementation process.

Regarding emergency breaks to halt implementation, "red light triggers" are now more explicitly incorporated into the action alternatives, as detailed in Chapter 2 of the FEIS. These triggers detail how implementation would be modified/halted for various resource concerns. Furthermore, as with all NEPA implementation, additional effects/changed conditions not considered in the original NEPA would be cause for the Forest Service to determine if additional NEPA is needed prior to further implementation.

Associated Comments: [Seq#9]- Collaboration with stakeholders during implementation/ Appendix E
Adaptive Implementation Approach and the Forest Plan Update We support the proposed adaptive implementation approach in that it keeps the interested and affected public engaged in meaningful implementation and monitoring of the project while recognizing the need to be responsive to the changing nature and rate of the beetle infestation and SAD. Responsive management using the best science/management practices and input from the public should prove to be beneficial to the forest, all forest users, and the local communities. [6-14]

Among others, the stakeholders invited to participate in adaptive implementation should include owners of adjacent private property and appropriate federal, state, and local land managers and agencies. Specifically, the annual monitoring should be done in coordination with private landowners, public land managers, Mesa County Road and Bridge Division, Grand Mesa and Unaweep Tabeguache Historic and Scenic Byway Committees and the Grand Junction Visitor and Convention Bureau regarding issues such as timing, noise, dust, and road impacts. The Forest Service should incorporate any lessons learned from the SBEADMR adaptive management approach into the GMUG National Forest Land and Resource Management Plan (Forest Plan) update scheduled to start later this year. Mesa County requests cooperating agency status on the Forest Plan update. [6-15]

CPW appreciates the cooperative nature and collaborative approach to project management that is built into this EIS, specifically at the project implementation stage. CPW staff looks forward to participating in planning, on site visits and when preparing design features. CPW believes close cooperation leads to projects that benefit wildlife and produce effective forest treatments. [8-12]

The DEIS needs to more specifically define the nature of stakeholder involvement as far as future

monitoring of the 10 year project is concerned. [9-8]

Adaptive Implementation Approach – Appendix E Figures 8 and 9 present an outline for the proposed adaptive implementation approach for this project. As I have stated in my previous correspondence and in our discussions with Forest Service Staff and the SBEADMR Working Group, we in BHA still believe this approach could be improved upon to better meet the intent of NEPA and public involvement. As proposed, the adaptive management approach in the DEIS provides interested people with the opportunity to review, discuss, evaluate, recommend, and give feedback to the Forest Service on implementation of actions following approval in the Record of Decision. However, those opportunities would be limited to an annual winter meeting and an annual field trip. We feel this limits us and the rest of the public to a couple of events a year, and if we can't attend the meeting or field trip then we will not have the opportunity to remain involved. The same problem exists with the CFLRP project on the Uncompahgre Plateau, which has been the model for SBEADMR. We also remain concerned about the eventual designation of a citizen task force, or stakeholder group, collaborative, or whatever this group may be that works with the Forest Service during implementation. As we discussed in our last SBEADMR Working Group meeting in July, we do not have any kind of endorsement from PLP or the Forest Service on the role of our Working Group following the ROD, and we need to do that in order to proceed as planned. Therefore we request that the SBEADMR project formally designate a collaborative working group that would include representation from all interests, and it would be focused on implementation and monitoring of the actions included in the ROD and supporting documents. Of course all of these meetings and field trips must also be open to the general public, and we strongly feel that this should be an open and transparent process. We still believe that the DEIS is a very strategic document and in the absence of site-specific NEPA for implementation, the GMUG should allow for site-specific public review and comment. Therefore, in addition to designating a collaborative working group for the project, we request that the GMUG allow for additional site-specific input on project implementation from the general public. We suggest the Forest implement site-specific projects tiered to the FEIS and the accompanying ROD utilizing Categorical Exclusions with Decision Memos that are subject to public comment. Public notice and outreach on specific projects would occur through publication in the Forest Schedule Of Proposed Actions and the opportunity for public comment. Our membership feels that this method of public notification provides better opportunity for public involvement beyond the Working Group and would improve participation of local communities as implementation proceeds throughout the Forest. [13-26]

Adaptive management as described on p 38-39 and in Append ix E, will provide needed flexibility without sacrificing adequate oversight. We particularly appreciate the public involvement addressed. The Hinsdale County BOCC believes that the "stakeholders" involved in monitoring should actually be stakeholders. In other words, the groups should be composed of members from GMUG counties. Those impacted the most have the greatest true "stake" in the results. [17-6]

Various "stakeholder opportunity" slots are identified, but it appears that no organized group advisory process is established . We think this is a mistake and suggest, instead, that you establish an inclusive,

knowledgeable core group of stakeholders to follow this process through. The "stakeholder opportunity" option will make it impossible to establish continuity necessary for stakeholders to be truly involved. As presented, new people will continually join the process, who will have to get up to speed and ·be re-educated at each opportunity slot. A better option would be to establish a dedicated group of representatives involved from the beginning who can help shape issues and solutions as part of the adaptive management process. While we think this project has a lot of merit, without a formal advisory group process to involve stakeholders at each step along the way, we cannot support it.... We very much appreciated your working with the Public Lands Partnership to do initial scoping through a working group process and to collaboratively engage various stakeholder groups to achieve better understanding of the Forest Service's proposal and intentions. However, we are deeply disappointed that the on-going adaptive management process outlined in the draft EIS does not include a stakeholder FACA committee to continue the collaboration process through the life of the ten-year project -- as many of us had been led to believe at the start of the scoping. There are a number of environmental concerns about regeneration, fire, windthrow, lynx habitat and lots of site-specific issues that we were hoping would be addressed by this long-term collaborative advisory group. But without that process, we are worried [18-1]

G. There has been repeated interest on the part of SPEADMR stakeholders in science, especially in the prospect of new science that might emerge from the SPEADMR project. Emerging science associated with SPEADMR should be available to the stakeholders involved in the Adaptive Implementation Cycle. In the Adaptive Implementation Cycle schematic on D4 of the Page 4 appendices, the Research Arrow should be extended to include stakeholders involved in the post-treatment reviews. [21-7]

COLLABORATION NEEDS TO BE IMPROVED The Forest Service has opened up the SBEADMR planning process to collaboration in the form of providing information to a stakeholder group and listening to the group's concerns. Appendix E of the DEIS does address how the Forest Service will continue to inform stakeholders and solicit stakeholder input as the project is implemented and monitored. These are steps in the right direction, but it doesn't go far enough. Appendix E says the Forest Service will consider input, but there is no official mechanism for responding to stakeholder input. The Forest Service should have a way of replying to stakeholders that explains why the Forest Service will, or won't, implement the suggestion(s) and the agency's rationale. In addition, if the Forest Service and stakeholders jointly establish triggers, as mentioned above, this would enable more effective collaboration. It would allow the Forest Service and stakeholders to monitor the effectiveness of treatments and their affects on resources and jointly discuss the most appropriate adaptive management responses. [33-12]

Please accept these comments on behalf of Western Slope Conservation Center (WSCC) regarding public engagement in adaptive implementation of the proposed Spruce Beetle Epidemic and Aspen Decline Management Response (SBEADMR). This letter is being submitted to supplement the comments submitted by WSCC et. al. on July 30, 2015. Our membership and board understand that flexible and adaptive management plans are quite possibly the best method for the US Forest Service to manage and maintain healthy forests in the face of a changing climate and increasingly developed landscapes. We

also believe that public engagement is key to the success of any adaptive management process. As a community-supported conservation group that works to protect and enhance the lands, air, water and wildlife of the Lower Gunnison Watershed, we very much wish to be an ally and resource to the US Forest Service throughout the SBEADMR adaptive implementation. WSCC recognizes that effective adaptive management in the face of quickly changing and newly-emerging forest conditions is extremely complex. Consequently, WSCC intended for our comments in the letter submitted by WSCC et al. on July 30, 2015 to provide substantive concerns that would support the US Forest Service in producing a SBEADMR Record of Decision that would include the best-available science, responsible balance of ecological and economic concerns, and robust public engagement. WSCC's goal has always been to strengthen the SBEADMR process through active engagement in all phases of planning and implementation. In regard to the SBEADMR Adaptive Implementation Framework as outlined in Appendix E of the DEIS, we appreciate the US Forest Service's efforts to provide opportunities for meaningful public engagement. We encourage the US Forest Service to prioritize consistent and substantive dialogue between stakeholders, US Forest Service, and the Science Team throughout all phases of implementation. WSCC intends to be a constructive and supportive community resource for all components of public engagement associated with SBEADMR. [35-1]

The SBEADMR scope has been developed by a diverse and dedicated working group and must be implemented by such a collaborative process and partnership. It seems that minimizing the amount of new roads and/or new temporary roads is desired by vocal members of Ouray County's communities, and that pushing as much funding toward minimizing negative impacts to segments of the local and regional economy dependent on outdoor recreation, tourism, and the scenic beauty of natural landscapes will be helpful. Focusing public safety treatments in areas of both the wildland-urban interfaces and the areas that get considerable use by public lands enthusiasts is important, and there is overlap of these areas both within Ouray County and within the GMUG. Ensuring that as each project is developed, best science is employed to not inadvertently increase blow-downs, soil loss, weeds, etc. is essential and will be more accepted by our communities if the SBEADMR working group is retained and an active part of project development and prioritization. [36-2]

Adaptive management is necessary given that the acreage of beetle-killed forest lands within the GMUG are approximately doubling each year, and will be more than a half-million acres by next year. Retaining the SBEADMR working group again will assist in developing understanding and trust with this radical concept, and to help ensure that actual projects are as proactive as possible, rather than slowed down by dissent. Because of the rapidly increasing acreage of the beetle-kill, I can support the increased opportunity areas of Alternative 2, so long as the desire for commercial forestry is not accomplished at the expense of mitigating impacts to public safety and outdoor recreation and tourism, which will be impacted not just by changes in the appearance of the landscape, but by safety of accessing our forests and interacting with them. Thus again, retention of an advisory working group of the same caliber and with similar representation that has developed the concept and scoping thus far is essential to future success. [36-3]

1) During the past year of discussions with the Forest Service (FS), it is clear that a very strong collaborative process is key to the success of this project. I am concerned about the collaborative nature of the SBEADMR adaptive management, especially due to the apparent lack of a well defined direction for collaboration, as has been well outlined in Appendix E. This lays out a clear process in terms of, stages, timelines, and calendar dates for this process. Closely related to this concern is the unusual nature of this project and its compliance with NEPA. HCCA et al raise many concerns and legal points about the lack of NEPA process in their comments, and I share those concerns. [39-2]

I. COLLABORATION Over the past year of participation in the PLP working group and discussions with the Forest Service, it is clear that the success of this project hinges on a strong collaborative process, a process that has been evolving over the past two years but still does not have buy-in from several key stakeholders. We see evidence in the DEIS that the FS listened to some of our concerns that we expressed about the collaborative nature of the SBEADMR adaptive management plan in our comment letter submitted on February 19th, 2015. Specifically, our request for a more defined "road map" for collaboration has been outlined well in Appendix E, which lays out a clear process in terms of stages, timelines, and calendar dates for this process. However, the other half of our comment remains unaddressed. In our February letter, we specifically referenced the Colorado Forest Restoration Institute (CFRI) principles & recommendations for successful collaboration outlined in "The Utilization of Collaborative Processes in Forest Planning," (Burns, 20051). This article states that for a collaboration to be successful, the process must also include clear decision spaces, ground rules and expectations. These key ingredients are still absent from the DEIS and is ambiguous at best within the existing working group. We acknowledge what the FS said at the July 23rd working group meeting regarding their concerns about too much FS involvement in the stakeholder group and their desire to avoid a "FACA" style of formality that is governed by the FS. We agree that the independence of the working group is important. However, unless there is some formal guidance offered in the DEIS that helps formalize this group in terms of balanced participation and decision making, there is no guarantee that this working group will be a neutral, balanced, or accountable body to foster discussion and stakeholder participation. A working group that does not meet these criteria is not an appropriate group of stakeholders to guide the adaptive management process. SBEADMR is neither a restoration project, nor a true collaborative in the form of the Uncompahgre Plateau Restoration project since the goals and purposes listed in the SOPA notice were decided outside of a stakeholder process. It also covers a much larger geographic area that includes a broader set of stakeholders than the UP. The SBEADMR "enhanced NEPA" process thus requires a different formula of collaboration than the UP, one that is more rigorous and more inclusive. In this aspect we agree with the concern of broad public notification of SBEADMR projects raised by Backcountry Hunters and Anglers at the July 23rd working group meeting. Our own members would also like the assurance that they will be given notice of opportunities for involvement and have the ability to provide comments to the FS even if they cannot attend all the stakeholder meetings and field trips and do not have a have a formal vote on the working group. We understand this is a difficult balance to strike. At the last working group meeting on July 23rd, WCC volunteered to be on a subcommittee to work with some of these other stakeholders to address concerns that have been brought forward and propose a different working group model for the future

SBEADMR. However, there is no guarantee that this attempt to modify the process will succeed. Key players are not at the working group table and several stakeholders have expressed reservations of this process. The Final DEIS should include a plan for collaboration that addresses the above concerns in case the PLP working group is not able to come to agreement on a revised proposal. 1 "The Utilization of Collaborative Processes in Forest Planning" Sam Burns, Research Director Antony S. Cheng, Assistant Professor of Colorado Forest Restoration Institute, December, 2005. [40-2]

II. NATIONAL ENVIRONMENTAL POLICY ACT The unusual nature of this project and its compliance with the National Environmental Policy Act (NEPA) continues to be a concern to WCC. The HCCA et al. letter raises various important legal points about NEPA that we believe merit review. Based upon our involvement with the UP project, we know that adaptive management practices can be successful. However as mentioned above, SBEADMR is not the UP project as it has a different stated purpose and objectives, as well as a hybrid collaborative model. Given the a-typical NEPA process proposed and the large scale nature of this project, some sort of "emergency break" in the adaptive management system would help alleviate these concerns. However, upon various conversations with the FS throughout the public comment period, it has become clear that there are currently no such "emergency breaks" built in that would allow stakeholders to hold the FS accountable if something goes wrong. This is even more important because the collaborative process has been and continues to be in an ambiguous state. It is also unclear how, apart from trust in the FS staff, stakeholder comments will be addressed if a substantive concern is raised at any point in the process. WCC is fortunate that we have this trust with many of the current GMUG staff; however, this is an 8-12 year project and the FS cannot guarantee that these particular staff will be involved with SBEADMR for the life of the project. Given this, the EIS should incorporate some sort of "emergency break" for stakeholders in the adaptive management process. One possible tool could be the combination of certain triggers, an idea outlined in the section below. Projects on our public lands need to be accountable to NEPA and stakeholders deserve the reassurance that their time and feedback will be meaningfully considered and have accountability with the FS. We stated this in our Feb 19th letter to the FS and this concern has not been fully addressed. [40-3]

I. CONCLUSION In summary, many concerns about SBEADMR remain, as expressed across the comments submitted by HCCA et al., Sheep Mountain Alliance, Backcountry Hunters and Anglers, and others. WCC shares many of these concerns, and it is clear that the success of this project depends on a successful collaborative model for the stakeholder group. Although WCC and other stakeholders have agreed to develop a revised proposal for the working group, the Final Environmental Impact Statement (FEIS) needs to provide some guidance and sense of accountability for this stakeholder group as they move forward, especially in terms of decision making, neutrality and balance. The FEIS also needs to provide a tool that could serve as an "emergency break" if the project goes awry. The FEIS also needs to be guided first and foremost by forest health issues when designing treatments. WCC understands the economic needs of the Montrose mill and its influence on our community. We are not opposed to recovery treatments as long as they consider the comments put forward in this letter and are guided by an accountable and NEPA compliant stakeholder collaborative process. [40-15]

We encourage the adaptive management phase of the project to keep the science at the core of the decision making and not the "published work of the week." In addition, we encourage the GMUG to continually stress the participatory model in the action part of the adaptive management. [42-1]

Delta County requests that a formalized stakeholder group be formed to continue the informed public involvement that addresses the economics, science and adaptive management phases of the SMEADMR project. The stakeholder group should reflect a balance of the multiple uses interests of the entire GMUG area and counties. The stakeholder process must truly be an active participatory going forward and we look forward to working with all stakeholders. [42-8]

Adaptive Implementation Approach: Adaptive management is a very important component to SBEADMR and is critical to implementation . It would be nice to see research included within this section (starting on page 38) that outlines not only why adaptive management is necessary given the level of uncertainties and complexities, but also why monitoring is required. For instance, "Design and Governance of Multiparty Monitoring under the USDA Forest Service's Collaborative Forest Landscape Restoration Program" by Courtney Shulz, Dana Coelho,and... Ryan Beam and published in the March 2014 Journal of Forestry is an excellent article that provides solid data on the use of adaptive management. But, as highlighted in the article mentioned above, "governance arrangements for most projects include formal roles for participants with regard to designing the monitoring programs." Currently, the SBEADMR project's Adaptive Implementation and Monitoring Cycle does not define who is a stakeholder and as written, implies that anybody who shows up at any time can be part of the process. While this sounds great in terms of collaboration, this will be difficult to implement. In order to provide some level of consistency, helping to ensure the process is successful, there needs to be a designated group of individuals who are willing to participate long-term. For instance, the Multi-Party Monitoring Board for the White Mountain Stewardship Contract in Arizona had a designated monitoring board made up of individuals representing a wide range of interests including county government, local environmental organizations, citizens at large, academia, and the wood products industry. As highlighted in the Executive Summary from the 5-Year Monitoring Report, "the first five years of the Project have been a time of learning, experimenting, and building trust among stakeholders, businesses, and forest managers. The Project illustrates how a National Forest can receive input from stakeholders and incorporate changes into future projects." (p vii). This is not saying that others can't attend or perhaps participate in working groups, but overall, there needs to be a designated group that is consistent. [97-104]

The SBEADMR work group was an excellent model for shared learning. We suggest that future adaptive implementation will require consistent,balanced, diverse representation. Continuity and shared understanding of the project and the lessons learned w ill be important to guide and prioritize annual projects. [97-107]

Concern: [Seq#19] – Comment period extension request
Response: [Seq#19] -– Comment period extension request

In response to these and other requests, the Forest Service granted an extension of 15 days for public comment on the Draft EIS.

Associated Comments: [Seq#19] -– Comment period extension request
I am writing to request that the Grand Mesa, Uncompahgre and Gunnison National Forest ("GMUG") extend the public comment period for the draft Environmental Impact Statement ("EIS") that has been prepared for the Spruce Beetle Epidemic and Aspen Decline Management Response ("SBEADMR") (EIS No. 20150151) to 90-days. The announced 45-day public comment period, which is scheduled to end on July 14, 2015, is insufficient for the public to fully understand and provide meaningful comments on this proposal. SBEADMR proposes a dramatic increase in the number of acres that could receive commercial and non-commercial treatments across the entire GMUG. The project proposes treatments on up to 12,000 acres per year (6,000 acres per treatment type per year) over an 8-12 year period. Over the life of the proposal, up to 120,000 acres could be treated, which would triple the annual amount of acres treated (the current annual amount of acres treated is around 4,000) over this period. These significant proposed increases for about a decade emphasize the need for meaningful public comment at this stage of the proposal. [48-1]

Given the size and scope of this proposal, length, as well as technical and scientific analysis, extending the public comment period to 90-days is not only prudent but essential for meaningful public comment. The 45-day comment period fails to facilitate public involvement to the fullest extent possible. As the agency has spent nearly two years working the draft EIS, yet has provided the bare minimum period for public comment, we strongly encourage the Forest Service to extend the comment period to 90-days. The public should be afforded at least three months to fully digest the 608-page document and contribute our detailed analyses and recommendations for improvements to the proposed project and the final EIS. [48-3]

The Forest Service is intimately aware that there is great public and stakeholder interest in this proposal and continues to state that it supports "active public involvement" on this proposed project. Draft EIS at 29, 32. Additionally, there is a strong likelihood that high-elevation Engelmann spruce/fir stands that may or may not be treated under this proposal may not be reasonably accessible until the last week of or potentially after the 45-day comment period has ended. An extension would allow the public to visit and ground-truth high-elevation stands and to include the information learned from such visits in their comments during the formal draft EIS comment period. It is prudent to give the public a reasonable amount of time to study the draft EIS and provide meaningful comments especially given the size and scope of this proposal, as well as the heightened public interest and Forest Service's claimed desire for active public involvement. Accordingly, we request that the GMUG extend the public comment period to 90-days. [48-4]

Concern: [Seq#20] - Pre-NEPA public involvement
Response: [Seq#20] - Pre-NEPA public involvement

The Public Participation section of the FEIS has been updated to include reference to the pre-NEPA communication that the GMUG initiated about the spruce beetle.

Associated Comments: [Seq#20] - Pre-NEPA public involvement
The Public Participation section beginning on page 28,the EIS discusses the more formal NEPA efforts occurring in mid-2013. We suggest that this section include the efforts beginning in 2012.The GMUG forest leadership gave numerous updates and presentations to the existing Public Lands Partnership (PLP) collaborative, community groups, news media, and to the local boards of county commissioners about the beetle activity. In April 2013, Montrose and Delta Counties hosted a forest health forum to discuss the unusual beetle activity and to inform the public. After this initial FS outreach, the Notice of Intent for SBEADMR was released on July 31, 2013. In the input letters received to-date, much criticism was directed at the GMUG for the scale and speed of the project. The surprise and concern about the scale of the project was expressed by newcomers to the forest health discussion, but much public discussion was held leading up to the GMUG response and the majority of those comments were to encourage an aggressive response. Indeed one of the great strengths of the draft SBEADMR EIS is the scale and speed of the project. Spruce beetles newly infested over 40,000 acres of the GMUG in 2014. Commercial treatment of only 6,000 acres is small in comparison.

Process Concerns related to Alternatives

Concern: [Seq#10] - Identify preferred alternative

Response: [Seq#10] - Identify preferred alternative
The FEIS identifies the agency preferred alternative as Action Alternative 2. The commenter is mistaken that the public will have an opportunity to comment on the FEIS. Rather, those with standing can participate in the objection process, as described at 36 CFR 218.

Associated Comments: [Seq#10] - Identify preferred alternative
Preferred Alternative: The Draft EIS does not identify the lead agency's Preferred Alternative. As required under Section 1502.14 of the Council on Environmental Quality's Regulations for Implementing the National Environmental Policy Act, unless another law prohibits expression of such a preference, the Preferred Alternative will need to be identified in the Final EIS. This will ensure that the public will have an opportunity to comment on the selection of the Preferred Alternative during the Final EIS review rather than through the USFS objection processes. Although lead agencies are not required to analyze the final decision on an alternative (i.e., per the ROD), it seems reasonable and judicious to include such an analysis in the Final EIS if the draft decision is known at that time. We recommend that the USFS' Preferred Alternative is clearly described in the Final EIS, or an explanation be provided as to why it is not identified. [7-13]

Concern: [Seq#11] - Insufficient range of alternatives
Commenters note that there is an insufficient range of alternatives analyzed in the EIS.

Response: [Seq#11] - Insufficient range of alternatives
Maximum operational capacity of the GMUG to implement activities over the timeframe identified in the NEPA (8-12 years) is utilized in all action alternatives, as the scope and scale of the purpose and need is vast. Yet an adequate range of alternatives is not merely established by varying the measurable quantity of the action, in this case, by varying the treated acres. In the SBEADMR DEIS, Alternatives 2, 3, and 4 have different objectives which correspond with differing silvicultural prescriptions for differing stand conditions as well as different geographic locations. In the DEIS and FEIS, Alternative 2 meets the 3 objectives in the purpose and need: recovery of economic benefit; promoting resiliency in spruce and aspen stands; and increasing public safety; it proposed to do so throughout a wide geographic extent of the GMUG. Alternative 3 was created to geographically concentrate all activities in the WUI; by analyzing this alternative, the Forest Service could consider whether this concentration could better meet the public safety objective. Finally, Alternative 4 in the DEIS did not include green spruce stand treatments/resiliency cuts.

Associated Comments: [Seq#11] - Insufficient range of alternatives
The project doesn't considered a proper range of alternatives as 2, 3, and 4 all propose to treat the same amount of acreage. [9-2]

(1) at least one additional alternative must be analyzed in detail to fulfill the National Environmental Policy Act's ("NEPA's") mandate for analyzing a reasonable range of alternatives; [22-75]

IV. THE DEIS DOES NOT ANALYZE A SUFFICIENT RANGE OF ALTERNATIVES. The Forest Service must "[r]igorously explore and objectively evaluate all reasonable alternatives," including those suggested by the public. 40 C.F.R. § 1502.14(a). Here, the Forest Service failed to consider all reasonable alternatives, and further failed to disclose the reasons for eliminating any unreasonable alternatives from detailed consideration. Id. An agency's analysis of alternatives is the "heart" of the NEPA process. 40 C.F.R. 1502.14; Dine Citizens Against Ruining our Env't, 747 F.Supp.2d 1234, 1256, (D. Colo. 2010). Agencies are required to "study, develop, and describe appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources." 42 U.S.C. §§ 4332(2)(C)(iii), 4332(2)(E); 40 C.F.R. § 1502.14(a). Alternatives are critical because, "[c]learly, it is pointless to 'consider' environmental costs without also seriously considering action to avoid them." Calvert Cliffs' Coordinating Comm., Inc. v. U.S. Atomic Energy Commn., 449 F.2d 1109, 1128 (D.C. Cir. 1971). Because an agency's analysis of alternatives helps "sharply defin[e] the issues and provid[e] a clear basis for choice among options by the decision maker and the public," it is a critical aspect of an agency's environmental analysis. 40 C.F.R. § 1502.14. Accordingly, an agency must "[r]igorously explore and objectively evaluate all reasonable alternatives" and specifically "[i]nclude the alternative of no action." 40 C.F.R. §§ 1502.14(a), (d). An agency is not relieved of its duty to analyze a reasonable range of alternatives even if impacts are "insignificant." Bob Marshall Alliance v. Hodel, 852 F.2d 1223, 1229 (9th Cir. 1988) (agency's duty to consider alternatives "is both independent of, and

broader than," its duty to complete an environmental analysis); Greater Yellowstone Coalition v. Flowers, 359 F.3d 1257, 1277 (10th Cir. 2004) (duty to consider alternatives "is 'operative even if the agency finds no significant environmental impact'"). An agency's alternatives analysis is inadequate where a viable but unexamined alternative is present. Dine Citizens Against Ruining our Env't, 747 F.Supp.2d 1234, 1256, (D. Colo. 2010) citing Or. Natural Desert Ass'n [v. Bureau of Land Management], 531 F.3d 1114 at 1121 (9th Cir. 2008) (finding viable but unexamined alternatives in an EA renders the analysis inadequate). The Forest Service's own NEPA regulations state that the Forest Service has to consider other reasonable alternatives when "there are . . . unresolved conflicts concerning alternative uses of available resources." 36 C.F.R. § 220.7(b)(2)(i). The DEIS analyzes in detail three action alternatives, Alternatives 2, 3, and 4. All three of these alternatives, however, would have the same maximum treatment acreage (120,000 acres), even though Alternative 3 has a much smaller opportunity area (426,000 acres versus 718,000 acres for Alternatives 2 and 4). DEIS at 38, 63. All of the action alternatives would produce a high volume of wood products. DEIS at 157, 163, 166. In fact, Alternative 3 would produce a higher volume than Alternative 2 (1.1 million hundred cubic feet (CCF) versus 990,000 CCF), in spite of its much smaller opportunity area. DEIS at 157, 163, 166. There would also be much less roadwork under Alternative 3?only 10 miles of design road and 70 miles of temporary road would be constructed?versus 70 miles and 260 miles of each, respectively, for the other action alternatives. DEIS at 68. The acreage treated and resultant volume should be considerably lower for alternative 3, which would treat spruce only in the wildland-urban interface (WUI). It would seem that Alternative 4 would also have a lower treatment acreage and volume because no spruce resiliency treatments (removing dead and dying trees from stands with a lower level of overstory mortality) would occur. DEIS at 62. But the maximum treatment area is the same for all three action alternatives. The reason for this apparent discrepancy is probably explained by the following: All action alternatives propose to treat the same maximum amount of acres (120,000), since treatment is a function of Forest budget and planning capacity. DEIS at 220. In other words, the maximum treatment acreage is determined by the capacity of the GMUG NF to prepare areas for treatment and has been pre-set for all action alternatives, even though each alternative has a different emphasis. The treatment locations, intensities, etc. are then adjusted as necessary to allow achievement of the maximum treatment level. This is exactly backwards. The alternative emphasis should determine the amount of treatment. Certainly Alternative 3, which would treat spruce only in the WUI, and Alternative 4, which would forgo resiliency treatments in spruce, should have lower volumes than Proposed Action Alternative 2. The standardization of the opportunity areas and high volumes in each alternative erase the differences between the alternatives. Note that the maximum treatment capacity is part of the Proposed Action, Alternative 2: The proposed action already contains a maximum estimate of the current and foreseeable Forest Service capacity to design and administer treatments. DEIS at 70. The other action alternatives have the same maximum treatment level. However, no alternatives analyzed in detail propose a lower amount of treatment. [22-77]

The number and type of options for consideration on the management plan were not nearly inclusive enough. [24-1]

Alternative 3 seemingly involves less treatment area; however, the total acreage involved remains the same. Essentially, this erases all differences between the alternatives. [31-7]

Concern: [Seq#258] - Alternatives considered but dismissed from detailed analysis
Response: [Seq#258] - Alternatives considered but dismissed from detailed analysis
Issues raised by the public during scoping may be addressed by impacts analysis and/or alternative development. With respect to lynx, silvicultural treatments to promote age class diversity where such diversity is lacking, when conducted in accordance with the SRLA, is considered a conservation measure; as such, excluding all suitable lynx habitat and/or lynx linkage areas wouldn't make sense from a conservation perspective.

Regarding an alternative to avoid treatment in mature, multi-storied stands, at the LAU scale, the GMUG lacks seedling, sapling, and pole size trees. The 2013 Lynx Assessment again affirms that in order to maintain forage habitat and connectivity, a range of seral conditions is needed. Natural succession and disturbances such as the spruce beetle epidemic can facilitate age class diversity; so can active management where appropriate. The effects analysis indicates that the action alternatives move the analyzed stands closer to the potential natural vegetation communities/desired condition for age class diversity (see the silviculture and wildlife sections of Chapter 3, FEIS).

With respect to protecting areas of abundant, dense horizontal cover, the silvicultural prescription across all action alternatives explicitly include such protection; see Appendix E.

Regarding consideration of a "conservation alternative", organizations did not present one to the Forest Service to analyze throughout the long and highly participatory planning process; nonetheless, some conservation-oriented individuals and groups requested that treatments be limited to those areas immediately adjacent to infrastructure. This was considered by the Forest Service, but dismissed from further analysis in the FEIS; it would not have met the purpose and need. See response to comment 22-74.

Associated Comments: [Seq#258] - Alternatives considered but dismissed from detailed analysis
It is interesting that the Forest Service considered an alternative for increased logging, but ultimately rejected it without further analysis. See DEIS at 70. The Forest Service did not, however, consider an alternative whose goal was to conserve important wildlife habitat and treat fewer acres. There is no explanation for why the Forest Service could not consider such an alternative. For example, the Forest Service could consider an alternative that does not treat areas that contain the Primary Constituent Elements for lynx critical habitat as identified by the U.S. Fish and Wildlife Service in its final revised rule designating critical habitat for lynx (September 2014). The Forest Service could consider an alternative that does not treat any lynx habitat. The Forest Service could consider an alternative that does not treat lynx linkage areas. The Forest Service could consider an alternative that does not treat any areas with a particular amount of dense horizontal cover. The Forest Service could consider an alternative that does not treat abundant and spatially well- distributed patches of mature, multi-storied spruce-fir stands. The Forest Service could work directly with the signatory organizations to develop a "conservation

alternative" that it would agree to consider in detail. Such alternatives, however, have not been considered or analyzed. [22-79]

Concern: [Seq#259] - Alternative that would only treat defensible space
Response: [Seq#259] - Alternative that would only treat defensible space
An alternative that would treat areas adjacent to infrastructure in buffers no greater than a few hundred meters, as proposed by members of the public throughout the development of the DEIS and the FEIS, was considered but dismissed from further analysis by GMUG staff. It is now listed in the FEIS, Chapter 2, Alternatives Considered but Eliminated from Detailed Study. Treatments within a few hundred meters of infrastructure provide for immediate defensible space, which better enables firefighting crews to protect the infrastructure in the event of a WUI wildfire. However, as pointed out by GMUG fire specialists in meetings with the public, such treatments are not sufficient to enable fire managers to manage spruce fires for resource benefit and/or to manage the fire perimeter so that it does not continue across the landscape indefinitely, impacting additional structures or values. Defensible space is considered a "last resort", and they only pertain to defense of a structure from a passing fire. If a wildfire in spruce-fir is proximal enough to infrastructure that defensible space were utilized by firefighters, fire managers would simultaneously be working to entirely suppress such a wildfire. Spruce-fir typically burns as a stand-replacing, crown fire, and only iterative treatments across the landscape, radiating from the defensible space perimeter and continuing throughout the full extent of the WUI, would provide for strategic, tactical defense locations that could enable fire managers to manage wildfire away from values at risk without engaging full suppression. Because treatments within a few hundred meters of infrastructure do not meet the purpose and need to a) increase safety of infrastructure and firefighters while increasing the likelihood to safely manage wildfires for resource benefit (vs full suppression), this proposal is not further considered. Furthermore, while it may provide for some timber volume of live and dead trees, thereby meeting purpose and need of "recovery", such a proposal would be too small in scale to foster resiliency of spruce and aspen stands. See also response to comment 22-27.

Associated Comments: [Seq#259] - Alternative that would only treat defensible space
The undersigned are not opposed to some vegetation treatment in the project area. As we have said for the last two years in comments, letters, and at meetings, there are areas that hazard tree removal is necessary to provide protect critical infrastructure and communities. However, we believe the proposed action would implement much more manipulation than is needed or appropriate for the area. We are also concerned that there would be considerable adverse impacts to various resources. Accordingly, we recommend, as we consistently have, that the Forest Service formulate and approve an alternative that would limit treatment to areas adjacent to infrastructure. This alternative should also reflect a change for proposed acres that could be treated, rather than adopting the same figure that is currently used for each Action Alternative. [22-74]

Concern: [Seq#260] - Alternatives are not reasonable
Response: [Seq#260] - Alternatives are not reasonable

Annual commercial acres treated range from 4,000-6,000 acres on the GMUG. Annual noncommercial treatments - that don't overlap commercial treatments-- range from 5,000-7,000 acres. Considering noncommercial treatments that follow commercial on the same acres, many thousands of additional acres are treated each year, better reflecting the full operational capacity of the Forest Service. Note that one type of noncommercial treatment, prescribed burns, are highly contingent upon the weather-dependent opportunities to implement prescribed burning. These windows often limit total annual treatment, yet average annual noncommercial treatments still approach 9-12,000 total acres. Therefore, the SBEADMR EIS analyzes action alternatives that the Forest Service could reasonably implement.

Associated Comments: [Seq#260] - Alternatives are not reasonable
Alternatives that would treat less acreage and produce a lower volume would still meet the purpose and need, as they would still address the issues of spruce mortality and aspen decline, but they are not analyzed. Moreover, multiple conversations with Forest Service personnel has demonstrated that the current amount of both commercial and non-commercial acres treated annually is around 4,000 to 5,000 at the most. These conversations have also confirmed that there is no expectation for budgeting for timber sales and agency personnel to increase. This means that the total number of acres currently proposed is more than twice the amount of acres the Forest Service could ever expect to treat. As such, the alternatives provided thus far do not appear reasonable, much less do they incorporate a full range of reasonable alternatives, as required. [22-78]

Priority Areas and More Specific Information Requested

Concern: [Seq#12] Identification of priority treatment areas (PTAs)

Response: [Seq#12] Identification of priority treatment areas (PTAs)
In the process of developing the FEIS, the Forest Service focused the original opportunity areas that appear in the Draft EIS to refined Priority Treatment Areas using GIS analysis and professional specialist validation, as detailed in Appendix F and referenced in Chapter 2 of the FEIS. Criteria used to prioritize included some factors one commenter noted: fire risk in the WUI and proximity to roads, as well as other factors. Other factors one commenter recommends would be considered during the implementation of SBEADMR through the use of design features in Appendix B.

Specific grazing areas are not explicitly identified for avoidance, as design feature RG-2 requires the coordination of District Rangeland Management Specialists prior to treatment to determine whether or not grazing deferment or pasture rest is needed, when deferment or rest is needed (prior to or following treatment), and for how long.

Municipal watersheds are included in the SBEADMR PTAs; a majority of SBEADMR PTAs are also encompassed by source water areas.

Areas lacking current access were verified by District personnel regarding likelihood of obtaining access during the lifetime of the SBEADMR decision; those areas deemed likely were retained in the PTAs.

Potential for natural regeneration is highly variable at a very fine-grain, even within a small treatment unit, so this factor is not appropriate for prioritizing treatment locations at the project-scale. However, design features in Appendix B identify measures to promote spruce and aspen regeneration within a treatment unit based on variable site characteristics, such as aspect.

The watershed and lynx thresholds identified will be tracked during implementation on NFS lands, and SBEADMR treatments above and beyond such thresholds would not be implemented - thereby effectively "de-prioritizing" these areas.

Finally, prioritization did not exclude areas outside of LAU boundaries; rather, it de-prioritized areas with documented high lynx use.

Associated Comments: [Seq#12] - Identification of priority treatment areas (PTAs)
Priority Treatment Watersheds The section on Priority Treatment Watersheds (pages 43-44) includes nine criteria that would be used in a GIS model to help identify specific areas for treatments. As of our last Working Group meeting in July, this model is still in the development phase. In addition to the 9 criteria included in the DEIS, we recommend the following criteria be included in the GIS model to help identify high priority watersheds for treatment. • Watersheds that contain substantial high-value infrastructure and/or WUI. • Avoid treatments in areas where livestock grazing is heavy and management flexibility is low (such as 2 or 3 pasture season-long or deferred systems). • Municipal watersheds with a large component of spruce-fir and aspen opportunity areas. • Potential for natural regeneration to the existing native tree species. • Actual treatments and roads are restricted to no more than 25% of the total watershed acres (WQSP-10 – page 96-105). • LAU boundaries – exclude activities outside an LAU boundary (ref. Proposed Action). • Limit total disturbance (roads, past harvest, and proposed activities) to 30% of the LAU (WFRP-16). • Omit areas that are inaccessible due to lack of legal access. In addition to helping identify priority watersheds for treatment, this model could be used to refine the scope and scale of this project. In order to improve upon this portion of the analysis, I request that the Forest Service complete the development of this GIS model and apply it to the action alternatives prior to the Final EIS to give us a better perspective of where actual treatments may be applied on the landscape based on the resource objectives of each alternative. [13-27]

At the very least, we ask that the Forest Service allow the GIS optimization data currently being created by Colorado State University Professor Jason Sibold and master students be completed prior to the Forest Service finalizing the SBEADMR EIS. It is our understanding that the Forest Service is currently expecting to release the FEIS (and draft ROD or final ROD?) around the end of November. We do not think this would provide sufficient time for this data to be incorporated into the EIS nor for there to be sufficient time for the public to review and provide comment on this data. We believe it would be beneficial for both the Forest Service and the public to have access to this information and for the public to have the opportunity to comment on it prior to the release of an FEIS/ROD. This data may very likely address some of the concerns raised above and provide information that is currently lacking in the DEIS, yet necessary for proper public process and informed decisionmaking. Accordingly, we ask that at a

minimum, the Forest Service allow sufficient public access and comment on this data, which then (data and comments) in turn informs content and ultimate decision regarding SBEADMR. [22-6]

Concern: [Seq#14] – Request more specifics
Commenters request more specific disclosure of the proposed action and associated analysis. They request clear triggers for the adaptive management framework, with or without more specific disclosure. Commenters request more opportunity for public to comment on specific components of the project.

Response: [Seq#14] – Request more specifics
The DEIS disclosed the impacts of the original action alternatives, and in response to public comments, the IDT undertook an extensive effort for the Final EIS to focus the original opportunity areas to a smaller geographic extent in Priority Treatment Areas. Furthermore, in response to public comment that the DEIS lacked information regarding locations of proposed road construction, the Forest Service used the revised Priority Treatment Areas to develop a proposed road system for each of the action alternatives, including identification of needed haul routes. (Note: the FEIS revised all proposed action alternatives to only encompass temporary road construction; the decision does not authorize permanent roads.) The FEIS discloses treatment type and location in maps; discloses type and extent by Geographic Area, subwatershed, and Lynx Analysis Unit; discloses the proposed road system in maps and by Geographic Area, subwatershed, and/or Lynx Analysis Unit (See Chapter 2).
The Final EIS correspondingly goes into greater detail regarding spatially explicit impacts of the revised action alternatives. Having focused the proposed action alternatives from a maximum original acreage of ~700,000 (Alternative 4) in the Draft EIS to a maximum of 275,000 acres (Alternative 2) in the Final EIS, the more narrow geographic scope of the proposed action alternatives enabled more detailed analysis by Geographic Area, subwatershed, and/or Lynx Analysis Unit. See Chapter 3 of the FEIS.

A proposed road system enabled more specific analysis of proximity to streams, stream crossings, changes in road density, etc. See the watershed, wildlife, and transportation sections of Chapter 3 of the FEIS. Within this more narrow geographic scope and correcting for overlap/double-counted acres in the DEIS, acres of reasonably foreseeable actions on the NFS and BLM lands within the subwatersheds and/or LAUs were revised to approximately 15,000, and the cumulative impacts of these actions in combination with past, present, and the proposed SBEADMR action alternatives are disclosed.

Regarding the request for clear triggers, Chapter 2 of the FEIS more explicitly identifies triggers from the DEIS and additional triggers - both those that would trigger more monitoring and tracking, and those that would limit treatments in a given watershed/LAU. See response to comment 3-12, "Need triggers for adaptive management".

Regarding the request for more opportunity for public input, see response to comment 6-14, Collaboration with stakeholders during implementation.

Associated Comments: [Seq#14] – Request more specifics

Site-Specificity of Analysis: To the extent possible, we recommend including as much site-specific project information in the NEPA documentation that is known at the time of the Final EIS. This would include maps of specific locations identified for various types of treatments, including prescribed fires and landscape thinning, so that project effects would be more accurately analyzed. This may assist with minimizing the risk of future NEPA documentation if it's necessary to revise the analysis based on changes in project design. At a minimum, we recommend that the Final EIS include maps that specify these types of treatments in opportunity areas. [7-12]

The lack of site specific EIS leaves much to the imagination and discretion of the Forest Service, in the absence of which, an adaptive management plan that includes specific triggers for alternative actions during the course of the project would be required but is nowhere to be found. [9-1]

In taking a hard look at direct, indirect, and cumulative impacts, the Forest Service must analyze all impacts that are "reasonably foreseeable." 40 C.F.R. 1508.8. This mandate applies whether the NEPA document is programmatic or site-specific. See, e.g., Kern v. BLM, 284 F.3d 1062, 1072 (9th Cir. 2002); Pacific Rivers Council v. U.S. Forest Serv., 668 F.3d 609, 623 (9th Cir. 2010). In this DEIS, the Forest Service may not avoid its obligation to analyze environmental consequences that foreseeably arise from SBEADMR by saying that the consequences are unclear. See Kern, 284 F.3d at 1072. The Forest Service also cannot avoid this obligation by stating that it will be analyzed later even if proposed in another NEPA document. Id. "[T]he purpose of an [EIS] is to evaluate the possibilities in light of current and contemplated plans and to produce an informed estimate of the environmental consequences. . . . Drafting an [EIS] necessarily involves some degree of forecasting." Id. (quoting City of Davis v. Coleman, 521 F.2d 661, 676 (9th Cir. 1975)). "If an agency were able to defer analysis discussion of environmental consequences in a [programmatic EIS], based on a promise to perform a comparable analysis in connection with later site-specific projects, no environmental consequences would ever need to be addressed in an EIS at the [programmatic level] of comparable consequences might arise, but on a smaller scale, from a later site-specific action proposed pursuant to the [programmatic project]." Id. This especially holds true where, as here, the Forest Service DEIS contemplates no further environmental analysis throughout the life of the 8-12 year implementation of SBEADMR. Indeed, waiting to analyze "reasonably foreseeable" environmental impacts until a later stage as the Forest Service proposes to do here, and without conducting analysis compliant with the public disclosure and process provided in NEPA is antithetical to NEPA's basic charge, which is that agencies undertake analysis and integrate it into the decisionmaking as early as possible. See 40 C.F.R. 1501.2, 1502.5. Conducting this analysis as early as possible in the planning process is critical for NEPA compliance due to "the difficulty of stopping a bureaucratic steam roller, once started." Sierra Club v. Marsh, 872 F.2d 497, 504 (1st Cir. 1989). The lack of site-specific information proves difficult for the public and decisionmakers to understand and analyze these aspects of SBEADMR. As discussed in below in section III., the dearth of site-specific information also proves problematic for disclosing and analyzing SBEADMR's cumulative impact on the environment, which results from the incremental impact of SBEADMR when added to other past, present, and reasonably foreseeable future actions, regardless what agency (Federal or non-Federal) or person undertakes such actions. 40 C.F.R. § 1508.7. The lack of site-specific information is a common

theme seen throughout the DEIS that creates a substantial hurdle in disclosing and analyzing SBEADMR's impacts. The DEIS for SBEADMR is essentially a programmatic EIS, though it does not have that word in its title. In other words, it discloses the impacts for application of a broad program, which would be implemented over an 8-12 year period. DEIS at 23. As such, it does not disclose the impacts of site-specific projects because the exact locations of treatment units and roads needed to access them are not known at this time. Watershed Report (WR) at 3, 37, 38; DEIS at 97. This is similar to the situation the Ninth Circuit confronted in Muckleshoot Indian Tribe v. U.S. Forest Serv., 177 F.3d 800 (9th Cir. 1999). There, the Court held that the project-specific NEPA analyses that tiered to a programmatic EIS for an LRMP needed to consider the site specific impacts of a federal action because the programmatic EIS could not consider the site-specific impacts of later developed actions. Similarly, here, the Forest Service must conduct future NEPA analyses for SBEADMR projects and must consider the site-specific impacts of those actions in those future NEPA analyses. Below are several excerpts from the DEIS demonstrating that lack of site-specific identification and analysis: The proposed length and location of new temporary and designed roads will be determined during the treatment design phase and are only estimated for this document. DEIS at 97, WR at 37. The estimated road lengths presented in this document are likely to be different than what will be proposed but are reasonable. WR at 38. A more detailed soil survey will be needed prior to implementation. Id. at 21, 22. ". . . the amount of emissions the equipment would produce would be insignificantly small and generally unknowable because we do not know exactly where, when and how many acres would be treated, the number of and types of vehicles/equipment that would be used, miles driven and their hours of operation." DEIS at 157. ". . . modeling for smoke dispersion effects using models such as CALPUFF is not feasible and would not be meaningful since the exact location, project size, fuel loads and burning reductions, and timing (relating to fuel moisture and weather conditions) of individual prescribed burns cannot be predicted at the time of this writing." DEIS at 134. ". . . during treatment reconnaissance and layout, Forest Service personnel make a final determination of suitability based upon these factors and other considerations for resource protection." DEIS at 28, 46, C-4 (same language used regarding areas to be determined for mechanized treatment); "For commercial treatments . . . lands identified as 'suited' for timber production (and therefore, commercial opportunity areas as defined in SBEADMR), will be further evaluated to determine which lands are 'not appropriate' for timber harvest." DEIS at C-4. [22-2]

It is obvious that additional NEPA documentation will be needed for implementation of the project to determine compliance with WCPH and SRLA. However, it appears that the Forest Service does not intend to prepare any additional NEPA for the project. This is supported by both the DEIS and multiple conservations we have had with Forest Service staff about how the agency plans to implement SBEADMR. The one paragraph in the DEIS on NEPA sufficiency states that additional NEPA would only be done if effects are "outside range and scope of the [effects] analysis." DEIS at 43. Yet, as it stands right now, the EIS being prepared will not provide sufficient NEPA analysis for implementation of SBEADMR. Given the sizable amount of acreage proposed for treatment and the long time frame for implementation (8-12 years), it would be difficult to disclose all impacts in the EIS being prepared now. Additional NEPA documentation must be done with environmental assessments for each project or group of projects, in one watershed or two or more adjacent watersheds under SBEADMR. These EAs

could tier to the EIS and go towards NEPA's requirements of informed decisionmaking and public involvement. Under the CEQ Regulations: Tiering is appropriate when the sequence of statements or analyses is: (a) From a program, plan, or policy environmental impact statement to a program, plan, or policy statement or analysis of lesser scope or to a site-specific statement or analysis. 40 C.F.R. § 1508.28. Additional NEPA documentation may also be needed because of other projects likely to occur during the life of SBEADMR: In addition [to non-SBEADMR projects already approved], over the anticipated lifetime of the SBEADMR project, approximately 40-50,000 acres of spruce-fir and aspen vegetation management within the SBEADMR project area are anticipated that would be authorized by other existing and/or future NEPA decisions. DEIS at 35. Treatments in [Colorado Roadless Areas] would be authorized under separate NEPA processes. DEIS at 38. In sum, under the CEQ regulations implementing NEPA, all impacts of a proposed project or projects must be disclosed. 40 C.F.R. §§ 1502.16, 1508.8, 1508.25(c). This includes direct, indirect, and cumulative impacts (or effects) the proposed agency may have, as well as connected, cumulative, and similar actions. 40 C.F.R. § 1508.8; 40 C.F.R. § 1508.25(c). The lack of site-specific information proves difficult for the public and decisionmakers to understand and analyze these aspects of SBEADMR. As discussed in section III. of these comments, the dearth of site-specific information also proves problematic for disclosing and analyzing SBEADMR's cumulative impact on the environment, which results from the incremental impact of SBEADMR when added to other past, present, and reasonably foreseeable future actions, regarding what agency (Federal or non- Federal) or person undertakes such actions. 40 C.F.R. § 1508.7. [22-5]

(2) that site-specific NEPA documentation will also be necessary before implementation may begin. [22-76]

I do not believe the current proposals contain the specifics necessary to go forward. Presenting alternative treatments within each alternative amounts to circumventing the public review required by NEPA law. In fact, the idea of the "just trust us and we will run with it" approach goes against the intent and requirements of NEPA. The draft lacks necessary specifics. It lacks important specialists' reports including impacts to soil and hydrology. It lacks proper mitigation to impacts. It does not adhere to NEPA guidelines as I understand them from my NEPA training and experience. [29-7]

I am writing to you to express my disappointment with the EIS process. The EIS is woefully inadequate for the magnitude of the proposed project. Since the location of the proposed 260 temporary roads and the 60 engineered roads have not been adequately described it is impossible to accurately assess their impact on the forest, its' wildlife and in particular mine and my family's use of the forest. We regularly hike, camp, picnic and enjoy these public lands. In my opinion the proposed project will significantly and negatively impact these lands. [30-2]

One DEIS statement is insufficient for a project of this size and duration. [31-6]

The Forest Service should analyze the possible success of spruce regeneration and include more specifics

on air quality, roads and travel management. The Forest Service must issue a draft supplement to the EIS for public comment that includes the recommended section on triggers and adaptive management options. It a robust section on triggers and adaptive management options is not added, then additional Environmental Assessments will be needed to disclose site--specific impacts prior to implementation. [33-23]

2) The term "adaptive management", as applied here, is a new experience for me in forest service proposals and I try not to see it as way around the necessary NEPA process, but the lack of triggers in this system does not provide assurance that the public resource will be protected from harm. Unless additional specific NEPA is conducted for projects under SBEADMR, triggers and adaptive management are crucial to provide the assurances the public and stakeholders require. These triggers and suggested adaptive management actions should be developed by a team composed of Forest Service IDT members and various stakeholders and circulated to the public for comment before inclusion in the Final EIS. I also would recommend the establishment of a multi-party monitoring oversight board to ensure transparency and accountability. Having said that, I don't feel that this EIS will be sufficient documentation for implementation of SBEADMR without site-specific analysis. 3) Under such a model, concerns about additional NEPA might be addressed by creating a system whereby if a certain number of triggers are tripped (i.e. large scale treatments determined by a certain acreage or occurring in a watershed or with predominant spruce cover), additional NEPA would be required, such as a project specific Environmental Assessment. A FS report describes case law related to adaptive management. One of the primary lessons described is: "If they (the agency) acknowledge uncertainty, they must show that they have a clear monitoring and mitigation strategy that is within their power to implement if unexpected or unacceptable effects are detected." Nie and Schultz 2011 [39-3]

After reading through the DEIS, admittedly skipping some parts, I was overwhelmed by the lack of specificity. The whole basis of the National Environmental Protection Act is to provide to the public and other agencies the details of what is at stake in the proposed action so they can make an informed decision. The SBEADMR proposal is open-ended and does not meet the criteria that the public or the other agencies have come to expect from the GMUG. The public today is well aware of the environmental changes our natural resources are challenged by, it wants to be part of the response that makes the most sense. This response must be based on sound science. Man has not demonstrated his ability to out guess Mother Nature. [46-1]

Allowable Sale Quantity

Concern: [Seq#84] – Allowable sale quantity

Response: [Seq#84] -– Allowable sale quantity

The National Forest Management Act of 1976 in Sec. 13. Limitations on Timber Removal subsection (a) directs national forests to not exceed the allowable sale quantity in any 10 year period. Subsection (b) allows national forest to exceed this limit for specific reasons. As quoted "(b) Nothing in subsection (a) of this section shall prohibit the Secretary from salvage or sanitation harvesting of timber stands which are substantially damaged by fire, windthrow, or other catastrophe, or which are in imminent danger from insect or disease attack. The Secretary may either substitute such timber for timber that would

otherwise be sold under the plan or, if not feasible, sell such timber over and above the plan volume. (16 U.S.C. 1611)"

Associated Comments: [Seq#84] -– Allowable sale quantity
VII. EXCEEDANCE OF THE ALLOWABLE SALE QUANTITY OF TIMBER WCC has this concern in common with HCCA et al. (Section VI, pg. 21). Under the proposed action, up to 990,000 CCF (hundred cubic feet), or 99,000 MMCF (million cubic feet) could be cut over the 8-12 year duration of the project. The allowable sale quantity (ASQ) of saw timber for the GMUG National Forest is 46.7 MMCF per decade.3 Amended Forest Plan at F-7. Just considering SBEADMR, the total estimated volume is close to double the ASQ. It is probable that the maximum treatment proposed would not be implemented. However, the Forest Service must not authorize a project that could cause an exceedance of the ASQ. The agency must show that SBEADMR will not cause the Forest Plan's ASQ to be exceeded. If the proposed action in the forthcoming record of decision might authorize a treatment level that would exceed the ASQ, the Forest Service must either: a) reduce the treatment volume so the ASQ is not exceeded, or b) amend the Forest Plan to allow a higher ASQ. [40-9]

Cumulative Effects Analysis - General

Concern: [Seq#257] - Cumulative effects
Commenters recommend a variety of foreseeable projects for consideration in the cumulative effects analysis, including minerals activities in the area; ask for more in-depth analysis of effects; and assert that past actions need to be identified and explicitly considered.

Response: [Seq#257] – Cumulative effects
Acres of reasonably foreseeable actions on the NFS and BLM lands within the sub-watersheds and/or LAUs were revised to approximately 179,000 acres, and the cumulative impacts of these actions in combination with past, present, and the proposed SBEADMR action alternatives are disclosed in the FEIS. This analysis is improved from the DEIS, and the reasonably foreseeable projects that have been considered are, to the best of our knowledge, exhaustive. The list of specific projects considered for cumulative impacts analysis are noted in Chapter 3, Cumulative Impacts - Actions Considered & Analysis Approach, including each of those projects the commenters identify that occur within SBEADMR watersheds and/or LAUs.

Regarding the consideration of past impacts, most specialists concluded that the baseline conditions adequately represented the effect of past actions. As noted in the Introduction to Chapter 3, with the exception of the cumulative analysis for the identified decision-making triggers for watershed and lynx, the cumulative effects analyses in SBEADMR do not attempt to quantify the effects of past human actions by adding up all prior actions on an action-by-action basis. The Council of Environmental Quality issued an interpretive memorandum on June 24, 2005, regarding analysis of past actions. The memorandum states, “agencies can conduct an adequate cumulative effects analysis by focusing on the current aggregate effects of past actions without delving into the historical details of individual past actions.” For watershed and for lynx, however, past disturbances were itemized and quantified 1) per

requirements in the SRLA (for lynx) and 2) to identify baseline watershed disturbance conditions with respect to design feature WQSP-10 and the Decision-Making Trigger: Weighted acres of mechanical harvest, road construction or other anthropogenic or natural disturbances within the watershed are tracked to ensure HUC12 disturbance is less than 25 percent. Other natural events (wildfire) could also affect watershed integrity and will be tracked when they occur. The complete analysis and tables for watershed impacts are located in the FEIS Appendix I.

The cumulative effects analysis for air quality has also been updated to take into account the noted oil and gas and coal activities on the GMUG National Forests.

Associated Comments: [Seq#257] – Cumulative effects

THE DEIS DOES NOT TAKE A HARD LOOK AT CUMULATIVE IMPACTS. A cumulative impact is defined as: the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time. 40 C.F.R. § 1508.7. NEPA requires the Forest Service to take a hard look at the cumulative impacts on the affected geographic area, not just the immediate planning area. See Grand Canyon Trust v. Federal Aviation Administration, 290 F.3d 399, 342 (D.C. Cir. 2002); see also NRDC v. Hodel, 865 F.2d 288, 297-99 (D.C. Cir. 1988) (holding that agency violated NEPA when it considered only the effects within the planning area, rather than the interregional effect). A cumulative impact is the "impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions." Ocean Advoc. v. U.S. Army Corps of Engrs., 402 F.3d 846, 868 (9th Cir. 2005); 40 C.F.R. § 1508.7. The Forest Service's cumulative impacts analysis "must be more than perfunctory; it must provide a 'useful analysis of the cumulative impacts of past, present, and future projects.'" Ocean Advoc., 402 F.3d at 868. The Forest Service must, therefore, "give a realistic evaluation of the total impacts [of the action] and cannot isolate the proposed project, viewing it in a vacuum." Grand Canyon Trust, 290 F.3d at 342. CEQ regulations require agencies to consider three types of related actions: "connected actions," "similar actions," and "cumulative actions." 40 C.F.R. § 1508.25(a). Cumulative actions are actions that when viewed with other proposed actions have cumulatively significant impacts. 40 C.F.R. § 1508.25(a)(2). An agency's consideration of cumulative impacts must contain "some quantified or detailed information; . . . general statements about 'possible' effects and 'some risk' do not constitute a 'hard look' absent a justification regarding why more definitive information could not be provided." Neighbors of Cuddy Mountain, 137 F.3d 1372, 1379-80 (9th Cir. 1998). The Supreme Court has held that an agency not only has a duty to consider cumulative impacts in a single NEPA process: "proposals for . . . related actions that will have cumulative or synergistic environmental impact upon a region concurrently pending before an agency must be considered together. Only through comprehensive consideration of pending proposals can the agency evaluate the different courses of action." Kleppe v. Sierra Club, 427 U.S. 390, 410 (1976). Courts have also noted that "[t]he purpose of an EIS is to evaluate the possibilities in light of current and contemplated plans and to produce an informed estimate of the environmental consequences. Drafting an EIS necessarily involves some degree of forecasting." Kern v. BLM, 284 F.3d 1062, 1072 (9th Cir. 2002). Indeed, "[r]easonable forecasting and

speculation is . . . implicit in NEPA, and we must reject any attempt by agencies to shirk their responsibilities under NEPA by labeling any and all discussion of future environmental effects as 'crystal ball inquiry.'" Scientists' Inst. for Pub. Info. v. Atomic Energy Comm'n., 481 F.2d 1079, 1092 (D.C. Cir. 1973). In 2010, the 9th Circuit rejected BLM NEPA review for mineral exploration that had failed to include detailed analysis of impacts from nearby proposed mining operations, stating: In a cumulative impact analysis, an agency must take a "hard look" at all actions. An . . . analysis of cumulative impacts must give a sufficiently detailed catalogue of past, present, and future projects, and provide adequate analysis about how these projects, and differences between the projects, are thought to have impacted the environment. . . . Without such information, neither the courts nor the public . . . can be assured that the [agency] provided the hard look that it is required to provide. Te-Moak Tribe v. U.S. Dep't of Interior, 608 F.3d 592, 603 (9th Cir. 2010); see also Wyoming Outdoor Council, 351 F. Supp. 2d at 1243 (failure to adequately review all cumulative impacts is arbitrary and capricious and violates NEPA). Although the Forest Service provides a chart of several present and future projects and activities in the Cumulative Impacts Analysis Area, as noted above, a list is does not equate to actual analysis, as required under NEPA. This list is found throughout the DEIS providing conclusory statements about the cumulative effect these present and future projects would have in conjunction with SBEADMR. See e.g. DEIS at 187, 218, 267. These charts do not account for past projects that when added to SBEADMR have an incremental impact that the agency is required to analyze and disclose. Such projects include recent past forest management activities, such as a recently finished timber sale in Red Creek of the Gunnison National Forest and the Collaborative Forest Landscape Restoration Project on the Uncompahgre and Gunnison National Forest.2 SBEADMR also notes that additional treatments outside of SBEADMR are expected to occur, yet we do not find analysis of these projects and SBEADMR's cumulative impacts in the DEIS. DEIS at 38.... Despite clear statutory and case law language that cumulative impacts must be thoroughly considered in an EIS, the Forest Service has failed to provide even the roughest adherence to this mandate. The failure to assess cumulative impacts, particularly, as here, the failure to assess the amassed wildlife, air quality, and watershed impacts of SBEADMR in concert with the past, present, and reasonable foreseeable forest management projects is a critical flaw in the DEIS. These shortfalls are compounded by the DEIS's failure to analyze impacts from other past, present, and reasonably foreseeable impacts that would result from other forest management projects on Forest Service lands near or adjacent to areas that SBEADMR encompasses. This approach to SBEADMR "impermissibly subject[s] the decisionmaking process contemplated by NEPA to 'the tyranny of small decisions.' " Kern, 284 F.3d at 1078 (citation omitted). [22-7]

Due to the significant amount of proposed natural gas extraction in the North Fork Valley which are adjacent to areas identified as suitable for aspen and spruce treatments, the list below includes proposed and potentially proposed natural gas projects that we are aware of in this area. Natural gas stands to have significant impacts on various resources, including wildlife, habitat fragmentation, watershed health, and air quality. Accordingly, the cumulative effect natural gas extraction would have in conjunction with SBEADMR must be disclosed and analyzed. The list below is to help the Forest Service identify and then include past, present, and reasonably foreseeable projects and proposals in SBEADMR cumulative impact analysis. Fuels Management CE: Scoping slated to begin October 2015 for

a project that would "perform timber stand improvement and prescribed burning to improve range and wildlife habitat and reduce natural fuels" on the Gunnison National Forest south of Doyleville, CO. 2015 Taylor Park Silvicultural CE: A proposed project for which scoping was initiated May 1, 2015. This project proposed "[p]recommerical and commercial thinning, and sanitation of dwarf mistletoe infested lodgepole pine stands to maintain acceptable growth rates and stand health on up to 250 acres." This project is located between Cottonwood Pass Road and Willow Creek. 67 Active Gas Wells in Delta and Gunnison Counties: As of April 1, 2015, Gunnison and Delta Counties contain 67 active gas wells, the majority of which are located in the Upper North Fork and Muddy Creek areas. The DEIS does not discuss the impacts of these wells in conjunction with the SBEADMR, despite the combined impacts they would have on air quality, including Class I airsheds of Maroon-Bells Snowmass Wilderness and the West Elk Wilderness. 2 Schedule of Proposed Action (SOPA), Grand Mesa, Uncompahgre and Gunnison Nat'l Forests 07/01/2015 to 09/30/2015, http://www.fs.fed.us/sopa/components/reports/sopa-110204-2015-07.pdf. Petrox 50-Well Proposal at Pilot Knob:3 Petrox is proposing up to 50 wells in a 6,400-acre project area that largely overlies the Pilot Knob Roadless Area north of Somerset. Fram 108-Well Proposal:4 BLM approved a proposal for 108 oil wells from Norwegian company Fram, to be located downstream from the Upper North Fork Valley. Gunnison Energy 60 to 600-Well Master Plan:5 Gunnison Energy is proposing large-scale development north of Somerset and west of the Upper North Fork Valley for up to potentially 600 wells. Spadafora Waste Disposal Pits: The Spadafora Water Storage Facility was approved by the Gunnison County Planning Commission on March 6, 2015. Three water storage pits, each with a pump station and a volume of about 9,240,000 gallons, will sit on roughly 19 acres and will store and recycle produced water for drilling and gas well operations. 6 16-well development in the North Fork/Muddy Creek Planning Unit:7 In February, 2009 BLM approved a Master Surface Use Plan from Gunnison Energy for 16 wells just to the south of the Bull Mountain Unit, adjacent to the Paonia Ranger District of the Gunnison National Forest. 30,000-Acre Lease Sale:8 In December of 2011 BLM proposed leasing approximately 30,000 acres of public lands and minerals for oil and gas development in the North Fork Valley. While the lease sale has been deferred, there remains the possibility for future leasing. The impacts of this proposal are not included in the DEIS.... 6 APDs from Gunnison and SG:9 On March 23, 2015 BLM and the Forest Service issued a joint scoping notice for a proposed action that includes six federal APDs submitted by two operators. The notice states that development associated with five of the APDs would require construction of five new multi-well pads, installation of new pipelines, and construction/reconstruction of access roads. Huntsman Unit Proposal: 10 SG has proposed drilling in the Huntsman Unit (COC 74403X), which includes three SG leases (COC 63886, 63888, and 63889). SG has proposed one APD there for well 10-89-31 #1 inside lease COC 63886. That APD was filed in 2010. The unit and the leases are currently suspended pending Forest Service analysis. As this is a formal proposal, the Forest Service, this is a clearly foreseeable proposal of which cumulative impacts must be analyzed. Pilots Knob APD:11 SG has proposed an APD (12-89-30#1) in the Pilots Knob CRA on lease COC 64169. Development of that lease would involve the same potential impacts as others described above. [22-8]

Coal: The DEIS must include impacts to resource values, such as wildlife, that accounts for the recent proposals to expand the West Elk Coal Mine under 1,700 acres of the Sunset Roadless Area to access

10.1 million tons of coal as well as the proposal to re-instate the North Fork Coal Mining Area exception for North Fork Roadless Areas. On April 6, the U.S. Forest Service issued a Notice of Intent to prepare a supplemental Environmental Impact Statement to propose reinstatement of the North Fork Coal Mining Area exception of the Colorado Roadless Rule. The exception would allow for temporary road construction for coal exploration and/or coal-related surface activities in a 19,100-acre area defined as the North Fork Coal Mining Area.12 Under the exception, Arch Coal plans to expand its underground West Elk mine, which includes bulldozing an extensive road network and scraping dozens of well pads in the Sunset Roadless Area. Also notable is the fact that coal mining in the North Fork Valley requires venting of methane, which releases significant amounts of VOCs that should be addressed in any cumulative impacts analysis. [22-9]

Additional NEPA documentation may be needed because of other projects likely to occur during the life of SBEADMR: In addition [to non--SBEADMR projects already approved], over the anticipated lifetime of the SBEADMR project, approximately 40--50,000 acres of spruce--fir and aspen vegetation management within the SBEADMR project area are anticipated that would be authorized by other existing and/or future NEPA decisions. DEIS at 35. Treatments in [Colorado Roadless Areas] would be authorized under separate NEPA processes. DEIS at 38. There is no indication in the DEIS of how or when cumulative impacts from these projects and SBEADMR would be analyzed and disclosed. [33-4]

General Comments

Concern: [Seq#4] - Multiple concerns
Response: [Seq#4]- Multiple concerns
Concerning the range of alternatives, see response to comment group "Insufficient range of alternatives". Concerning the specificity of the impacts analysis, see response to comment group "Need specifics". Concerning analysis of spruce regeneration, in response to public comments, a more thorough discussion is included in the FEIS; see the silviculture section of Chapter 3.

Associated Comments: [Seq#4]-- Multiple concerns
The Forest Service must issue a draft supplement to the EIS for public comment that analyzes in detail an adequate range of alternatives. It must analyze the possible success of spruce regeneration. Additional NEPA will be needed to disclose site-specific impacts prior to implementation, which could be included in a draft supplement. [22-73]

Concern: [Seq#6] – General support for an action alternative
Commenters expressed general support for the action alternatives and/or aspects of them. One comment noted that the FEIS should incorporate treatment of all diseased, dying tree species on the GMUG. Another comment noted that the FEIS should merge alternatives 2 and 4 in order to generate the "additional" salvage timber volume from Alternative 4.

Response: [Seq#6] - General support for an action alternative
The Forest Service notes the comments, but it cannot consider "votes" for specific alternatives in its decision-making process.

Regarding the request that SBEADMR expand coverage to additional tree species, this would be outside the scope of the project, as the purpose and need is clearly established to manage the landscape-scale spruce beetle epidemic and aspen decline. Smaller-scale project planning is more appropriate to determine how and whether or not to address more geographically discrete epidemics.

Regarding the request to merge alternatives 2 and 4 in order to generate "additional" salvage volume from Alternative 4, this proposal would require the GMUG to treat >4-6,000 suitable timber acres per year for the 10-year lifetime of the SBEADMR project. This is neither currently administratively feasible or likely, and is a variation on the alternative considered but dismissed in the DEIS to treat more acres.

Associated Comments: [Seq#6] - General support for an action alternative
Gunnison County supports Alternative 2- the Proposed Action. We feel that it allows the most opportunity while safeguarding important areas and species of concern. We value that public safety is a focus in both the Wildland Urban Interface (WUI) as well as other areas that present high values in use, such as the protection of roads, utility corridors, communication sites, dispersed recreation sites, developed campgrounds, ski areas as well as other infrastructure. We also appreciate that certain areas are off limits to treatments and harvest and that the protection of Lynx habitat as well as other wildlife factors have been considered. Additionally, the protection of wetlands, wilderness, road less and steep slope areas are accounted for in the proposed action. Furthermore, the preferred option considers and addresses issues around fire concerns. As we all know, 120,000 acres (projected maximum combined treatments of the project) will not be enough to eliminate fire possibilities or be a huge game changer in the long term fire danger. With that in mind, we do believe that the proposed actions strategic treatments will allow firefighters a better opportunity to manage eventual fires for resource benefit. [5-9]

Why Alternative 3 with modifications? It treats a smaller area that would be more manageable, easier to fund, enact, and review the success or failure and correct problems.... The management response of a smaller area of treatment will not damage as much land, flora and habitat. Revegetation will be more likely to be achieved. [11-2]

The Board of County Commissioners of Ouray County, Colorado supports the efforts of the USFS in working with local communities to determine the best utilization of resources for addressing the current epidemic of diseased spruce and aspen trees in the GUMG. The EIS presents a thoughtful analysis of the alternatives, and the rationale for each. Ouray County appreciates the attention to local input, and the outreach that has been conducted for this EIS. The Board of County Commissioners urges the USFS to take a flexible approach by considering adoption of aspects of Alternatives 2, 3 and 4 as the best approach to maximize treatments and to balance the needs of the communities involved. [12-3]

The mission of the United States Forest Service is to "sustain the health, diversity and productivity of the Nation's forests and grasslands to meet the needs of present and future generations." This mission statement fits well with the overarching concern of our Board of County Commissioners, which is the health, safety and welfare of our citizens. The SBEADMR Project, especially Alternative 2 (with additional salvage from Alternative 4 to increase cost- effectiveness and treatment of increased volumes of dead and dying timber), fulfills this mission statement. [17-1]

II. Enhancements to the Preferred Alternative, or the "Enhanced Preferred Alternative" That the DEIS presents to the public four alternatives, three of which are action alternatives, is impressive. Unfortunately, these alternatives overlook a more advantageous action. The more advantageous alternative would combine 21,000 ccf of salvage timber from Alternative 4, the Salvage Alternative, with the resiliency and salvage timber already included in Alternative 2, the Preferred Alternative. This combination would create an "Enhanced Preferred Alternative". This enhancement to the Preferred Alternative would not appear to exceed staffing limitations, as noted on pp. 398 of the DEIS, and thus should be administratively feasible. This "Enhanced Preferred Alternative" would provide: A. Improved protection of people and infrastructure, including a necessary mile wide WUI buffer which should not be reduced under any circumstance. B. Capacity to implement the maximum number of resiliency treatments available in the DEIS. This would improve the overall long-term health of the forest and provide some green timber for the local timber industry. (This is also true with Preferred Alternative 2, even without the enhancement of additional salvage timber being proposed here.) C. Essential timber supply for our local timber industry and the significant number of jobs it generates throughout the economy. Enhancing Alternative 2 by adding more salvage should provide 332 jobs over and above those supported by the Preferred Alternative. Three hundred and thirty two additional jobs is nothing to sneeze at in our economy. (Calculated from Table 90, pg. 416). In other words, the "Enhanced Preferred Alternative" would provide a larger number of relatively higher paying industry jobs and related service sector jobs. Even when these jobs are located outside our County, often they are performed by local loggers and haulers who bring their earnings back to Delta County. D. Additional revenue to the GMUG to implement SPEADMR and allow more acres of public safety treatments which in turn, contributes to the financial efficiency of the SPEADMR project. It is a good deal economically from the GMUG's perspective as well as that of the local timber industry. E. Unquantifiable benefits such as decreased threat to life, property, water supply and quality, as well as values such as habitat improvement would be provided in the Enhanced Preferred Alternative. (These values would also be provided in other action Alternatives.) F. Additional acres of defensible space. Firefighter safety matters! G. The proposed "Enhanced Preferred Alternative" does not appear to have related long-term negative impacts or unacceptable impacts to wildlife. (This is consistent with all Action Alternatives.) [21-2]

Purpose and Need: We agree with the Purpose, the Need and the Goals presented on pages 22 and 23 of the DEIS. However, I believe that it would be grossly irresponsible not to enhance Alternative 2 by utilizing additional merchantable timber as described in the Salvage Alternative 4. The increased treatment will improve the economic efficiency of the management through economies of scale. This improved Alternative would have a number of positive attributes: 1. Increase the reliability of a stable

timber supply for the remaining timber industry. Having experienced first-hand the challenges of maintaining a sawmill operation that relies on Federal timber for almost 90% of the feed stock to the mill, I have no doubt that it is critical that Colorado improve the reliability of steady timber supply. There is easily enough timber needing salvaged to support a second shift in a number of Colorado's sawmills. Most of this harvesting and manufacturing would provide long term, good paying jobs in a region of the State that is in dire need of economic revitalization. 2. Increased treatment acres now will likely result in reduced firefighting costs in the future. At the very least, it will reduce the exorbitant cost of fuel treatments necessary to deter catastrophic fires in the future. 3. The savings of hidden costs is difficult to quantify. It should be mandatory to survey those communities that are faced with the cost of restoring watersheds that have been greatly compromised as a result of wildfire. There is plenty of history and data to display this hidden cost of "non-management". 4. Even treatment in Lynx habitat can have a net improvement in surviving habitat. The catastrophic fire near South Fork, Colorado a couple years ago resulted in the loss of thousands of acres of what was classified as critical Lynx habitat. 5. Public safety is a prime responsibility of the US Forest Service as stewards of our public lands. Fatalities resulting from the hazards of falling trees that have died and rotted at the stump are well documented. But even greater is the risk from wildfire to life and property of the public. Again, it is much more cost effective to mitigate these risks through harvesting as a management tool than to try to accomplish it through Service Contracts later. 6. Another positive aspect of a modified alternative is the concept of not wasting. The public has a disdain for not utilizing something that still has value. After all…it is their resource! Lets utilize what we can without detriment to other resource values. It is a win - win scenario.... I encourage the US Forest Service to choose a modified Alternative 2 with the inclusion of additional salvage from Alternative 4 as the most efficient, economically desirable and giving the best mitigation result possible. [23-1]

Overall, we are very supportive of the SBEADMR project and your initiative to respond at the same scale as the massive spruce bark beetle epidemic and aspen Sudden Aspen Decline on the GMUG NFs. We recommend Alternative 2, the preferred alternative, with the caveat that additional salvage treatments from Alternative 4 can be added and that our comments are considered and incorporated into the selected alternative. [25-1]

In our view, Alternative 2 best meets the Public Safety, Resiliency, and Recovery Goals established for the project; Alternative 2 also: • Is most cost effective. • Provides the most flexibility in meeting multiple objectives. • Provides for reforestation. • Provides for more acres treated due to higher sawtimber revenues. • Provides for timber industry stability and sustainability and stability, including direct and indirect jobs. • Provides economic diversity and benefits to local communities. • Provides opportunities to protect actual watersheds, not just the infrastructure located within the WUI. [25-3]

In summary, I favor a significantly revised alternative 3 with a focus on public safety, infrastructure protection and defensible space that does not include construction of any new roads and greatly reduces the treatment acreage. [26-7]

We concur with the Purpose, the Need, and the Goals as stated on pages 22 and 23, and we support the adaptive implementation approach to implement vegetation management activities across the landscape. We recommend Alternative 2, the preferred alternative, with the caveat that additional salvage treatments from Alternative 4 can be added and that our comments are considered and incorporated into the selected alternative. [27-1]

Fuel reduction is best accomplished, in my informed opinion, by wildfire, although we may have a problem with excessively destructive wildfire given the current disruptions of natural fire cycles or regimes. Wildfire serves to release a fairly brief burst of nitrogen helping to establish new herbaceous and shrub growth which also increases available organic matter over time. On many sites within the aspen zonal range, aspen will quickly become the overstory species and build the depth of the most important A horizon with high organic matter and readily available nutrients. Mechanical fuel reduction will carry with it impacts to the soil and landscapes. Perhaps the greater control of mechanical fuel reduction is appropriate where loss of life and property is at stake. The WUI. For this reason I believe that alternative 3 deserves consideration. [29-5]

I generally support Alternative 3, but with certain caveats: The areas of actual treatment should include, regardless of beetle/tree species that is diseased/dying, forest lands that will have the greatest positive impacts to: * Local Ouray/Ridgway/Ouray County economy, which heavily relies on outdoor tourism, recreation, and the unique scenic beauty and natural landscapes as viewed from the main streets, county roads, public lands gateway roads, the San Juan Skyway and Alpine Loop; * Public safety, including safety of recreationists and residents, near existing roads, trails and wildland-urban interfaces; * Forest health and resiliency, including forest function as wildlife habitat and watershed health; * Preservation of the irreplaceable scenic beauty, which can be accomplished by removing dead/dying trees in key corridors and vistas, especially in areas of the GMUG which do not have a well-diversified economy like Ouray County; * Allowing for partnerships with commercial forestry contractors, although Ouray County tends to not have commercially valuable forest types. This should be viewed as an opportunity, but not a primary driver of selection of project areas within the "opportunity areas."; * And, retention of this type of working group comprised of stakeholders and interagency federal, state and local resource specialists is ESSENTIAL to successful selection and implementation of projects over the next 10 years. [36-1]

The Board of Directors of the Uncompahgre Watershed Partnership is in support of good forest management, inasmuch as it is directly related to our watershed quality mission. We are in support of elements of Option 3 with focus on forest treatment near human habitation areas and areas which closely surround them. We are not in favor of additional commercial logging activities in areas which are not infested with beetles or are not suffering from SAD and support efforts to minimize new road construction where possible. We wish to emphasize the need for good science to drive restoration efforts and protection of forested watersheds. Watershed health actions include good forest management and stakeholder coordination. [37-2]

We support Alternative 2, the preferred alternative with the caveat that additional salvage treatments from Alternative 4 are added per resource needs and that our comments are considered and incorporated into the selected alternative.... After observation of the forest health issues first hand and an in-depth review of the SBEADMR DEIS this firm and their 85 direct employees support Alternative 2 with the caveat that additional salvage from alternative 4 is added to increase cost-effectiveness and to increase treatment acres and volumes of dead and dying timber. This alternative is easily supported when evaluating resource needs and the public safety issues and requirements. [97-1]

Alternative 2 with additional salvage treatment areas is our preferred action alternative. Alternative 2 best meets both the needs for sawtimber supply while providing important community protections for public health and welfare. The reasons to choose the proposed action are: * Most cost effective. * Most efficient treatments meeting multiple objectives i.e. provides supply and removes additional fuels and non-merchantable materials. * Provides the most flexibility in meeting multiple objectives. * Provides for reforestation. * Provides for more acres treated due to higher sawtimber revenues. * Provides for timber industry sustainability. * Provides stability for timber related jobs of logging, processing and hauling. * Provides more certainty for investment in ancillary processing capacity....Provides opportunities to protect actual watersheds, not just the infrastructure located within the WUI. [97-8]

Concern: [Seq#69] – General support for timber production
Response: [Seq#69] -– General support for timber production
Recovery of salvageable timber for economic benefit is one of the three aspects of the purpose and need for the FEIS.

Associated Comments: [Seq#69] -– General support for timber production
There are three basic things we are asking for: [First}Support for the timbering of species of spruce/fir as well as timbering aspen if a market can be developed. [15-2]

Concern: [Seq#87] - General opposition
Response: [Seq#87] - General opposition
The effects analysis discloses the impacts of the proposed actions on the myriad forest resources. While there are negative impacts to some resources, the overall purpose and need includes spruce reforestation where seed sources are and will continue to be lacking, promoting regeneration of aspen before total-stand mortality occurs, and promoting age-class diversity in spruce. Note the proposed treatments would account for approximately 4% of the GMUG landscape, and are thus relatively small in the context of the landscape scale.

Associated Comments: [Seq#87] - General opposition
I wish to protest the Forest Service plan that would log or burn 120,000 acres of trees in Western CO to supposedly eliminate the spruce beetle. No one really knows what impact this massive approach will have on forest ecosystems or is the science clear on how to best deal with the beetle. I suppose cutting and burning them might eliminate some of the beetles but then you have eliminated the forest while

you were at it. That really does not make much sense. If you feel you have to do something, then do a much more limited (smaller) plan which would have a control forest area for a meaningful comparison. [90-1]

Concern: [Seq#82] - General support for modified Alternative 3
Response: [Seq#82] -- General support for modified Alternative 3
This project was designed to meet the purpose and need, which is to respond to a large-scale beetle outbreak and sudden aspen decline. As the commenter has not identified specific concerns, it is hard to address the comment. Note that impacts to other resources will be reduced or mitigated through the extensive design feature checklist in Appendix B; the residual effects of the action alternatives, assuming implementation of the design features, are disclosed in Chapter 3 of the FEIS. See also response to comment group, "Size of hazard tree buffer and WUI buffer".

Associated Comments: [Seq#82] -- General support for modified Alternative 3
First, I would like to express my views and opinion about the current process that is proposed to drive SPEADMR. I am not opposed to some vegetation treatment in the project area. There are areas that hazard tree removal is necessary to provide protection for critical infrastructure and communities. However, I believe the proposed action would implement much more manipulation than is needed or appropriate for the area. I am also concerned that there would be considerable adverse impacts to various resources. I urge that the Forest Service formulate and approve an alternative that would emphasize treatment to areas adjacent to infrastructure. In this regard I would ask that Alternative 3 be the favorable alternative with a few modifications. [39-1]

Concern: [Seq#7] – General support/opposition
Commenters note general support and opposition for the action alternatives proposed in the SBEADMR EIS. They note a variety of general impacts in support and in opposition of the project. Some note general opposition to the planning process for lacking specificity and for the range of alternatives presented.

Response: [Seq#7] – General support/opposition
The SBEADMR Draft and Final EISs disclose potential impacts to the variety of resources the commenters mention from the no action and the action alternatives: it includes an economic impact analysis, focused in the Final EIS to the counties most affected by timber activities on the GMUG National Forests; discloses impacts of mechanical treatment on wildlife habitat, soils, water, and natural regeneration of spruce; the objectives and impacts of silvicultural prescriptions on the age class structure of a given stand; and the impacts of proposed temporary road construction and existing road reconstruction on watershed integrity. The Final EIS identifies the specific acres on which noncommercial or commercial treatment are proposed, and the specific acres on which types of silvicultural prescriptions proposed based on current stand conditions as well as potential changed future stand conditions/continued spruce epidemic. All action alternatives incorporate explicit continued notice, comment, and engagement of the public in the adaptive implementation process.

Regarding specificity of the action and analysis, see response to comment 7-12, "Need for site specific information".

Regarding the range of alternatives, see response to comment 9-2, "Insufficient range of alternatives".

Associated Comments: [Seq#7] – General support/opposition
We encourage the project to work toward its goal of 120,000 acres of treatments. Of the 718,000 opportunity acres and in the scale of the whole GMUG this is a small percentage of the landscape but as stated above it provides opportunity for increased safety, protection of infrastructure and a potentially positive economic impact in our county. [5-11]

Thank you for the opportunity to provide comments on the Draft Environmental Impact Statement (DEIS) for the Spruce Beetle Epidemic and Aspen Decline Management Response project (SBEADMR) on the Grand Mesa Uncompahgre Gunnison National Forest (GMUG). Mesa County supports the prudent use of public lands and resources and has supported previous projects to provide treatments for these issues within the Grand Valley Ranger District. The approach the Forest Service is proposing to deal with these issues appears appropriate. [6-9]

Mesa County is supportive of a SBEADMR project moving forward that will: 1. Provide flexibility for the Forest Service to respond quickly and effectively to the beetle infestation and sudden aspen decline (SAD) as it proceeds. 2. Protect the safety of the public and important infrastructure. 3. Provide the best economic return to the local communities. 4. Involve the public and other stakeholders in monitoring and reviewing the status of the project while using the best science and management practices over the course of the project. We believe a combination of the proposed alternatives in the DEIS can meet these goals as well as the Purpose and Need identified in the DEIS. [6-11]

We believe the approach being taken by the Forest Service, to include all of the spruce/fir and aspen timber types under the SBEADMR EIS, is appropriate given the large amount of acreage already affected and the unpredictability of where and how fast the beetles will move. Once approved, the Forest Service will have the vehicle necessary to be proactive instead of just being reactive. [10-2]

The SPEADMR Draft EIS represents a significant improvement over the project-by-project approach to the same problem in the Rio Grande National Forest. That piecemeal process slowed down the response, and that delayed response likely resulted in some of the problems leading to the West Fork Fire Complex in 2013. The SPEADMR Draft EIS is innovative with its Adaptive Management approach, and we support the opportunities for future public input processes shown at Figure 8, at page 40. With some creative thinking, the natural disaster plaguing Colorado's forests can be turned into an economic opportunity for communities to mitigate forest health decline while supporting dependable energy generation and local jobs. [12-4]

The prescription matrix for the spruce-fir forest type is consistent with the objectives for silviculture, wildlife, and fuels management within the project area, as well as the comments I have previously

submitted. Therefore I have no further comment on this portion of Appendix A. [13-28]

The SBEADMR draft environmental impact statement proposes a proactive 8-12 year approach to move the Grand Mesa, Uncompahgre, and Gunnison National Forests (GMUG) to a healthier natural state, enabling the use of dead timber while the timber still has a market value. The citizens of the Montrose community are aware of the need for a healthier forest from multiple standpoints including recreation, public safety and socioeconomic impact - jobs. While supporting the timbering of species of spruce/fir we would also like consideration on aspen management and possible timbering if a market can be developed. We ask for improved protection of people and infrastructure, capacity to implement the maximum number of resiliency treatments available to improve the overall long-term health of the forest, and establish essential timber supply to our local timber industry and the significant number of jobs it generates throughout our community. We would like support for the unquantifiable benefits such as decreased threat to life, property, water supply and quality, as well as values such as habitat improvement. Our community is primarily dependent on agriculture (including timbering) and recreation. Healthy forests are essential to us both economically and for our preferred quality of life. [16-3]

I. Reasons I support the overall DEIS A. This umbrella approach to the EIS is innovative and efficient. The importance of the 10 - 12 year approach is that it enables more timely adaptive management and predictability than would multiple environmental impact statements. This ability to adaptively manage in a timely manner is critical in regions like ours whose forests are ailing, and whose timber industry needs predictability. B. This DEIS has been influenced by a lot of stakeholder involvement. For example, the GMUG staff has been active in numerous efforts to educate, engage and respond to the public. These range from public meetings, workshops, field trips and science forums. They have involved hundreds of stakeholders and thousands of hours of community-members' time. According to Chris Miller, the Coordinator of the PLP which has hosted a number of these, there have been at least 20 facilitated events in the past year alone C. A lot of substantive information is contained in the 600 plus page DEIS. It informs the public and local and state decision-makers about the Alternatives, including the environmental, socio-economic actions and anticipated impacts. The DEIS also recognizes that there are unquantifiable benefits that make the Action Alternatives more attractive than the financial efficiency or economic impacts would indicate. D. The discussion about the intricacies of the service sector economy and the base sector is good. It acknowledges some of the less well-understood economic relationships such as the pay differential between many service sector jobs and higher-paying non-service sector jobs. It also recognizes that some lower paying jobs may be intentional as people choose such employment in order to be able to live in an area with the amenities that public lands provide. [21-1]

Finally, local citizens are keenly aware of the need for a healthier forest from multiple standpoints. Not the least of these are public safety and jobs. In the past year Delta County, once home to the second largest mill in the State, lost its aspen mill and the approximately 150 direct and indirect jobs it supported. With this loss went individuals with many valuable years' experience as stewards of the landscape in our area. Repercussions of this closure are not just evident in the local economy. They are

also evident in the Draft Environmental Impact Statement where there is less emphasis on aspen management than may have otherwise existed. This is because without the revenue from the aspen mill, the public has to pay the complete cost of aspen removal. Further, there is little market for the aspen that is harvested. If this were to become the situation with other species like spruce/fir, the result would be higher costs for managing those species. It would seriously reduce the capacity of the GMUG to operate in a financially efficient manner. Delta County citizens can now claim 20 plus years' of tracking forestry on the GMUG without one detrimental environmental effect occurring that needed special facilitation. With added changes to the final EIS, it is reasonable to expect the same excellent results in the future. [21-9]

Why support the overall DEIS? 1. This has been one of the most inclusive efforts that I have seen in my years on the GMUG. All stakeholders have been offered a seat at the table as this DEIS has been developed. It is unfortunate that some have chosen not to continue in the collaboration when they don't get all of what they want. But that is their choice … and I applaud those who have trudged through the difficult, and unglorified duty of reviewing and giving input. They do it because it is not only important to them, but to their community. 2. The DEIS organizes and presents volumes of data that is important in any decision making of this scale. It then provides a mechanism for analysis of that data as well as giving recognition to some of the intangible benefits as well as negatives. 3. This approach to addressing a wide reaching biological problem is unique and bold. I don't believe it is without precedent however. Massive destruction in the wake of hurricane Katrina was followed with a massive salvage undertaking … and it was done successfully. But it meant thinking outside the box, and I applaud the Forest Service effort to do that. [23-2]

Use history and common sense The proposed harvest volumes and acreages are not unprecedented by any means. The Preferred Alternative, even with an enhanced modification is still going to treat a very small percentage of the overall forest acreage. Harvest in these Colorado forests has occurred for many decades. It is planned by professionals that love the forest … and the ground work is logged by professionals that love the forest. It is why they chose those professions, and it shows in the resulting forests. Just because we choose to utilize planning that is more efficient and timely, does not mean we are headed for disaster. I would argue that the opposite is true. [23-3]

We support the adaptive implementation approach to implement vegetation management activities across the landscape. The landscape-scale spruce bark beetle epidemic calls for a landscape-scale response that can be implemented while the dead trees are still merchantable and have adequate value to allow salvage. [25-2]

I am extremely concerned about the Spruce Beetle Epidemic Aspen Decline Management Response (SPEADMR) Plan proposed by the USFS. I strongly urge that the primary goal of your Draft Environmental Impact Statement (DEIS) be public safety and the health of our public forests. The alternatives proposed in the DEIS place a priority on logging vast acreages which I oppose due to the detrimental effects of this practice on soils, water resources, wildlife, habitat and the trees themselves - both saplings and mature

individuals - that are not diseased. The DEIS lacks site-specific analysis, offers limited alternatives are not sufficiently different, and appears to be driven more by USFS resources and budget than by a concern for forest health. [26-1]

As an ecologist, I am aware (as no doubt you are) that logging operations conducted with machinery negatively impact an ecosystem. Waters are fouled with runoff and sediment. Erosion is accelerated. Wildlife is disturbed and travel corridors are interrupted. Soils are compacted and soil texture is altered long term. Furthermore, the naturally regenerating forest of germinating trees and saplings are destroyed by mechanized logging to the extent that the impact of "treatment" is likely to be more detrimental to reforestation, resiliency and diverse age class structure than the infestation or disease. The harvesting of live trees reduces seed dispersal, replanting is very expensive, and the survival of replanted seedlings is limited. [26-3]

In summary I cannot support either alternatives 2 or 4, not because they don't contain some good ideas, but because they lack specifics of which treatments will be used where and why, and include road, skid trails, landings, and pile construction and burning; all of which are detrimental to the forest in various degrees and depending on specific methods and timing. We don't need miles of piles. That would just be a new and expensive problem. The amount of work and disturbance would grow into its own problem. I would support prescribed broadcast burning where appropriate in the landscape. The portion of the public living in the WUI must be considered and therefore alternative 3 has merit for public protection. But fuel reduction treatments with the least detrimental impacts should be the preferred treatments. Broadcast burning should be used except in exceptional circumstances as the preferred method. Hand cutting, piling, and burning may well be appropriate and would have the additional benefit of providing employment. The area needs jobs. The Forest needs either good stewardship for multiple use and long term productivity, or be left alone to recover naturally. [29-9]

The treatment proposals are not based on proven methods that will insure regeneration of the watersheds. Any increase in roads will degrade the watershed. The goal cannot be realistically to bring back the forest that burned or that succumbed to disease, the goal is to protect the watershed and hopefully encourage whatever species emerge. I think the physicians' oath, "do no harm" is an appropriate guideline. [46-3]

I am writing regarding the Grand Mesa, Uncompahgre, and Gunnison (GMUG) National Forest's recent Draft Environmental Impact Statement (DEIS) for the "Spruce Beetle Epidemic and Sudden Aspen Decline Management Response (SBEADMR). I am in support of this proposed project, and hope this will be expanded to other forest areas in need of beetle kill mitigation. [54-1]

We support the adaptive management implementation approach using diverse and balanced stakeholder input to implement vegetation management across the landscape. [97-2]

Clarification & Corrections

Concern: [Seq#88] - Clarification of suitable timber lands
Response: [Seq#88] - Clarification of suitable timber lands
As part of the screening process during the initial project development, all non-suitable lands were removed from consideration for commercial treatment in SBEADMR, common to all action alternatives. The intent of the writing in the FEIS is to communicate this SBEADMR sideboard.

Associated Comments: [Seq#88] - Clarification of suitable timber lands
Page 46,per e-mail with Chris Bielecki (Logging Engineer - Transportation) on ID Team, "other alternatives involved potential WUI and infrastructure hazard operations that could have commercial treatments >40% (i.e., roadside hazard trees that can be hand-felled towards the road and then plucked, processed, loaded, and hauled). 1st bullet under Mechanical Treatments should be modified to reflect this potential. Additionally, this is explained on page 216. Again, there is a need to change the language on page 281. [97-17]

Page 302, 3rd paragraph - The third paragraph appears to assume lands not determined to be suitable for timber production are automatically excluded from timber harvest. That is not accurate, and we recommend you clarify that timber harvest may be allowed on non-suitable lands, if consistent with other forest plan direction, and also that you recalculate Table 69 to display harvest opportunities on non-suited lands as applicable. [97-60]

Concern: [Seq#91] – Clarification of resiliency
Response: [Seq#91] – Clarification of resiliency
Additional explanation regarding resiliency is now included in Chapter 2 of the FEIS.

Associated Comments: [Seq#91] – Clarification of resiliency
Resiliency is often touted as a reason to tackle forest health issues as it should for long term sustainability. The resiliency language should be highlighted in the EIS given the emphasis and science that it received in the SBEADMR Science symposium and numerous conversations. It is buried in the DEIS and should be highlighted. [42-4]

Concern: [Seq#248] - Role of design features
Response: [Seq#248] -- Role of design features
All sections in the FEIS describe the design features upfront, in "Activities common to All Alternatives", and then follow with the effects analysis.

Associated Comments: [Seq#248] -- Role of design features
Under the "Physical Characteristics" discussion (page 91),it is important to include information regarding design features and how most, if not all, issues can be mitigated through the use of design features. As it

is written, it seems that implementing any of the action alternatives will have devastating effects and it isn't until you get much further into the chapter (page 105) does it describe the Design Features and how they will prevent damage. [97-26]

Concern: [Seq#261] - Clarification of science term
Response: [Seq#261] -- Clarification of science term
The term has been replaced by "best available science". In some cases, monitoring information may indicate a design feature is ineffective, and this could be sufficient information to modify the design feature. In other cases, peer-reviewed and/or published technical reports may identify more effective practices.

Associated Comments: [Seq#261] -- Clarification of science term
Page B-2, what is considered new science? It is probably best to define what will be considered and what will not. For example, does it have to be peer reviewed, published, etc.? [97-82]

Concern: [Seq#262] – Programmatic Agreement for cultural resources
Response: [Seq#262] – Programmatic Agreement for cultural resources
The existing Programmatic Agreement is sufficient for the scope and scale of the SBEADMR project. Existing staff can and must meet its requirements.

Associated Comments: [Seq#262] – Programmatic Agreement for cultural resources
Page B-3, Design Feature CR-1,given the potential magnitude of this project, is the 2010 Programmatic Agreement for Bark Beetle, Hazardous Fuel and Tree Reduction Program still sufficient? Additionally, can the existing staff meet the requirements? [97-84]

Concern: [Seq#263] - Correction
Response: [Seq#263] - Correction
This has been corrected in the FEIS.

Associated Comments: [Seq#263] -- Correction
Page 8, the needles from spruce trees infected with spruce beetle do NOT turn red. [97-6]

H-1.2: Watershed and Soils Concerns

Water/Watersheds

Concern: [Seq#33]
Response: [Seq#33]
The majority of Priority Treatment Areas are proposed in source water areas; therefore, all treatments -

whether Alternative 2 or Alternative 3 - are presumed to impact such watersheds, including potential fire behavior within them. Only 1.3% of PTAs in Alternative 3 are outside of source water areas; only 2.4% of PTAs in Alternative 2 are outside of source water areas.

Associated Comments: [Seq#33]
Alternatives 2 and 4 provide the maximum flexibility to allow proactive water supply treatments. The Public Safety goal (page 22) includes "increasing the extent of defensible space around values at risk." Municipal supply watersheds are a tremendous value at risk, yet often do not fall within the typical WUI boundary. Therefore, the public safety focus (Alternative 3) will not achieve this goal with regards to watersheds. [97-23]

Concern: [Seq#217]

R**esponse: [Seq#217]**
Specific design features and prescription modifications will be developed during treatment planning using the pre-treatment checklist and menu of design features. The FEIS provides the recommended minimum width of the WIZ around various types of waterbodies. Larger buffers would be applied on a site specific basis where warranted. The menu of design features includes standard BMPs that should be applicable in most situations. Professional judgment would be used during treatment planning to prescribe the appropriate measures given site conditions and proposed treatment.

Associated Comments: [Seq#217]
The Draft EIS states that it is unlikely that proposed treatments will result in a change in Watershed Condition Class score. Surveys will identify areas of concern to be avoided, such as fens or wetlands, and effects tracking will evaluate potential adverse or beneficial effects of the proposed treatment. If treatment-specific surveys indicate that the treatment could move the watershed toward a more impaired condition, the proposed treatment may be modified and monitoring will be conducted. Appendix B includes project design features to assist with water quality and soil productivity objectives to protect watershed resources. Appendix C includes the Pre-Treatment Checklist, with the first planning step being identification of priority watersheds for treatment. We support the USFS's intent to modify treatment as needed to avoid increasing impairment of watershed conditions as outlined under the soil and water surveys. However, the instructions lack additional detail for modification prescriptions. To the extent practical, we recommend including information in the Final EIS detailing treatment option approaches. We recommend the Final EIS more specifically identify potential project impacts and the treatment options available to prevent further degradation and reach watershed health objectives if project design features and BMPs fail, such as those outlined in Appendix B and Table 15. Additional information could include an expanded list of adaptive management options to address situations when monitoring does not indicate progress toward desired conditions as outlined in our scoping comments. For example, it may be necessary to consider larger buffers than usual around wetlands, streams and lakes during treatments. [7-1]

Concern: [Seq#218]
Response: [Seq#218]
Potential treatment areas within the DEIS Opportunity Areas have been refined through the prioritization process to the delineated commercial and non-commercial Priority Treatment Areas. In addition, Hazard Tree Removal areas and potential new road locations have been better identified. A GIS analysis was completed that overlaid the delineated treatment areas with the Forest fens and wetlands layer to identify the acreage of of fens and wetlands that intersect, are within 100 feet of or are between 100 to 500 feet of delineated SBEADMR treatment areas (PTA, Hazard Trees, and roads). This information is displayed in the FEIS by watershed within each Geographic Area.
Associated Comments: [Seq#218]
The Draft EIS (p. 88) states that "There are at least 8,071 known fens within the GMUG and nearly all are within opportunity areas." However, Table 13 (p. 87) identifies 3,073 acres of the total 8,071 acres are within opportunity areas. In addition, page 205 references a total of 11,034 acres of fens estimated within the GMUG, with 81% rated in "high" condition. We recommend this information be checked for consistency and clarified throughout the Draft EIS. Regardless, the acreage within this range is substantial. [7-2]

Concern: [Seq#219]
Ensure that adequate protections are provided for wetlands and riparian areas from road impacts by locating roads outside the WIZ.

Response: [Seq#219]
Pre-implementation surveys will identify WIZs, fens, and wetlands (pp. 97, C-8) and proposed road locations will be evaluated for location within the WIZ and potential effects to hydrology of groundwater dependent ecosystems (GDE) (p. C-8). Roads will be located outside of the WIZ where feasible as treatment areas and road locations will be modified as needed to avoid the WIZ (pp. 98, C-9). Where roads need to be located within the WIZ, BMPs and other design features will be prescribed to protect the hydrology of the GDEs (p. C-9). Any temporary road across a WIZ will be completely decommissioned after use (WQSP-3B, p. B-17).

Associated Comments: [Seq#219]
The EPA recognizes fen-type wetlands as ecologically critical in that they provide local and regional biodiversity. The U.S. Fish and Wildlife Service (USFWS) designated fen wetlands a Resource Category 1 with respect to the USFWS Peatland Mitigation Policy. The mitigation goal of USFWS Resource Category 1 is no loss of habitat values and the Peatland Mitigation Policy places the protection and avoidance of fen wetlands as a priority during CWA Section 404 reviews. Further underlying the uniqueness and importance of fen wetlands in Colorado, the Corps revoked the use of Nationwide Permits in fen wetlands to protect this unique wetland type. In the EPA's view, these wetland ecosystems are, for all practical purposes, non-renewable and irreplaceable. Therefore, in accordance with the goal of no overall net loss of the nation's remaining wetland base for the Section 404 regulatory program, we strongly recommend that both direct and indirect impacts to these highly valued resources be avoided.

Because of the irreplaceable nature and rarity of montane fen wetland ecosystems, compensation for these wetland impacts is extremely difficult. The Draft EIS states that Forest Service policies and BMPs nationally and regionally severely restrict any activities in wetlands (including fens) and limit activities in the water influence zone (WIZ) around them, and as a result, activities associated with implementing this project will avoid fens. Although there are established design criteria, including buffers around fens and associated wetlands so that the use of mechanical equipment and proposed treatments are restricted in WIZs to protect habitat and functions (Draft EIS p. 88, Table 14), this does not appear to necessarily apply to roads. According to the Draft EIS, proposed roads would be located outside of fens and wetlands, and to the extent feasible, WIZs (p. 98). WIZs include riparian areas, floodplains and depressional recharge areas, and are some of the most ecologically diverse habitat types that provide bank stability, sediment filtering, streamside shading and nutrient input into streams and lakes (Draft EIS p. 88). We therefore recommend the Draft EIS clarify whether the placement of roads will be subjected to the same buffer zones as mechanical equipment in relationship to the water resources listed in Table 14, and advocate that roads also be located outside of WIZs to reduce adverse impacts to these hydrology supporting aquatic ecosystems. Road cuts can potentially intercept groundwater that supports fens. Finally, we support the USFS's efforts to potentially move some existing roads located within the WIZs or other sensitive areas, and employ improved erosion control measures to reduce impacts to riparian areas and provide a beneficial effect to watersheds. [7-3]

Concern: [Seq#220] – Impaired Streams
Response: [Seq#220] – Impaired Streams
Information on impaired streams in the project watersheds within each Geographic Area is displayed in the FEIS. A GIS analysis was conducted to determine the location of SBEADMR treatment areas relative to the impaired streams. In the watersheds with an impaired waterbody, with one exception, all of the Priority Treatment Areas are located at least 500 feet from the impaired stream. The exception was the Bear Creek Commercial PTA in the Cement Creek watershed. GIS review indicated that this PTA directly intersected with the Cement Creek impaired segment for a few hundred feet, and was within 200 feet of the stream for approximately 1.5 miles. The boundary of this PTA was moved to provide at least a 300 foot buffer between the PTA and Cement Creek. Due to the distance between the treatment units and the impaired segments, and the fact that most of the impairments are by pollutants that would not be affected by SBEADMR treatments, maps were deemed to be unnecessary.

Associated Comments: [Seq#220] -– Impaired Streams
Although the Draft EIS references the project file to find a list of the impaired streams and their beneficial uses, we recommend that these details be included in the Final EIS. Currently the limited information contained in the Draft EIS is not sufficient to understand baseline conditions, including the specific delineation of mine-induced impaired waters versus those waters with impaired water quality parameters that are more at risk for project impacts (e.g., temperature, dissolved oxygen, pH, sediment, turbidity). We recommend that the Final EIS include Clean Water Act (CWA) Section 303(d) listed waterbodies that are within the GMUG, including any occurring within opportunity areas, and more specifically identify potential project impacts along with specific design features and BMPs that will be

used to avoid or minimize these impacts. Proposed road locations, especially stream crossings, and treatment activities could exacerbate impaired conditions. [7-4]

We recommend that the Final EIS analyze potential impacts to surface waters related to erosion and sedimentation from land disturbance and stream crossings, as well as potential impacts associated with project treatment activities. We also recommend that the USFS (a) analyze potential impacts to impaired water bodies within and/or downstream of the planning area (including water bodies listed on the most recent EPA-approved CWA § 303(d) list), and (b) coordinate with the Colorado Department of Public Health and Environment (CDPHE) if there are identified potential impacts to impaired water bodies (in order to avoid causing or contributing to the exceedance of water quality standards). Where a Total Maximum Daily Load (TMDL) exists for impaired waters in the area of potential impacts, pollutant loads should comply with the TMDL allocations for point and nonpoint sources. Where new loads or changes in the relationships between point and nonpoint source loads are created, we recommend that the USFS work with CDPHE to revise TMDL documents and develop new allocation scenarios that ensure attainment of water quality standards. Where TMDL analyses for impaired water bodies within or downstream of the planning area still need to be developed, we recommend that proposed activities in the drainages of CWA impaired or threatened water bodies be either carefully limited to prevent any worsening of the impairment or avoided where such impacts cannot be prevented. We recommend that mitigation or restoration activities be considered in the Final EIS to reduce existing sources of pollution, and to offset or compensate for pollutants generated. [7-5]

In much the same way as Figure 15 illustrates watershed condition classes and fen/wetland locations in the Draft EIS, we recommend that the Final EIS include a map identifying the locations of the impaired streams in relationship to the project area. This additional information will enable stakeholders to more fully understand the potential for impacts from this landscape approach project. [7-6]

Concern: [Seq#221]
Response: [Seq#221]
The potential effects of the project on stream temperature are disclosed on pages 380-383. Design features including limitations on harvest within the WIZ and riparian areas, along with participation of a member of the Forest Aquatics team in the layout of treatment areas near streams known or suspected to support conservation populations of native Cutthroat trout and knowledge from current stream temperature monitoring on the Forest should minimize or avoid stream temperature effects. In addition, as part of post- treatment monitoring, temperature in selected streams with harvest near the riparian areas will be monitored.

Associated Comments: [Seq#221]
For streams with a coldwater designation, we recommend consideration of specific measures to reduce impacts to stream temperature. Such measures may include limiting removal of trees in areas where no other trees or shrubs provide stream shading along with tree planting or cattle exclosures designed to

restore vegetative shade to impacted streams. [7-7]

Concern: [Seq#222]
Response: [Seq#222]
The project includes design features to protect reservoirs. A WIZ and No Harvest or Mechanical Treatment area have been established for reservoirs (p. 88). In addition, the soil and water design features (pp. 104 - 105, B-15 - B-20) are designed to reduce excessive erosion and sedimentation from project activities, which will further protect reservoirs and other waterbodies. Post-treatment monitoring will include evaluation of BMP implementation and effectiveness (p. D-1).

Associated Comments: [Seq#222]
Design Features, BMPs, and Adaptive Implementation and Monitoring: We support the efforts of the USFS to avoid and minimize impacts through design features and BMPs. We also support the adaptive implementation framework developed to define treatment locations and design, define monitoring questions, require annual monitoring review and evaluation of treatment effects, and adjust management towards desired conditions throughout the project implementation period. We recommend expanding protective measures to include the following: • Develop design criteria and/or mitigation measures to protect reservoirs, particularly if treatments could occur adjacent to these important resources. Such measures may include operational requirements for treatments implemented directly adjacent to reservoirs and/or monitoring impacts to reservoir water quality from project activities. [7-8]

Concern: [Seq#224]
Response: [Seq#224]
Impacts of roads on soil and water resources are discussed in several locations in the watershed specialist report (pp. 37, 40, 41, 48), DEIS (pp. 97-98), and FEIS (Watershed and Soils Section and Appendix I) including the potential for increased soil compaction, increased erosion, increased sediment delivery to streams, changes in surface and subsurface waterflows, changes to stream channel structure at crossings, and disruption of aquatic organism passage. Analysis assumes implementation of appropriate design features and BMPs will minimize these potential effects. The pre-treatment process including the use of the checklist (Appendix C) will be used to prescribe the design features and BMPs appropriate to the specific road location. All new roads will be decommissioned following use which will reduce long term effects. The question of funding to accomplish the road decommissioning is outside the scope of the DEIS.

Associated Comments: [Seq#224]
The proposed building of temporary and designed roads in all the alternatives, even though some will be "decommissioned", have not been properly analysed regarding their effects on watershed quality. Does the FS even have the funds allocated to accomplish a meaningful decommissioning after the life of the project? [9-5]

Concern: [Seq#225] -Watershed condition class

Response: [Seq#225] -Watershed condition class
Potential treatment areas within the DEIS Opportunity Areas have been refined through the prioritization process to the delineated commercial and non-commercial Priority Treatment Areas. In addition, Hazard Tree Removal areas and potential new road locations have been better identified. Using the refined treatment areas, a more in-depth analysis of the effects on watershed condition class score was completed. The analysis assumed all identified treatment areas in a watershed would be treated as proposed, even though in reality that may not be the case. This analysis looked at each of the 12 Watershed Condition Framework (WCF) indicators and attributes and examined the potential for maximum SBEADMR treatments to result in a change in the rating/score for each attribute and indicator, and thus the overall watershed condition class score, based on the rule set outlined in the WCF Technical Guide. The watershed condition class score analysis is contained in Appendix I and summarized in the Watershed and Soils Effects section in the FEIS.

Associated Comments: [Seq#225] -Watershed condition class
For the convenience of industry and efficiency in staging operations and hauling, it is likely that activities implementing a large project like SBEADMR would occur in several places within a watershed at one time. This conclusion is supported by the DEIS, which discusses selection of 10,000- to 40,000-acre watersheds to treat and therefore indicates that treatments would likely be concentrated in such areas. DEIS 43-44. Because the location and extent of treatments is not known, there is no assurance that watershed condition class would not be reduced (WR at 39), in violation of the Forest Service's Watershed Conservation Practices Handbook (WCPH), FSH 2509.25, section 12.1. Though it is said to be unlikely that any treatment would lower the watershed condition class score (WR at 39), several watersheds are on the borderline between classes I and II. Id. at 12-13. Thus, it would not take much disturbance and associated effects to reduce the watershed condition class score. Though disturbance from mechanical treatment is limited to 25 percent of a watershed (DEIS at B-20), these borderline watersheds already have some disturbance. Treatment well under this maximum allowable level could cause some of these borderline watersheds to drop into a lower watershed condition class, an unintended, yet negative consequence that without location and treatment extent is unknown. [22-3]

Because the location and extent of treatments is not known, there is no assurance that watershed condition class would not be reduced (WR at 39), in violation of the Forest Service's Watershed Conservation Practices Handbook (WCPH), FSH 2509.25, section 12.1. Although it is said to be unlikely that any treatment would lower the watershed condition class score (WR at 39), several watersheds are on the borderline between classes I and II. Id. at 12--13. Thus it would not take much disturbance and associated effects to reduce the watershed condition class score. Although disturbance from mechanical treatment is limited to 25 percent of a watershed (DEIS at B--20), these borderline watersheds already have some disturbance. Thus, treatment well under this maximum allowable level could cause some of these borderline watersheds to drop into a lower watershed condition class, an unintended, yet negative consequence that without location and treatment extent is unknown. For the convenience of

industry and efficiency in staging operations and hauling, it is likely that activities implementing a large project like SBEADMR would occur in several places within a watershed at one time. This conclusion is supported by the DEIS, which discusses selection of 10,000 to 40,000--acre watersheds to treat and therefore indicates that treatments would likely be concentrated in such areas. DEIS 43--44 [33-32]

Concern: [Seq#226] – Adequacy of the design features
Design features listed in the DEIS for all action alternatives would not ensure compliance with Forest Plan or WCPH direction for connected disturbed areas, ground cover within riparian areas and areas with severe or very severe EHRs, protection of stream health, and mitigation of prior disturbance before allowing additional disturbance.

Response: [Seq#226] -— Adequacy of the design features
The effects of the action alternatives on soil and water resources are disclosed on pp. 95-108. The analysis assumes Forest Plan Standards and Guidelines, WCP's, and National Core BMPs would be followed and treatment design features would be implemented (p. 93). Specific treatment areas and appropriate design features for those treatment areas to protect riparian, soil, and water resources would be identified using an adaptive management approach including pre-treatment surveys and checklist (pp. 38-42). The Pre-treatment checklist will be used to assist in planning individual treatment areas and road locations including identification of appropriate BMPs and design features needed to meet Forest Plan and WCPH direction. The Pre-treatment checklist includes soil and water surveys (pp. C-8 - C-9), identification of appropriate design features (p. C-13), and a confirmation of Forest Plan Consistency for Riparian, Soil and Water resources (pp. C-16 - C-17).

Associated Comments: [Seq#226] -— Adequacy of the design features
A large project like SBEADMR will require a large network of roads: A widespread road network would be necessary to access and manage NFS lands to achieve the goals of the SBEADMR project. DEIS at 115. Under Alternatives 2 and 4, 60 miles of design road and 260 miles of temporary road would be constructed, and 260 miles of existing road would be reconstructed. Another 444 miles of road would receive maintenance. DEIS at 68. Such a large road network has the capability of decreasing watershed health by delivering sediment to streams and other water bodies. Roads, skid trails, and other disturbed areas can provide the pathway for sediment delivery to waterbodies. The Forest Service's Watershed Conservation Practices Handbook ("WCPH") limits this connected disturbed area ("CDA") to 10 percent: In each watershed containing a 3-rd (sic) order and larger stream, limit connected disturbed areas so the total stream network is not expanded by more than 10%. Progress toward zero connected disturbed area as much as practicable. Where it is impossible or impracticable to disconnect a particular connected disturbed area, minimize the areal extent of the individual connected disturbed area as much as practicable In watersheds that contain stream reaches in diminished stream health class, allow only those actions that will maintain or reduce watershed-scale Connected Disturbed Area. FSH 2509.25 at section 11.1. To reduce impacts to streams, the WCPH requires action to "[d]isconnect disturbed areas from streams." Id. at 13.1 under Restoration. It is not clear if the project would comply with this direction. There are 75 class II (functioning at risk) watersheds, and 51 class I (functioning properly) watersheds that are borderline, i. e., very close to being in class II. Draft Watershed Report at 11. Under

project design features, the "no harvest or mechanical travel zone" would be only 25 feet from intermittent streams, reservoirs, and ponds, and also from springs/seeps/wetlands/depressional recharge areas of less than one-quarter acre. DEIS at B-16. It would be only 50 feet from perennial streams and wetlands at least one- quarter acre in size. Id. Burn piles could be located in the outer half of the water influence zone, and could cover up to 15 percent of the ground. Id. But under the Forest Plan, "[t]he riparian ecosystem usually extends at least 100 feet from the aquatic feature and can include the floodplain (100 year event) . . .." Plan at III-173. Specifically, the Forest Plan requires projects to: Maintain at least 80 percent of existing plant density within 100 ft. from the edges of all perennial streams, lakes and other waterbodies, or to the outer margin of the riparian ecosystems, where wider than 100 feet. Id. at III -182. The design features cited above would not ensure compliance with this standard/guideline, nor with the limitations on CDA required by the WCPH. [22-52]

Heavy equipment (feller-bunchers, skidders, log forwarders, etc.) would be used for logging, skidding, and fuel reduction. Use of this equipment would compact soil. Such compaction can persist for decades. See Rhodes, 2007. Thus if heavy equipment is allowed in even the outer part of the WUI, overland flow on top of the compacted soil could occur. This additional flow would carry sediment (produced by logging, skidding, and other operations) into water bodies. Allowing such equipment use could also be adverse to amphibians, as refugia could be compacted and individual animals could be crushed. Management Measure 12.1 in the WCPH states: In the water influence zone next to perennial and intermittent streams, lakes, and wetlands, allow only those actions that maintain or improve long-term stream health and riparian ecosystem condition. Under this management measure are the following design criteria: Allow no action that will cause long-term change to a lower stream health class in any stream reach. In degraded systems (that is At-risk or Diminished stream health class), progress toward robust stream health within the next plan period. Allow no action that will cause long-term change away from desired condition in any riparian or wetland vegetation community. Consider management of stream temperature and large woody debris recruitment when determining desired vegetation community. In degraded systems, progress toward desired condition within the next plan period. Id.; design criteria 1a and 1b. Since it is likely that some of the proposed roads needed for SBEADMR would cross streams or otherwise enter riparian areas, additional impact to riparian areas is likely. The direction quoted above from the WCPH would not be met, as the additional roads and other disturbances that would be allowed in the water influence zone would be likely to cause a reduction in stream health class, at least for the borderline watersheds. New road construction in Class II watersheds and those on the border between classes I and II should be prohibited outright, or be contingent on first closing, obliterating, and rehabilitating existing roads that would not be used for the project. There should especially be no treatment in areas with severe or very severe erosion hazard ratings (EHRs). Draft Watershed Report Table 4 at p. 24 shows that numerous watersheds have areas with these EHRs, and some of lands with these EHRs are within proposed opportunity areas. As proposed, SBEADMR does not seem to comply with the requirements for establishing minimum "effective ground cover" (EGC) on disturbed areas. In areas within high and very high erosion classes41 EGC must be 30 percent the first year and 50 percent in the second year. FSH 2509.18 - Soil Management Handbook, R2 Supplement No. 2509.18-92-1, at 2.2 (4). At high altitude with a short

growing season, it may not be possible to meet these requirements. Previously disturbed areas need to be examined to see if detrimental soil conditions, such as compaction and erosion, still exist. If they do, no further disturbance can occur until the detrimentally affected areas have been mitigated or have recovered: If a standard is exceeded in an initial entry, future entries must have no additional detrimental effect unless mitigative measures have been applied or natural recovery has taken place between entries. Soil Management Handbook, id. The Forest Plan has the following requirement for reducing sedimentation of streams: Rehabilitate disturbed areas that are contributing sediment directly to perennial streams as a result of management activities to maintain water quality and establish vegetation cover. Plan at III-52, III-181 through III-185 and III-187 and III-188; see also direction for management area 9A (riparian areas).... Operating during winter would reduce the impact to watersheds. However, such operations might require much snow plowing for access. Overall, it seems doubtful that some Forest Plan and WCPH requirements would be met with implementation of the proposed action, or any of the other action alternatives.... 41 "Effective ground cover is defined as "[a]ll living and dead herbaceous and woody materials in contact with the ground and all rocks greater than 3/4 inch in diameter." Id. at 2.05 (14 [22-53]

Heavy equipment (feller--bunchers, skidders, log forwarders, etc.) would be used for logging, skidding, and fuel reduction. Use of this equipment would compact soil. Such compaction can persist for decades. See Rhodes, 2007. Thus if heavy equipment is allowed in even the outer part of the WUI, overland flow on top of the compacted soil could occur. This additional flow would carry sediment (produced by logging, skidding, and other operations) into water bodies. Allowing such equipment use could also be adverse to amphibians, as refugia could be compacted and individual animals could be crushed. Management Measure 12.1 in the WCPH states: In the water influence zone next to perennial and intermittent streams, lakes, and wetlands, allow only those actions that maintain or improve long--term stream health and riparian ecosystem condition. Under this management measure are the following design criteria: Allow no action that will cause long--term change to a lower stream health class in any stream reach. In degraded systems (that is At--risk or Diminished stream health class), progress toward robust stream health within the next plan period. Allow no action that will cause long--term change away from desired condition in any riparian or wetland vegetation community. Consider management of stream temperature and large woody debris recruitment when determining desired vegetation community. In degraded systems, progress toward desired condition within the next plan period. [33-9]

Concern: [Seq#228] - Support for more active management in water supply areas
The FEIS should disclose the beneficial and positive effects of proactive fuels reduction around water supply areas and infrastructure, and should prioritize treatments in these areas.

Response: [Seq#228] -Support for more active management in water supply areas
The effects on Fire and Fuels is described in the DEIS on pages 170 - 198. The basic conclusion is the action alternatives will result in making fire management in treated areas more safe and effective (p. 71) and there would be a reduction in fuels and concomitant reduction in potential fire behavior (p. 73). However, the analysis also states that climate and not fuels may be the most important factor in driving fire extent in subalpine areas of the Rocky Mountains (p. 171). The effects of the No Action

alternative with regard to fire on watershed condition are described on pages 94-95. This discussion acknowledges increased erosion and sedimentation if a large wildfire were to occur. The action alternatives effects on reducing fire effects on watershed condition is described on page 96 and the basic conclusion is that there would not be a significant reduction in the potential severity of large wildland fires due to the low number of treated acres compared to the great number of acres affected by beetles and SAD. With regard to prioritizing treatments around water supply areas and infrastructure -- treatments for protection of people, communities, and infrastructure are planned within the WUI in all action alternatives (p. 45). As for using water supply areas for prioritizing treatment areas, only 8% (19 of 231) of the watersheds in the GMUG do not contain state-delineated "Source Water Areas", so for purposes of the SBEADMR analysis, all watershed will be considered as "Municipal Watersheds" (p. 81). Because all watersheds are so identified, this factor would not be very useful for prioritizing watersheds for treatment.

Associated Comments: [Seq#228] -Support for more active management in water supply areas
If risks are important to the watershed assessment section then this excerpt from page 94 of the DEIS is pertinent: "A potential major indirect effect of Alternative 1 is the increased risk of high severity fire due to increasing fuel loads. Although results of fire behavior modeling and studies of burned areas are not consistent, some results indicate that the potential for high severity fire is greater in areas with beetle-killed trees. Under Alternative 1,the acres of dead and dying trees will increase, providing more surface fuels on more acres for future fires. If proposed treatment areas were to be burned by wildfire in the future, a mix of burn severities would be anticipated depending on the topography, fuels, and climatic conditions. Moderate to high burn severities would likely result in an increase amount of bare soil, accelerated erosion, slow recovery of effective vegetation cover and loss of soil nutrients and soil microorganisms. Large, high severity wildland fire occurring within a watershed could have sufficient negative effects to change the Watershed Condition Class score toward greater watershed impairment. Effects of high severity fire may include increases in surface runoff and sediment transport to streams, increases in nutrients in streams, loss of soil structure, loss of soil biota, potential changes to stream flow timing and volume, and increases in water temperature in streams." [97-21]

The benefits and positive effects of proactive fuels reduction around reservoirs, streams and water intakes were totally omitted. Water supply protection opportunities that could be... anticipated under all the action alternatives were not even mentioned. Opportunities could include: * Protect critical water supplies by focusing strategic treatments in key locations to avoid, reduce, and mitigate the effects of severe fire. * Identify areas of water supply components at risk including municipal reservoirs and intake and treatments, areas of erodible soils, fisheries, agricultural ditches and reservoirs. * Prioritize treatments based on fuel loads and fire behavior models. * Reduce the undesirable effects of high-severity wildfire through targeted and strategic treatments. * Plan public safety projects for post-fire mitigation treatments/ structures by identifying the most critical locations in the various watersheds. * Assure that water supply protection objectives are loud and clear in every action alternative.(Note these ideas were taken nearly verbatim from the Colorado Bark Beetle Cooperative Water Supply Protection Workgroup - why re-invent the wheel when other collaboratives have tackled this issue pre-SBEADMR?) [97-22]

The No Action Alternative should acknowledge that there are risks to providing no proactive management. The Denver Water Board is the perfect group to ask when it comes to the value of investing in forest management. Every major water board on the Front Range now invests in proactive management since they found it to their extreme financial and operational detriment to not do so. [97-24]

The "Selection of Priority Watersheds for Treatments" (pages 43-44) should elevate protection of water supply to a prominent guideline for the adaptive management tool. On page 45, reservoirs should be called out under the 'Protection of People and Community Infrastructure". The water companies were not in attendance in most pre-draft meetings and that position should be imperative in the stakeholder process. One SBEADMR workgroup member mentioned this issue, but it didn't appear to resonate with the Analysis Team. If someone with water supply expertise doesn't volunteer to serve in the adaptive management effort, then one should be solicited. [97-25]

Concern: [Seq#230]
Response: [Seq#230]
The watershed condition maps (Appendix G) have been revised on a Geographic Area basis and are much more readable.

Associated Comments: [Seq#230]
Page 95, this map is hard to read. It would be easier to see the watersheds underneath the opportunity areas if the opportunity areas were a pattern rather than a solid color. [97-29]

Concern: [Seq#231] - Role of road maintenance in watershed condition
Effects analysis should acknowledge beneficial effect of the action alternatives in that some existing roads would receive treatments that could benefit watershed condition.

Response: [Seq#231] - Role of road maintenance in watershed condition
The commenter is correct in that the soil and water section fails to include disclosure of a benefit of the action alternatives in road treatments that could improve watershed condition. The statement: "Portions of the Forest Transportation system would not receive maintenance and improvement treatments associated with the implementation of SBEADMR" will be added to the bulleted list of Alternative 1 effects on page 94. Also a similar statement of the benefit of road treatments to existing roads will be added to the discussion of road effects common to all action alternatives.

Associated Comments: [Seq#231] -Role of road maintenance in watershed condition
Page 98, "The effects of new roads would likely be minor and short-term." Somewhere within the Watershed portion, there should be a discussion on the issue of roads not currently being maintained or realigned due to lack of funds and the subsequent watershed issues that could be addressed with revenues generated from the Action alternatives to address these issues. [97-30]

Page 116, "without the opportunity to utilize revenue...." See notes for page 98. The importance of road maintenance needs to be discussed in the Watershed section, not just the Access section. [97-34]

Concern: [Seq#232]
Response: [Seq#232]
The Forest Service is responsible for implementing the design feature. There are a variety of tools the agency can use for restoring existing disturbed areas including identifying these areas in a proposed treatment and making arrangements through treatment contracts to address the problem.

Associated Comments: [Seq#232]
Page B-5, Design Feature FSSP-6 (B), "restore existing disturbed areas that are eroding and contributing sediment to the wetland." Comment: Who is responsible for restoring these disturbed areas? [97-85]

Concern: [Seq#238]
Response: [Seq#238]
The FEIS discloses effects on municipal supply watersheds.

Associated Comments: [Seq#238]
Watershed (pages 77- 107) Almost all Colorado watersheds are municipal water supplies for some downstream user. Colorado supplies some 8.8 million acre feet flowing west out of Colorado and 1.4 million acre feet flow to the east supplying 18 states with municipal and irrigation water. Only 19 of the 231 watersheds in the GMUG do not include municipal supply watersheds (page 81). Increasing the resiliency of these watersheds is critical to the communities which rely on them for supplies of clean water. A recent article by Don Kennedy of Denver Water was titled 'Fire Fouls Water, Raises Costs – Investments in Forest Management Can Protect Water Resources.' His point and that of the Denver Water Board is that forest management is essential to protecting community water supplies. We concur with the use of BMPs to reduce the potential for negative effects, and on their effectiveness. Dr. Charles Troendle, a FS Research Hydrologist, concluded in 2001 that using state-of-the-art practices, road building and timber cutting could be done in a manner that minimizes sediment increases. [25-5]

Soils

Concern: [Seq#77]
Response: [Seq#77]
To reduce the number of piles, lopping and scattering will be used as much as possible where fuel loading is not too high. Most piles will be located at landings due to whole tree yarding. Landings will be revegetated with native grasses and forbs. Where piling and burning will occur inside a unit, the technique of removing topsoil and placing it back would require multiple entries with mechanical

equipment which would increase compaction outside of the footprint of a pile and would be too cost prohibitive. See Design Feature SP-4, Appendix B for more detail.

Associated Comments: [Seq#77]
The size of burn piles should be minimized to reduce scarring of the land and reduce the risk of invasive species coming in. If pile burning is planned, the locations for the piles should be chosen ahead of time. The topsoil should be removed from the site and saved in a protected area. Then the slash can be piled. After the pile has been burned, the topsoil should be replaced and the area should be seeded with local ecotypes of native plants in the appropriate season. This technique should prevent the sterilization of the soil and should make it easier for native plants to get established. Ideally this technique should be compared to the standard technique to see which is more effective in preventing weeds and establishing native vegetation. [33-17]

Concern: [Seq#227]
Response: [Seq#227]
There are several locations in the DEIS that describe the adverse effects to soils from pile burning (pp. 99, 102, 193, 195). In each of these instances it says the effects can or would be minimized by design features associated with pile burn rehabilitation. There are two design features that pertain to burn piles -- SP-4 is intended to limit the size of the piles and the area of a treatment unit that can be covered by piles is limited to 5 % so as to reduce effects. It also says burn pile areas on landings should be scarified (p. 191). IW-5 F (p. 243 or IW-3 p. B-6) for invasive plants that says burn piles will be assessed for restoration and revegetation needs. In the Decision-Making Triggers for Adaptive Implementation (FEIS Chapter 2), a sample of burn piles would be monitored within 3 years for evidence of bare soil or erosion and any identified rehabilitation needs would be implemented. These measures are designed to minimize the extent of impacts to soils from pile burning. With these measures, the extent of severely burned soils resulting from SBEADMR will be well within the 15 percent of the activity area limit in the WCP (WQSP-5A).

Associated Comments: [Seq#227]
I am very well versed in burnpile impacts having been the organizer of the infamous "Miles of Piles Tour" attended by many agency dignitaries but heeded by few. Pile building and burning, beyond what can be accomplished by hand labor without roads or heavy equipment, will have serious long term adverse effects to the areas treated. As long as such operations are part of any alternative, the damages must be mitigated. I did not see adequate mitigation for soil damage within the report. And I have seen little success in other projects with how the mitigation measures actually worked on the ground. Good intentions don't guarantee good results. [29-8]

Concern: [Seq#229]
Response: [Seq#229]
The DEIS references the WCP Handbook that explains the 15% threshold is a soil quality standard that applies to areas where management prescriptions are applied. A prescribed burn is a management

prescription so this limit applies. (FSH 2509.25_10 MM 13). The commenter is referring to a statement on page 91 of the DEIS. The context of this statement is a paragraph about soil compaction. To clarify that the 15 % limit includes severely burned soil in a prescribed fire area here would not fit with the context of the paragraph.

Associated Comments: [Seq#229]
Page 91,"Forest Service direction limits soil compaction, severely burned soil,and disturbance to no more than 15% of the treatment area (USDA Forest Service 2006a)." Is the severely burned soil with regards to prescribed fire? If so, that clarification should be made. [97-28]

Concern: [Seq#233]
Response: [Seq#233]
The purpose of the referenced design feature (actually it's SV-4) is to provide some mineral soil exposure for revegetation of the site without allowing so much bare soil such that invasive plants will increase in the treated areas following harvest (p. 247). In this context, landings are not considered as part of the exposed mineral soil for this calculation. As the commenter notes, landings will be areas of significant soil disturbance during treatment operations and also will be mitigated following completion. The design feature as written applies to the treatment units outside of the landings.

Associated Comments: [Seq#233]
Page B-11, Design Feature SV-5 "During site preparation or piling activities, mineral soil exposure will be less than 40% of the treated area." Comment: Slash piling most often occurs on landings. These areas receive significant traffic during operations by skidders, log loaders, log trucks, and dozers. Scarification usually exceeds 40% even during winter operations. If less scarification is required, the number and size of landings will need to be quadrupled in order to spread out heavy equipment traffic. Other erosion control measures are already cited for landings including sloping, draining,and reseeding. The sentence must, of practicality and necessity, be removed as it is not achievable. [97-88]

Concern: [Seq#234]
Response: [Seq#234]
The design feature referenced (SP-4 on p. B-13) has language that provides flexibility ("When possible" and "If practicable") for the timber sale administrator and purchaser to come to agreement on the proper composition and piling method(s) to achieve the objective of reducing adverse soil impacts from pile burning.

Associated Comments: [Seq#234]
Page B-13, Design Feature SP-4 "When possible do not place green material exceeding 8" in burn piles. If practicable, design treatments so activity generated fuels larger than 8" are removed from the site. If piles are created by a bulldozer, use a brush rake to avoid collecting soil and duff in the burn pile." Comment: This provision is economically impractical during the course of normal logging operations.

Current practice is whole tree skidding and processing at landings. All purchaser created slash at landings is piled for burning. Unmerchantable material (not meeting A2 Specs) larger than 8" is always generated during log processing including cull logs (material less than 1/3 sound) and well as long butts, forks, and broken tops. It is not economically feasible and not currently required under the timber sale contract to remove this material from the sale area. This sentence should be stricken. [97-91]

Concern: [Seq#235]
Response: [Seq#235]
The specification in SP-4 to use a brush rake for machine piling has been removed. This statement has been replaced with: "Build machine piles in such a manner that keeps them free of topsoil to facilitate more efficient burning and combustion."

Associated Comments: [Seq#235]
The FEIS and timber sale contract should not dictate the method of piling (i.e. piling by a bulldozer with brush rake). Rather, it should only dictate that piles be relatively free of topsoil so as to facilitate more complete burning. The purchaser should be free to use whatever method he/she wishes to achieve the government's desired result. Duff is flammable and is nearly always incorporated to some extent into slash piles. It is not practical to exclude it. [97-92]

Concern: [Seq#236]
Response: [Seq#236]
Design feature WQSP-9A B. provides more definition on "wet soils" and includes the reference to the plastic limit that the commenter suggested: "Operate heavy equipment for land treatments only when soil moisture is below the plastic limit, or protected by at least 1 foot of packed snow or 6 inches of frozen soil."

Associated Comments: [Seq#236]
Page B- 1 7, Design Feature WQSP-5B "A. Avoid soil-disturbing actions during periods of heavy rains or wet soils." Comment: This sentence is too vague and subject to onerous interpretation. The sentence should reference either ruts exceeding 6 inches or the "plastic limit" of the soil. [97-94]

Concern: [Seq#237]
Response: [Seq#237]
The referenced design feature (WQSP-7B p. B-18) provides for flexibility in how skid trails are treated ("Space waterbars as appropriate …"). If waterbars are not appropriate, other methods can be used to meet the objective of providing drainage off the skid trail to prevent accelerated erosion. In addition, design feature WQSP-8A (p. B-19) says to "... close landings, main skid trails, ... provide stable drainage that disperses runoff into filter strips ..." Spreading slash on the skid trail could be an appropriate method to achieve this design feature.

Associated Comments: [Seq#237]
Page B-18, Design Feature WQSP-7B "Space water bars as appropriate on skid trails according to slope and soil type as indicated below:" Comment: Current accepted practice is to alternately allow timber purchasers to spread slash across skid trails in order to divert water in lieu of water bars. The slash performs the same purpose, is less unsightly, and disturbs less soil. This section should allow alternate practices such as this to achieve the objective. [97-95]

Concern: [Seq#245]
Response: [Seq#245]
There are several locations in the DEIS that describe the adverse effects to soils from pile burning (pp. 99, 102, 193, 195). In each of these instances it says the effects can or would be minimized by design features associated with pile burn rehabilitation. There are two design features that pertain to burn piles. SP-4 is intended to limit the size of the piles and the area of a treatment unit that can be covered by piles is limited to 5% so as to reduce effects. It also says burn pile areas on landings should be scarified (p. 191). IW-5 F (p. 243 or IW-3 p. B-6) for invasive plants that says burn piles will be assessed for restoration and revegetation needs. In the Decision-Making Triggers for Adaptive Implementation (FEIS Chapter 2), a sample of burn piles would be monitored within 3 years for evidence of bare soil or erosion and any identified rehabilitation needs would be implemented. These measures are designed to minimize the extent of impacts to soils from pile burning. With these measures, the extent of severely burned soils resulting from SBEADMR will be well within the 15 percent of the activity area limit in the WCP (WQSP-5A).

Associated Comments: [Seq#245]
Soil fertility, particularly available nitrogen, is not a constant over time, but rather is a process of renewal and depletion by processes of plant community succession and disturbance over variable time periods. Wildfire and wildfire driven community succession is critical to this process. Wildfire is not a detriment to forest health but rather a driver, mother nature's helping hand as it were; or call it the reset button. Cutting, piling, and then burning will not do the job of soil renewal effectively but will create a host of negative impacts. I have observed and studied these impacts on other very similar projects. The impacts will be detrimental in both short and long term to the soil resource creating landscape scars for many decades, even centuries, to come, due to combinations of compaction and erosion of the soil. Weedy exotics will proliferate due to the disturbance activities and equipment movements despite the best efforts to avoid spreading seeds. Even seeding for rehabilitation often introduces noxious weeds such as downy brome (cheatgrass) in the seed source. Building new roads is not justified by below cost salvage logging and the proposals regarding road decommissioning will not successfully return the roadbeds to productive soil conditions. Road building is a destructive practice not to be undertaken without very compelling reasons. [29-2]

H-1.3: Roads/Transportation System Concerns

Concern: [Seq#18]
Response: [Seq#18]
Proposed changes to a road system warrant consideration of the Travel Analysis Process in the analysis; had the original proposal in the DEIS to maintain no more than 20% of the SBEADMR roads as administrative, system routes been retained, the FEIS would include this analysis. However, in response to public comment about the impacts of roads and the inability of the Forest to presently identify which routes and where would be retained, the FEIS action alternatives propose decommissioning 100% of SBEADMR roads within 5 years of post-treatment activities. SBEADMR road construction would therefore not result in any changes to the existing NFS road system; no additional routes would be incorporated into the system under this planning process and decision.

Associated Comments: [Seq#18]
These comments submitted by The Wilderness Society address the aspects of the SBEADMR project that would authorize road construction and otherwise impact the GMUG National Forest's transportation system. The DEIS for the project recognizes that "[t]he Forest transportation system is essential for implementation of the proposed vegetation treatments" and asserts that the action alternatives would satisfy governing laws and regulations, including subpart A of the Forest Service's travel management regulations, 36 C.F.R. part 212. DEIS at 108-109. The DEIS does not, however, actually address the requirements of subpart A or the recommendations in the forest's June 2015 Final Travel Analysis Report (TAP). As explained in more detail below, rather than identifying and implementing a sustainable minimum road system consistent with the recommendations in the TAP and as required by subpart A, the proposed action would authorize additional road construction and expand the forest road system. [38-2]

The need to identify and implement a sustainable minimum road system that accomplishes those objectives on the GMUG is acute. The forest's 2005 Roads Analysis Report states that the forest only receives 30% of the funds it needs annually to maintain its road system.7 The GMUG's 2015 TAP identifies 380 miles of road as likely unneeded for future use, and identifies a need to add 15 road miles to the system. It also identifies that funding is a major transportation management issue.9 The DEIS for the SBEADMR inappropriately does not acknowledge the RAP or the TAP recommendations. Instead, the proposed action would authorize construction of 60 miles of engineered "designed" roads, 20% of which could be added to the forest's road system for future administrative uses. DEIS at 116, 118, 126, Table 20, 129.10 In proposing those very specific "maximum estimated roadwork" metrics, the DEIS does not even mention, much less ensure consistency with, the recommendations in the TAP. And by authorizing a net increase in system roads, the proposed action does not move the forest towards a sustainable minimum road system, as required by subpart A. The SBEADMR is proposing forest-wide programmatic strategy for vegetation management that heavily implicates the transportation system and the requirements of subpart A. As part of this project, the GMUG therefore should in the SBEADMR NEPA process "identify the minimum road system needed for safe and efficient travel and for administration, utilization, and protection of National Forest System lands"11 and establish measures to implement that system on a forest-wide basis.12 The minimum road system per subpart A must reflect long-term funding expectations, and ensure that the identified system minimizes adverse environmental impacts

associated with road construction, reconstruction, decommissioning, and maintenance.13 [38-3]

Concern: [Seq#15]
Response: [Seq#15]
Regarding the Forest Service's decision to consider an alternative of no new roads but dismiss such from further analysis, the Forest Service determined that this scoping issue would be addressed a) with design features to minimize impacts from road construction, b) by decommissioning at least 80% of such construction following post-treatment implementation, and c) disclosing residual impacts in the effects analysis. This is better clarified in the Final EIS. Issues identified during scoping may be addressed in effects analysis and/or the development of alternatives. Note that in the Final EIS, the proposed action alternatives were modified to propose only temporary roads; all would be decommissioned.

Regarding disclosure of specific locations of proposed roads and corresponding impacts, these are disclosed in the Final EIS; see response to comment 30-2.

Associated Comments: [Seq#15]
Additionally, it does not make sense that the Forest Service could not consider alternatives that restrict road construction. The Forest Service explains that alternatives using only currently existing roads or no net increase in roads were not considered in detail because "roads are addressed as design features common to all alternatives." DEIS at 69. This, however, ignores the issue of road construction, and provides the public with no legally required input into road selection locations or areas to avoid. This is directly related to earlier comments about the need for site-specific information. Without knowing this information and having an opportunity for public comment, the Forest Service cannot ensure the integrity and completeness of its NEPA analysis. It appears that the Forest Service simply does not want to agree to impose any limitations on itself when it comes time to decide where temporary and permanent roads will be constructed. This is unacceptable. Because the Forest Service cannot provide a legitimate reason for not considering alternatives that restrict road construction, it has an obligation to consider such alternatives in detail. We ask that the Forest Service take to the time necessary to provide a reasonable range of alternatives and strongly encourage this analysis to include suggestions provided above. [22-80]

Construction of new roads - whether designed or temporary - will have an equally devastating effect on the environment. I oppose the building of any new roads especially for the purposes of reaching deeper into the backcountry. I favor an alternative (which does not appear in the DEIS) which builds no new roads and only improves or maintains a minimum mileage of existing roads to ensure public safety. Logic informs me that if no roads currently exist in an area, risks to public safety are minimal and therefore such roads would only serve to aid in commercial harvesting of trees. [26-4]

Concern: [Seq#37]
Response: [Seq#37]
With the refined priority treatment area developed for the FEIS, we now have a better understanding of

maximum new road access needs. Based on this information, along with DEIS comments received and reviewed, we have adjusted all the FEIS alternatives to reflect no new permanent roads. In general, where identified priority treatment areas are currently inaccessible, new roads are necessary to provide these opportunities. We now propose that any new roads constructed would be properly closed and effectively blocked to vehicular traffic in accordance with contract provisions and NEPA criteria. In addition, unauthorized roads used for project implementation would also be decommissioned after use, which will likely reduce the overall/net road density in comparison to the baseline conditions today.

Associated Comments: [Seq#37]
Adopt a road planning and implementation strategy so that the project achieves an overall no net increase of road miles within the project boundary and treatment areas.... CPW supports road decommissioning after treatments are completed. If implemented fully as proposed (proposed action), the Forest Service will end up with a net increase of 12 miles of new roads. CPW recommends that the Forest Service adopt a road planning and implementation strategy so that the project achieves an overall no net increase of road miles within the project boundary and treatment areas. Given the limited amount of new roads being proposed, it seems reasonable that the Forest Service could reach that goal. [8-6]

Concern: [Seq#38]
Response: [Seq#38]
SBEADMR does not propose any changes to the GMUG's Travel Management Plans. Any new roads would remain temporary, non-system roads that are closed to the public during and after Project implementation and decommissioned within 5 years of post-sale activities. Also, when SBEADMR implementation uses currently unauthorized, non-system routes that exist on-the-ground today as temporary roads, those non-system routes would be effectively closed and decommissioned, potentially decreasing - and at least maintaining - the density of roads that can currently be physically driven in the GMUG. For more information on wildlife habitat, also see the wildlife analysis and discussion in the FEIS.

Associated Comments: [Seq#38]
The Forest Service made deliberate and thoughtful decisions with regard to 201O Travel Management Plan throughout the GMUG. CPW is very supportive of those decisions with the long-term goals of preserving blocks of unfragmented wildlife habitat, and holding big game, particularly elk, on public lands where they are available for harvest by public land hunters. Road density and utilization, vegetation management and recreation management may impact effective use of habitat by mule deer, elk, and other species. Maintaining or reducing road density consistent with the 2010 Travel Management Plan will provide more usable habitat within the treatment area for wildlife. Our review of the DEIS did not indicate if the designed roads and temporary roads would be closed to the public during active treatment and post treatment restoration and monitoring periods. If left open these routes may impact habitat effectiveness for wildlife [8-9]

Concern: [Seq#39]
Response: [Seq#39]

In preparation for the FEIS, we developed priority vegetation treatment areas, and then developed a site-specific transportation access plan - including new road construction alignments. Therefore, we now have a much better understanding of maximum new road access needs. We have maximized use of existing roads for access to priority treatment areas. In general, where priority treatment areas are currently inaccessible, new roads are necessary to provide these opportunities. We now propose that all new roads constructed would be properly closed and effectively blocked to vehicular traffic in accordance with contract provisions and NEPA criteria.

Associated Comments: [Seq#39]
While Ouray County is mindful of the concerns expressed by some to limit roads, we again suggest a flexible and adaptable approach to adopting an action plan that permits more specific determination of where roads are necessary, where existing roads can be used to limit new landscape cuts, and an analysis of needs to support any new roads as more specific determinations of acreage locations and treatment plans become more clear. Additionally, as has been demonstrated recently on the Uncompahgre Plateau, new methods of decommissioning roads is much more successful than in the past, which should result in less long-term environmental impact from roads temporarily used or created to harvest or treat affected stands.... During the period that this EIS has been in drafting and process, the number of affected acres has more than doubled. By the time the process is completed, additional acres will also be affected. We urge an action plan that allows USFS adapt to these changing circumstances and facts in making professional determinations about specific areas for various treatments, including logging of diseased trees. Certainly a wide-spread wildfire situation is more likely to result in additional roads and uncontrolled long-term visual impacts than allowing the USFS to make decisions about how and where roads are necessary to accomplish the important goals of the action alternatives. [12-8]

Concern: [Seq#40]
Response: [Seq#40]
Refined priority treatment areas have now been defined for the FEIS; this was followed up by a revised transportation access plan. The proposed SBEADMR network of existing haul roads for commercial treatments anticipates a limited number of roads under private jurisdiction that would provide more efficient access to a commercial treatments. These account for <1% of anticipated haul routes. These roads would require a Forest Service right-of-way or access agreement to allow for access and haul of forest products. Where appropriate, public easements would be pursued; at a minimum, administrative access would be needed for treatment implementation. This is noted in the implementation toolbox for SBEADMR.

Associated Comments: [Seq#40]
Pre-Treatment Checklist – Appendix C I have the following comments and suggestions on the Pre-Treatment Checklist that would provide better compliance and consistency with the Project Design Features. Identify Treatment Areas • Exclude areas that have no legal access to the National Forest [13-33]

Concern: [Seq#41]
Response: [Seq#41]
Project design is based on our understanding of current direction and decision making should be consistent with any applicable requirements.

Associated Comments: [Seq#41]
Transportation and Facilities • Is project design consistent with the Travel Management Plan? [13-36]

Concern: [Seq#42]
Response: [Seq#42]
Existing travel management plans will be followed, and no changes in public access are proposed. Limited administrative use is likely to occur outside of periods when roads are open to the public, but no increases in public access would be allowed. Any new roads constructed would only be available for administrative traffic. New roads would then be closed and decommissioned after Project implementation. Unauthorized routes, machine trails, and firelines used for the Project would be rehabilitated and effectively blocked to prevent future vehicular use. Also see response to comment 12-8.
Associated Comments: [Seq#42]
Roads and Transportation Page 109 and 116 of the DEIS include the following statements relative to roads and transportation. Existing travel management decisions would continue to be implemented. Travel plans exist for each of the national forests within the GMUG. These travel plans would be amended if any changes to allowed motor vehicle use were to occur under the SBEADMR Project. Primarily the existing road network would be used to access the proposed treatments and also remove forest products, supplemented with designed and temporary road construction. The management of treatment roads will be addressed through the use of design features. At least 80% of designed roads and 100% of temporary roads constructed under any action alternative would be decommissioned upon completion of the project.... The Forest travel management plans must be integrated into project implementation to incorporate the fish and wildlife resource and recreational management objectives in those plans. They include seasonal area and route restrictions to protect big game winter range, elk calving areas, provide big game security areas, and provide backcountry hunting and fishing opportunities in areas within and adjacent to lands managed for wilderness and identified as Colorado Roadless Areas. Including the following additional Design Features would solidify this commitment. • Comply with existing direction included in each Forest's travel management plan. This includes all seasonal area and route-specific timing restrictions to protect wildlife and enhance recreational experience. • Administratively close (gate) all new access roads to public travel during timber sale and post-sale treatments to prevent the establishment of public use. • Close all new access roads to the public unless there is further NEPA to amend the travel management plans. • Obliterate non-system roads, trails, and fire lines as part of timber sale activity to reduce open road/trail density in accordance with Forest travel management plans. [13-38]

Concern: [Seq#43]
Response: [Seq#43]
Please see response to comment 3-9, 8-6, and 12-8.

Associated Comments: [Seq#43]
Roads are a significant risk factor to the lynx population in the GMUG National Forest (DEIS at 300). This risk is echoed by the acknowledgement that "[a]ny permanent road will result in a permanent loss of lynx habitat in LAUs." DEIS at 329. Despite this risk, the location of the roads is not included in the analysis, and it merely mentions that the location will be determined based on treatment needs and to minimize impacts to understory. This vague information is insufficient because the location of roads, especially permanent roads, is so significant to lynx habitat. If the maximum 60 miles of permanent roads were constructed, then 145.5 acres of lynx habitat would become unsuitable for lynx. See DEIS at 329. The Forest Service must disclose the locations of planned permanent and temporary roads to fully be able to assess the impacts of SBEADMR on lynx and lynx habitat. [22-41]

Concern: [Seq#44]
Response: [Seq#44]
We intend to utilize existing roads wherever possible for achieving vegetation treatments. Furthermore, we have refined a priority treatment area, which considered available existing access. We intend to improve and maintain existing roads for safe access and product removal while also reducing and minimizing resource impacts. We also plan to utilize closed roads where available vs. constructing brand new road access; we feel this approach is the smartest and most responsible approach. We agree with comments that road closures are particularly important, and plan to properly rehabilitate and effectively close any unauthorized and temporary road used during Project implementation. Please also see response to comments 3-9, 8-6, and 12-8.

Associated Comments: [Seq#44]
WITH ALL THE NEW ROAD CONSTRUCTION AND RECONSTRUCTION, AN ANALYSIS OF IMPACTS TO TRAVEL MANAGEMENT IS NEEDED. Up to 60 miles of design roads could be constructed under Alternatives 2 and 4, along with 260 miles of temporary roads and 260 miles of reconstruction of existing roads, with up to 12 miles of design road remaining on the system. DEIS at 68.47 If any are open to public use, the new roads would affect travel management. Road reconstruction would also affect travel management by upgrading roads, which in turn would increase use by making travel possible for a wider class of vehicles. We have specific concerns with regards to temporary roads and designed roads that may be built in areas where Travel Management Plan ("TMP") implementation and enforcement has been a struggle for the Forest Service. On the Gunnison National Forest, we are particularly concerned with the area of the National Forest north of Blue Mesa, such as around Soap Creek and Red Creek, around the towns of Pitkin and Parlin, and Taylor Park. Red Creek has undergone treatment over the last few years, of which appears to have left temporary roads still waiting to be obliterated (or travel management implementation of the 2010 Gunnison Travel Management Plan has yet to occur). Pitkin has proved particularly problematic. The 2010 TMP closed a number of routes due to redundancy and sensitive habitat and/or features, such as wetlands. In the Fall of 2012, a group of users and anti-

government rabble rousers brandished weapons and threatened Forest Service staff for closing some of these routes, despite there having been a robust multi-year public process that lead to the TMP. These individuals threatened to remove closures that had been implemented, to which the Forest Service responded by removing them themselves. Enforcement of closures continues to be challenging in this area and the Forest Service has even decided to potential entertain re-opening these closed routes?a consideration that threats serves as the catalyst. The Forest Service's proposed approach for temporary and designed roads and then claiming that such roads will not affect the TMP dangerously ignores the on-the-ground realties that would prove to be significant in problematic areas for travel management, like Pitkin. DEIS at 122. This is particularly troubling because the Forest Service purports that whether a temporary or designed road may be added to the travel system is up to the District Ranger directly contradicts other statements that these roads will not affect the TMPs across the forest. DEIS at 124. [22-59]

Concern: [Seq#45]
Response: [Seq#45]
While we have taken a smart and responsible approach to planning transportation access for Project access, the purpose and need of this effort is focused on vegetation treatments and is not focused on achieving a sustainable, minimum road system. We do not propose to make any changes to allowed public motor vehicle use, and no longer propose to permanently retain any of the new roads constructed under this effort. Furthermore, any unauthorized routes used for vegetation treatment access would be properly closed and decommissioned. There are currently 182 miles of existing routes proposed for use and then decommissioning under alternative 2, and 88 miles under alternative 3.

Associated Comments: [Seq#45]
SBEADMR MUST PROVIDE DIRECTION FOR ACHIEVING A SUSTAINABLE, MINIMUM ROAD SYSTEM. National forests provide a range of significant environmental and societal benefits, including clean air and water, habitat for myriad wildlife species, and outdoor recreation opportunities for millions of visitors and local residents each year.48 The Forest Service's extensive and decaying road system, however, poses a growing liability to the future ability of the national forests to provide critical environmental, ecosystem, and recreation services. Collectively, the national forests contain over 370,000 miles of system roads (not to speak of tens of thousands of additional miles of unclassified, non-system, temporary, and user-created roads). That is nearly eight times the length of the entire U.S. Interstate Highway System. This road system is primarily a byproduct of the era of big timber; as such, it often is convoluted, unmanageable, and ineffective at meeting 21st-century transportation needs. Much of the system is also in a state of serious disrepair: as of 2014, the national forest road system had a 2.9 billion dollar maintenance backlog.49 The GMUG NF is no exception, with 3,291 miles of system roads for which it has maintenance responsibility.50 Yet, the GMUG's average road maintenance budget covers only a fraction of miles of roads that are due for maintenance. For example, for fiscal year 2015, the Forest Service has proposed it would conduct maintenance on a total of 678 miles of roads (only 18% of total road miles on the GMUG).51 The projected analysis maintenance cost for these 678 miles is a total of $2,479,800.52 As a result, significant backlog of deferred maintenance needs has resulted

across the forest. At the same time, the GMUG expects that road maintenance budgets are anticipated to decline.53... 48 See generally 36 C.F.R. § 219.1(c) ("range of social, economic, and ecological benefits [of National Forests] . . . include clean air and water; habitat for fish, wildlife, and plant communities; and opportunities for recreational spiritual, educational, and cultural benefits"); 66 Fed. Reg. 3244, 3245-47 (Jan. 12, 2001) (Preamble to Roadless Area Conservation Rule describing key ecosystem and other services of roadless National Forest lands). 49 USDA, Forest Service, National Forest System Statistics FY 2014. 50 GRAND MESA, UNCOMPAHGRE AND GUNNISON NATIONAL FORESTS, FINAL TRAVEL ANALYSIS REPORT, Executive Summary (June 1, 2015) available at http://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprd3841509.pdf. 51 GRAND MESA, UNCOMPAHGRE AND GUNNISON NATIONAL FORESTS, FINAL TRAVEL ANALYSIS REPORT, Appendix D - Financial and Administrative Summary 1 (June 1, 2015) available at http://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprd3841524.pdf. 52 Id. 53 GRAND MESA, UNCOMPAHGRE AND GUNNISON NATIONAL FORESTS, FINAL TRAVEL ANALYSIS REPORT, Executive Summary 6 (June 1, 2015) available at http://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprd3841509.pdf [22-60]

9)I have a concern that the proposal will have many other impacts from roads. The DEIS states that a widespread road network would be necessary to manage NFS lands to achieve the stated goals (DEIS at 115). This is in apparent disregard of soil and watershed protection as well as the emphasis on maintaining a sustainable minimum road system on the forest. I and other organizations have long advocated for a smaller and more manageable road system on the GMUG for reasons ranging from habitat fragmentation to the increased use of OHVs on our public lands. As our public land management agencies well know, enforcing Travel Management Plans and maintaining a sustainable road system is difficult enough. Any new roads that stay on the GMUG for any extended period of time during the implementation of SBEADMR (8-12 years) could add to an already difficult situation to manage. An alternative that focuses heavy treatments on WUI and public safety treatments would require less new roads, as suggested in the analysis of Alternative 3. In this regard, a final EIS that uses the existing roads to the furthest extent possible, as analyzed in Alternative 3, is desirable. The foremost guiding principle of this program must be directed toward the health of the forest and nothing else. [39-9]

Concern: [Seq#46]

Response: [Seq#46]
The effects from roads are disclosed in the appropriate resource sections in Chapter 3 of the FEIS. Please also see response to comment 12-8 and 22-60.

Associated Comments: [Seq#46]
While well-sited and maintained roads undoubtedly provide important services to society, the adverse ecological and environmental impacts associated with the Forest Service's massive and deteriorating road system are well-documented. Those adverse impacts are long-term, occur at multiple scales, and

often extend far beyond the actual "footprint" of the road. The literature review surveys the extensive and best-available scientific literature (including the Forest Service's 2000 General Technical Report synthesizing the scientific information on forest roads)54 on a wide range of road-related impacts to ecosystem processes and integrity on National Forest lands. Erosion, compaction, and other alterations in forest geomorphology and hydrology associated with roads seriously impair water quality and aquatic species viability.55 Roads disturb and fragment wildlife habitat, altering species distribution, interfering with critical life functions such as feeding, breeding, and nesting, and resulting in loss of biodiversity.56 Roads also facilitate increased human intrusion into sensitive areas, resulting in poaching of rare plants and animals, human-ignited wildfires, introduction of exotic species, and damage to archaeological resources.57 Climate change intensifies the adverse impacts associated with roads. As the warming climate alters species distribution and forces wildlife migration, landscape connectivity becomes even more critical to species survival and ecosystem resilience.58 Climate change is also expected to lead to more extreme weather events, resulting in increased flood severity, more frequent landslides, altered hydrographs, and changes in erosion and sedimentation rates and delivery processes.59 Many National Forest roads, however, were poorly located and designed to be temporarily on the landscape, making them particularly vulnerable to these climate alterations. And even those designed for storms and water flows typical of past decades may fail under future weather scenarios, further exacerbating adverse ecological impacts, public safety concerns, and maintenance needs.60 These road-related impacts are of significant concern on the GMUG NF, and the SBEADMR DEIS has not analyzed them in detail by failing to identify site-specific information that would disclose where and when roads may occur on the Forest as SBEADMR is implemented. Accordingly, we ask that the Forest Service provide this information so the public and ultimate decisionmaker can understand that on-the-ground impacts SBEADMR would have as a result of proposed temporary and designed... roads. Without this information, direct, indirect, and cumulative impacts of SBEADMR's proposed roads is not known, much less is it possible to disclose to allow for informed public participating and informed agency decisionmaking... 54 HERMANN GUCINSKI ET AL., FOREST ROADS: A SYNTHESIS OF SCIENTIFIC INFORMATION, GEN. TECH. REP. PNW-GTR-509 (2001), available at http://www.fs.fed.us/pnw/pubs/gtr509.pdf. 55 See Literature Review on the Impacts of Roads at 2-4, Exhibit 19. 56 See Literature Review on the Impacts of Roads at 4-6. 57 See Literature Review on the Impacts of Roads at 6, 9. 58 See Literature Review on the Impacts of Roads at 9-14; see also USDA, FOREST SERVICE, NATIONAL ROADMAP FOR RESPONDING TO CLIMATE CHANGE 26 (2011), available at http://www.fs.fed.us/climatechange/pdf/Roadmapfinal.pdf (recognizing importance of reducing fragmentation and increasing connectivity to facilitate climate change adaptation). 59 See Literature Review on the Impacts of Roads at 9. 60 See USDA, FOREST SERVICE, WATER, CLIMATE CHANGE, AND FORESTS: WATERSHED STEWARDSHIP FOR A CHANGING CLIMATE, PNW-GTR-812 72 (June 2010) available at http://www.fs.fed.us/pnw/pubs/pnw_gtr812.pdf [22-61]

Concern: [Seq#47]

Response: [Seq#47]

Under the revised alternatives proposed in the FEIS, no roads are proposed for addition to the Forest transportation system. Therefore, a travel analysis is not required at this time. We do agree that

SBEADMR is an opportunity to accomplish some much needed road maintenance and reconstruction. Please also see response to comment 12-8 and 22-60.

Associated Comments: [Seq#47]

THE FOREST SERVICE MUST ADDRESS THE ROAD SYSTEM IN THE DEIS. SBEADMR presents the Forest Service with the opportunity to implement what it has identified in TAP as roads that should be decommissioned for a number of reasons. We strongly encourage the Forest Service to seize this opportunity as it would help reduce the continual backlog of deferred maintenance and reduce the amount of roads on the Forest Service System that are having negative impacts on various resources. Site-specific information would provide the public and the Forest Service the chance to see what roads may present this as an opportunity and also allow for a complete understanding of what the proposed road impacts of SBEADMR would be in conjunction with the current existing road system and what the Forest Service has identified as needing change through its TAP. The Forest Service has been well aware of its unsustainable and deteriorating road system. This fact led the Forest Service to promulgate the Roads Rule (referred to as "subpart A") in 2001 which is to lead the Forest Service to a "right-sized road system," meaning a system that is both financially and economically sustainable.61 The rule directs each National Forest to conduct "a science-based roads analysis," generally referred to as the "travel analysis process" or "TAP."62 Based on that analysis, forests must first "identify the minimum road system needed for safe and efficient travel and for administration, utilization, and protection of National Forest System lands."63 The Rule further defines the minimum road system as: the road system determined to be needed [1] to meet resource and other management objectives adopted in the relevant land and resource management plan . . . , [2] to meet applicable statutory and regulatory requirements, [3] to reflect long- term funding expectations, [and 4] to ensure that the identified system minimizes adverse environmental impacts associated with road construction, reconstruction, decommissioning, and maintenance.64 Forests must then "identify the roads . . . that are no longer needed to meet forest resource management objectives and that, therefore, should be decommissioned or considered for other uses, such as for trails."65 The minimum road system must, among other things, reflect long-term... funding expectations.66 The TAP for the GMUG identified likely needed and likely unneeded roads. While this is a critical step (and one that most national forests have yet to undertake), the GMUG still must identify its minimum road system and unneeded roads for decommissioning and implement those decisions in order to achieve compliance with subpart A. The existing road system is not reflective of current or long-term funding expectations and is not sustainable. This is critical given that all action Alternatives propose additional roads, and therefore would further compound the existing problems with the GMUG travel system. Subpart A defines the minimum road system as that "needed for safe and efficient travel[;] for administration, utilization, and protection of [forest] lands[; and] to meet resource and other management objectives adopted in the relevant . . . plan."67 SBEADMR must use the TAP and its recommendations to identify and implement a minimum road system and motorized route density standards. In addition, routes identified for decommissioning through the TAP or other processes within the project area must be closed, decommissioned, and reclaimed to a stable and more natural condition during the life of the project. The National Best Management Practices for Water Quality Management on National Forest System Lands (Volume 1, April 2012) should also be used to

guide road management in determining the minimum road system because the ". . . National BMP Program was developed to improve agency performance and accountability in managing water quality consistent with the Federal Clean Water Act (CWA) and State water quality programs. Current Forest Service policy directs compliance with required CWA permits and State regulations and requires the use of BMPs to control nonpoint source pollution to meet applicable water quality standards and other CWA requirements."68 As outlined on page 104: ? Design the transportation system to meet long-term land management plan desired conditions, goals, and objectives for access rather than to access individual sites. ? Limit roads to the minimum practicable number, width, and total length consistent with the purpose of specific operations, local topography, geology, and climate to achieve land management plan desired conditions, goals, and objectives for access and water quality management. Thus, we strongly encourage the Forest Service to, at a minimum, include in the SBEADMR DEIS one or more alternatives addressing the Minimum Road System and motorized route density, especially since the project area is such a substantial portion of the GMUG. Given the substantial amount of... maintenance backlog on the Forest Service travel system and the deleterious effects these roads can have on water quality, the Forest Service should use and require that the USFS Washington Office finalized Volume II (currently being finalized) be used as it would provide direction on how monitoring of BMP's should occur in order to achieve water quality protections. Proper BMP implementation, followed by thorough monitoring, is the only way to ensure waterways are protected.... 61 66 Fed. Reg. 3206 (Jan. 12, 2001); 36 C.F.R. part 212, subpart A 62 36 C.F.R. § 212.5(b)(1). Forest Service Manual 7712 and Forest Service Handbook 7709.55, Chapter 20 provide detailed guidance on conducting travel analysis. 63 36 C.F.R. § 212.5(b)(1) 64 Id. 65 Id. § 212.5(b)(2). The requirements of subpart A are separate and distinct from those of the 2005 Travel Management Rule, codified at subpart B of 36 C.F.R. part 212, which address off-highway vehicle use and... corresponding resource damage pursuant to Executive Orders 11,644, 37 Fed. Reg. 2877 (Feb. 9, 1972), and 11,989, 42 Fed. Reg. 26,959 (May 25, 1977). 66 Id. § 212.5(b)(1). 67 36 C.F.R. § 212.5(b)(1) 68 UNITED STATES FOREST SERV., THE NATIONAL BEST MANAGEMENT PRACTICES FOR WATER QUALITY MANAGEMENT ON NATIONAL FOREST SYSTEM LANDS, Vol. 1 (Apr. 2012 [22-62]

Concern: [Seq#48]

Response: [Seq#48]
We have analyzed resource effects related to transportation and access for proposed vegetation treatments. Please see the applicable resource sections of Chapter 3 for specific information. Please also see response to comment 12-8 and 22-60.

Associated Comments: [Seq#48]
THE FOREST SERVICE MUST ANALYZE THE ROAD SYSTEM UNDER THE NATIONAL ENVIRONMENTAL POLICY ACT. In addition to the requirements of the 2012 Planning Rule and subpart A, NEPA requires the Forest Service to analyze its road system as part of the DEIS. The DEIS must analyze in depth all "significant issues related to [the plan revision]." 40 C.F.R. § 1501.7; see also id. § 1502.1 (an EIS "shall provide full and fair discussion of significant environmental impacts" and "shall focus on significant environmental issues and alternatives"). Due to the extensive road mileage contemplated by the DEIS,

management of the roads and their significant environmental impacts on a range of forest resources undoubtedly qualifies as a significant issue that must be analyzed in the DEIS.69... 69 NEPA analysis as part of a previous travel management planning process under subpart B does not satisfy the Forest Service's duty to comprehensively analyze the impacts of its road system in the DEIS. The purpose of the TMP is to designate existing roads and trails available for off-road vehicle use, not to identify and provide a framework for a sustainable road system. [22-63]

A robust NEPA analysis of the forest road system and its environmental and social impacts is especially critical in the context of climate change. As the Council on Environmental Quality's recent draft guidance on addressing climate change in NEPA analyses recognizes, "[c]limate change can increase the vulnerability of a resource, ecosystem, human community, or structure, which would then be more susceptible to climate change and other effects and result in a proposed action's effects being more environmentally damaging."70 The draft CEQ guidance makes clear that "[s]uch considerations are squarely within the realm of NEPA, informing decisions on whether to proceed with and how to design the proposed action so as to minimize impacts on the environment, as well as informing possible adaptation measures to address these impacts, ultimately enabling the selection of smarter, more resilient actions."71 Importantly, adequate analysis of the forest road system cannot be provided in a piecemeal fashion under other, individual resource topics in the EIS. That approach would preclude comprehensive analysis of the significant impacts associated with the road system and could result in fragmented and conflicting management direction that fails to satisfy the substantive mandates of the 2012 Planning Rule and subpart A... 70 Council on Environmental Quality, Revised Draft Guidance for Greenhouse Gas Emissions and Climate Change Impacts, at 22 (Dec. 18, 2014), available at http://www.whitehouse.gov/administration/eop/ceq/initiatives/nepa/ghg-guidance. 71 Id. [22-64]

These road--related impacts are of significant concern on the GMUG NF, and the SBEADMR DEIS has not analyzed them in detail. [33-13]

Concern: [Seq#49]

Response: [Seq#49]
Our alternatives propose that new roads constructed for SBEADMR access would be decommissioned following use. If a particular new road is subsequently constructed and the Forest Service wishes to add that road to the Forest transportation system, a separate NEPA process would then take place. We have also adjusted our decommissioning description to provide for a site-specific resource assessment, allowing for a customized rehabilitation case-by-case.

Associated Comments: [Seq#49]
A well-planned transportation system is essential to long-term forest management, for timber harvest as well as for most other users. We have two recommendations – -first, that you not decommission Designed Roads. After all, Designed Roads will access primarily suited timberlands and will be needed for future management. Once the investment has been made in design and construction, it would not

be prudent to then decommission those roads. -second, that you reconsider the need for “contouring to re-establish the natural undisturbed slope” for roads that will be decommissioned. Recontouring is expensive, and will cause additional environmental effects. [25-6]

Concern: [Seq#50]

Response: [Seq#50]
We intend to follow all existing direction applicable to temporary road construction. Road decommissioning will occur within 5 years of post-sale activities. Unauthorized routes used as haul roads will also be properly closed and decommissioned following use. Please also see response to comment 3-9 and 8-9.

Associated Comments: [Seq#50]
Temporary Roads Because so--called "Temporary Roads" - which in fact are not temporary at all - are proposed at such a grand scale for this project, we suggest the following bookends in regards to their management: ? Before any temporary road construction is underway, establish a publicly available system for tracking temporary roads that includes but is not limited to the following information: road location, year of road construction, and projected date by which the road will be decommissioned. ? No temporary road shall be constructed prior to the development of a project--specific plan that defines how the road shall be managed and constructed. The plan must define the road design, who are responsible parties and their roles in construction, maintenance and decommissioning, the funding source, a schedule for construction, maintenance and decommissioning, the method(s) for decommissioning, and post--decommissioning monitoring requirements for determining decommissioning success.49 ? Roads that will never be open to the public should be signed as such as soon as road construction starts. ? Close and rehabilitate all temporary roads immediately following completion of the use of the road. ? Decommission all unaddressed temporary roads in the project area. All roads, including temporary roads, will comply with applicable and identified Forest Service best management practices for water management. Additionally, BMP's should be monitored for effectiveness as per the National BMP Monitoring Guidance. [33-14]

Concern: [Seq#51]

Response: [Seq#51]
A comparative study of road building techniques is outside the scope of this Project. We reviewed the references you noted and found that many of the recommended practices are already incorporated in our design features for soils, water quality, and transportation. We also created a new transportation

design feature that specifically incorporates additional practices useful and applicable for SBEADMR (See design feature TSHR-9 (FEIS Appendix B)).

Associated Comments: [Seq#51]
We realize that the Forest Service has guidelines for how roads should be built, but new techniques may be more effective. For example, Bill Zeedyk, has come up with a number of effective ways to design and repair dirt or gravel roads to reduce erosion. If possible, we suggest that the Forest Service conduct a study comparing roads built the traditional way versus roads built per Bill Zeedyk's recommendations (see Zeedyk 2006 and 2014). If there is less erosion and maintenance with the "Zeedyk" roads, we'd suggest that the Forest Service consider updating their road guidelines to recommend the more effective techniques. [33-15]

Concern: [Seq#52]

Response: [Seq#52]
Applicable BMPs will be applied and monitored. See the design features for particular water, soils, and transportation measures (FEIS Appendix B). Also see FEIS Appendix D, pg 1, for commitment to annual review of National BMPs. Please also see response to comments 22-60 and 22-62.

Associated Comments: [Seq#52]
XI. PROPOSED TREATMENT WILL HAVE MANY IMPACTS FROM NEW ROADS The issue of new road construction remains a concern for WCC, and the DEIS plainly states that a widespread road network will be necessary to manage NFS lands to achieve the stated goals (DEIS at 115). In this regard we strongly support the comments provided by HCCA et al. regarding the protection of soil and watershed protection, as well as the emphasis on achieving a sustainable minimum road system (HCCA et all, Section XIII, pgs. 38-42 and Section XVIII a., pgs. 46-51). WCC has long advocated for a smaller and more manageable road system on the GMUG for reasons ranging from habitat fragmentation to limiting the use of OHVs on our public lands. As our public land management agencies well know, enforcing Travel Management Plans and maintaining a sustainable road system is difficult enough. Any new roads that stay on the GMUG for any extended period of time during the implementation of SBEADMR (8-12 years) could add to an already difficult situation to manage. Thus, we strongly encourage the Forest Service to, at a minimum, include in the SBEADMR DEIS an alternative addressing the Minimum Road System, especially because the project area is such a substantial portion of the GMUG. Given the substantial amount of maintenance backlog on the Forest Service travel system and the deleterious effects these roads can have on water quality, the Forest Service should use and require that the USFS Washington Office finalized Volume II (currently being finalized) be used as it would provide direction on how monitoring of BMP's should occur in order to achieve water quality protections. Proper BMP implementation, followed by thorough monitoring, is the only way to ensure waterways are protected.

An alternative that focuses heavy treatments on WUI and public safety treatments would require less new roads, as suggested in the analysis of Alternative 3. In this regard, a final EIS that uses the existing roads to the furthest extent possible, as analyzed in Alternative 3, is desirable. [40-13]

Concern: [Seq#53]

Response: [Seq#53]
Please see responses to comments 8-9, 12-8 and 25-6.

Associated Comments: [Seq#53]
Page 47, Access. The statement is made that "primarily the existing road network will be used to access the proposed treatments and to remove forest products." Overall, this paragraph is confusing and misleading because new roads are proposed under all of the action alternatives (pages 55, 59, and 63). Furthermore, there needs to be better clarification on the "no increase in open road density" by explaining that any new roads built would not be open to the public (page 69} and would be for administrative use only. [97-18]

Concern: [Seq#54]

Response: [Seq#54]
Estimated road maintenance mileage is a unique action expressed in Table 8, and is not a sum of other mileages expressed in this table. (Maintenance is different than reconstruction, construction, etc.).

Regarding Table 8 and Table 21 mileages: we will assure that mileages match in the FEIS document.

Associated Comments: [Seq#54]
Page 59,Table 8,Total Maintenance miles do not add up correctly. Additionally, Table 8 does not match Table 21. [97-19]

Pages 126-127, Table 21 does not match Table 8. Total Maintenance Miles are very different between the two tables. [97-35]

Concern: [Seq#55]

Response: [Seq#55]
Transportation effects associated with the various alternatives, including the no-action alternative, are addressed in FEIS Chapter 3.

Associated Comments: [Seq#55]
Under the No Action alternative on page. 93-95, it is important to acknowledge that road maintenance and restructuring will not occur, which could actually worsen the shape of the watershed. All of the Action alternatives include some new roads and restructuring. These are built to a higher standard and provide more protection for watersheds. It would be appropriate to tie in the discussion from page 116, because it helps the public tie watershed health and roads together. [97-27]

Concern: [Seq#56]

Response: [Seq#56]
Please see response to comment 12-8, 22-60, and 25-6. In addition, we recognize that SBEADMR presents an opportunity to accomplish a large amount of road maintenance and reconstruction.

Recreation effects are discussed in Chapter 3. This project does not propose to change any long-term recreational use nor modify the routes currently available for public motor vehicle use.

Associated Comments: [Seq#56]
A well-planned transportation system is essential to long-term forest management, for timber harvest as well as for most other users. We have four recommendations - * first, that you not decommission Designed Roads. After all, Designed Roads will access primarily suited timberlands and will be needed for future management. Once the investment has been made in design and construction, it would not be prudent to then decommission those roads. * second, that you reconsider the need for "contouring to re-establish the natural undisturbed slope" for roads that will be decommissioned. Recontouring is expensive, and will cause additional environmental effects. * third, that the FEIS highlight that the projected road miles are just an estimate and will most likely be much less (page 97). As stated by Chris Bielecki via e-mail, "our road action assumptions were well informed and provide the most potential road work and impact expected to occur if fully implementing this NEPA decisions. Realistically, I believe the actual road actions will be much less than the maximum, with a typical Forest Service focus and prioritization for easily accessed NFS lands (and hopefully dependable pockets of timber. The limited market, infrastructure and wood value also point to this." * fourth, within the transportation discussion, there needs to be some information regarding the amount of roads used for recreation. For instance, how many visitors come to the area annually and what that means in terms of road use.The current discussion on roads under the Recreation section is insufficient. It needs to be highlighted that all of the Action alternatives have the potential to improve the roads through maintenance and restructuring (due to the generation of funds). Again, transportation will likely get worse under the No Action alternative. [97-33]

Concern: [Seq#57]

Response: [Seq#57]
We do feel that 50 vehicles per day is a conservative estimate of the potential maximum daily traffic related to implementing 6,000 acres of commercial treatments over the course of a year, with anticipated seasonal differences, periods of high and low productivity, etc. We have reviewed and updated the effects section to transportation in Chapter 3 based on our current understanding of the transportation access network for SBEADMR. Please also see response to comment 12-8.

Associated Comments: [Seq#57]
Page 319, 1st paragraph - There is already a history of logging traffic included in the baseline traffic count data, therefore, all logging traffic will not be an increase. Projecting an increase in logging traffic of an additional 50 vehicles per day seems excessive.... We recommend that you note that a maximum of only 4% of the GMUG will be harvested, therefore, the potential for actual disturbance will be very low. Further, we recommend you modify the first sentence by inserting "cause a very slight" between "may'' and "increase". [97-70]

Concern: [Seq#58]

Response: [Seq#58]
We revisited design feature TSHR-7 and now feel it appropriately addresses the concern, while maintaining flexibility for customization during implementation. We only intend to require stabilization in-line with current direction and as needed for safe haul as well as resource protection. We have experienced dusty conditions on roads of various surface types depending on moisture and use patterns, and aggregate ("gravel") roads can sometimes be some of the worst, therefore, other measures should also be available.

Associated Comments: [Seq#58]
Page B-2, Design Feature TSHR-7 "Use suitable road surface stabilization practices and dust abatement supplements on roads with high or heavy traffic use."... Comment: Water trucks and/or dust palliative (usually magnesium chloride) are very expensive options for dust control. Costs can easily exceed total stumpage values on a salvage timber sale. Dust abatement requirements usually force purchasers into only logging and hauling during winter months when snowpack is present. Many areas are not conducive to a winter show due to deep snow or the length of road to be plowed. This requirement could be construed to apply to nearly every major FS system road on the GMUG being used as a haul route. Existing gravel or road base should be considered as a suitable "road surface stabilization practice". Dust control should only be required in very limited areas of high recreation use such as a campground or lake. [97-83]

Concern: [Seq#36]

Response: [Seq#36]
With the refined priority treatment area (PTA) developed for the FEIS, we now have a better understanding of maximum new road access needs. We have maximized use of existing roads for access to priority treatment areas. In general, where identified PTAs are currently inaccessible, new roads are necessary to provide these opportunities. Any new roads constructed would be properly closed and effectively blocked to vehicular traffic in accordance with contract provisions and NEPA criteria. Enforcement of new closures could be difficult in some areas, therefore, we will use proper engineering during implementation to install effective closures.

Associated Comments: [Seq#36]
Part of the reason a large amount of temporary roads and skid tracks (260 miles in Alt. 2 vs. 70 miles in Alt. 3) is not a good idea is because more naturally regenerating forest structure would be destroyed, particularly if some of the temporary roads that the forest service blocks get illegally reopened by off-road Vehicles and ATV's as a result of current increased numbers and use of ORV's. It may be quite difficult for the forest service to enforce that many miles of closures. [3-9]

Concern: [Seq#136]

Response: [Seq#136]
All new roads constructed will be designed to minimize effects to soil and water resources. In the FEIS, all action alternatives have been modified such that all new roads in SBEADMR would be decommissioned. It is estimated that 70% of the constructed roads will be decommissioned by the purchaser once harvest activities have been completed which is anticipated to take 3-4 years. All remaining roads will be decommissioned within 5-years of sale closure. Decommissioning involves recontouring where significant side slope exists, elimination of ditches and other structures, outsloping the roadbed, removal of ruts and berms, effectively blocking the road to normal vehicular traffic where feasible, and construction of drainage features such as cross ditches and water bars. Invasive species monitoring will occur after road decommissioning and will be followed by weed treatments where needed. Effectiveness of road closure will also be monitored.

Associated Comments: [Seq#136]
An important consideration is that all roads built to access and treat be removed and replanted to promote stability of soils to protect the watershed (fishing) and to ensure adequate cover for lynx and other animals. How well they survive depends on us. [11-3]

Concern: [Seq#184]

Response: [Seq#184]
The Forest Service recognizes the strong partnerships with County government and that road maintenance completed by Counties is completed to the same standards as those maintained by the Forest Service. Whether completed by County crews or Forest Service crews, impacts could occur from these activities and therefore must be disclosed in the EIS.

Associated Comments: [Seq#184]
Delta County takes exception to the DEIS when it states that "County road maintenance could result in additional impact to individual such as crushing, or removal by road maintenance equipment." (Page 219). Delta County works cooperatively with the GMUG on several roads, culvert projects and other special areas most notably the County Line Parking area for cross country skiers and recreationists. The work conducted by Delta County adheres to the same standards as the Forest Service road contractors and our Road and Bridge department is fully capable of performing high quality work. Delta County requests that this be removed from the DEIS. [42-7]

Concern: [Seq#247]

Response: [Seq#247]
The Forest Service recognizes the need to coordinate with the Counties during implementation of treatments that involve the use of County roads. See design feature TSHR 6, "Use of private roads, encroachment of public roads and rights-of-way, and other access needs outside Forest Service jurisdiction shall have the proper approval or authorization in place prior to use."

Associated Comments: [Seq#247]
County Roads In accordance with the Mesa County Road Access Policy, we require a Notice of Intent (NOI) to access county roads. Mesa County requires an access permit for any new access or change in use of an access to and from county roads. Additional county permits that may be required include: grading, building, and surface disturbance permits for work within county rights-of-way. Mitigation for potential road impacts should be coordinated with any energy development or other heavy vehicle and high traffic projects. This appears especially relevant east of Vega Reservoir and on the Grand Mesa slopes. [6-18]

Concern: [Seq#251]

Response: [Seq#251]

Based on the changes we have made between the draft and final EIS, we now have identified the road system needed to treat the proposed treatment units. With respect to the section of the DEIS the commenter cites, we agree the assumption is inaccurate and have made the correction in the watershed section of Chapter 3 in the FEIS.

Associated Comments: [Seq#251]
Page 107, "Salvage harvest removes trees from larger areas and generally requires more new roads, skid trails, skid roads, and road-stream crossings than resiliency harvesting.'' This statement does not match the tables provided on p 55 and 63, which show the exact same number of new roads and road reconstruction. Additionally, since actual harvesting units have not been identified, it is impossible to make this statement. [97-32]

H-1.4: Air Quality/Climate Change/Carbon Sequestration Concerns

Air Quality

Concern: [Seq#272]

Response: [Seq#272]
MOVES2014 was used for estimating equipment use emissions.

Associated Comments: [Seq#272]
Air Quality Modeling: The Draft EIS references the U.S. EPA's Motor Vehicle Emissions Simulator as MOVES2014b that was used for generating equipment emissions factors in the analysis. Please note that there was an earlier version of this model called MOVES2010b. However, the most recent version is MOVES2014. Please clarify in the Final EIS which version was used for the analysis. Although MOVES2010b can currently be utilized for NEPA purposes since it's within the 2-year grace period of the release date, the latest version of MOVES2014 is recommended for new projects coming online as it includes updated information helpful for analysis. [7-10]

Concern: [Seq#274]
Response: [Seq#274]
Natural gas development will be added to the list of area emission sources and will be considered in state and county level emission inventories and disclosure of cumulative effects in the FEIS.

The sentence that is referred to in the first comment paragraph above will be removed: "Currently there are no exceedances of the NAAQS in the vicinity of the project area." DEIS at 136. The statement is misleading because it was meant to show that the state planning regions in and around the SBEADMR

project are currently in NAAQS attainment. We reviewed the latest available Colorado Air Quality Data Report, dated 2013, to be certain that air quality conditions have not significantly changed in and around the SBEADMR project area since the project air quality analysis was first completed in September, 2014. For Central Mountains, San Luis Valley and Western Slope Regions all of these areas currently comply with NAAQS (new reference CAQDR 2013 replaces CAQDR 2012).

An exceedance of a NAAQS is defined in 40 CFR § 50.1(I) as …"one occurrence of a measured or modeled concentration that exceeds the specified concentration level of such standard for the averaging period specified by the standard. A violation of the NAAQS consists of one or more exceedances of a NAAQS. The precise number of exceedances necessary to cause a violation depend on the form of the standard and other factors, including quality of the data, defined in federal rules such as 40 CFR § 50 (new reference CAQDR 2013 replaces CAQDR 2012).

On October 26, 2015, the EPA changed the 8 hour ozone standard from 0.075 ppm to 0.070 ppm, and areas in Colorado may be reclassified to nonattainment. However, currently, no areas in and around the SBEADMR project are classified as nonattainment. We reviewed the EPA's air quality monitoring data from 2010 – 2014 and found that while there have been exceedances of NAAQS in the SBEADMR area, these exceedances have not triggered moving state planning regions from attainment into nonattainment. The DEIS discussion about PM10 exceedances (DEIS at 149) and ozone (DEIS at 152) will be updated to include recent data.

Concerning the comments claiming SBEADMR project prescribed burning will cause exceedances of NAAQS, state regulations are designed to prevent such exceedances. The Colorado Air Pollution Control Division implements the state's air management programs and enforces compliance with the NAAQS, PSD increments, and regulates smoke emissions from prescribed burning in accordance with Colorado State Regulation 9 (Open Burning, Prescribed Fire, and Permitting). GMUG fire managers will coordinate with the State and follow rules to protect air resources including obtaining and following prescribed burning smoke permits (Planned Ignition Fire Permits). The permit application contains estimates of smoke production, mitigation measures, and notification processes. If necessary, smoke monitors will be used for public safety. The application must demonstrate that the planned ignition fire can and will be conducted in a manner that minimizes the emissions from the burn and the impacts of the smoke on visibility and on the health and welfare of the public. The following are permit stipulations found in Regulation 9 that fire managers are required to submit to the Division before a prescribed burning smoke permit is issued:

V. Planned Ignition Fire Permits

D. The Division or authorized local agency shall consider the following factors in determining whether, and upon what conditions, to issue a planned ignition fire permit:

- Whether all conditions required for general open burning permit applications pursuant to Section IV of this regulation has been met;

- Whether the applicant evaluated the use of non-burning fuel treatments in place of the proposed burn;
- The location of the proposed burn and smoke-sensitive areas and class I areas that might be impacted by the smoke and emissions from the burn;
- The meteorological conditions under which the applicant proposes to conduct the burn and the measures that the applicant will take to ensure that the burn will be conducted only during those identified meteorological conditions, including coordination with appropriate sources of meteorological information on the day preceding ignition;
- The smoke risk rating for the proposed burn;
- The smoke mitigation techniques proposed;
- Whether the applicant has demonstrated, through an emissions and smoke generation projection based on a model approved by the Division, the conditions under which the proposed prescribed fire will be conducted and that the applicant will protect scenic and/or important vistas and visibility in class I areas, will minimize the impacts of emissions and smoke and will not cause a violation of any ambient air quality standards;
- Whether the applicant will conduct the burn in accordance with a smoke management plan or narrative that requires:
- a. That best smoke management methods will be used to minimize or eliminate smoke impacts at smoke-sensitive receptors;
- That the burn will be scheduled outside times of significant visitor use in smoke-sensitive receptor areas that may be impacted by smoke and emissions from the fire;
- A monitoring plan to allow appropriate evaluation of smoke impacts at smoke-sensitive receptors;
- That smoke management contingency measures will be taken if unacceptable smoke impacts occur at smoke-sensitive receptors; and
- That measures will be taken to notify the public in smoke-sensitive areas at least twenty-four hours, and not more than 120 hours, in advance of the planned ignition of the fire regarding the location, expected duration and projected smoke impacts from the fire.

9. Whether the applicant has demonstrated that the proposed burn will conform to all requirements of the state implementation plan; and

10. Whether the actual burn activity that occurs will be reported to the Division or authorized local agency on forms approved by the Division.

In order to protect human health and safety prescribed burning operations are required by state law to obtain and follow the stipulations in Planned Ignition Fire Permits.

Fire managers are required to burn only when authorized by the CDPHE and must meet numerous smoke permit requirements including contains estimates of smoke production, mitigation measures, notification of the public and CDPHE, ignition timing, ventilation objectives (transport winds and mixing heights), smoke contingency planning and implementation of best management practices. Burning may not occur when an ozone alert is in effect for the area of the burn (Colorado Air Pollution Control Division, Prescribed Fire Smoke Permits, Use of Ozone Alert Information Memorandum, 8/5/10).

Concerning SBEADMR project estimated equipment emissions, annual estimated emissions inventories are useful for comparing emissions from various sources. The National Emissions Inventory (NEI) is a comprehensive and detailed estimate of air emissions of both Criteria and Hazardous air pollutants from all air emissions sources and last updated in 2011. The NEI is prepared every three years by the EPA based primarily upon emission estimates and emission model inputs provided by State, Local, and Tribal air agencies for sources in their jurisdictions, and supplemented by data developed by the EPA. In Colorado, the CDPHE last updated the state wide inventory in 2013.

Associated Comments: [Seq#274]

Our first concern is the Forest Service's failure to account for National Ambient Air Quality Standards ("NAAQS") exceedances in and adjacent to the proposed project area. SBEADMR states that "[c]urrently there are no exceedances of the NAAQs in the vicinity of the project area." DEIS at 136. The list provided in this same paragraph does not list perhaps the largest air quality degrader in the region: natural gas development. DEIS at 136. The failure to list natural gas raises a significant question of whether these impacts were accounted for at all in the Forest Service's air quality cumulative impacts analysis. Collectively these two statements demonstrate the need for the Forest Service to revamp its air quality section. For example, based on an expert report conducted regarding the proposed BLM Bull Mountain Master Development Plan in the Upper North Fork Valley (directly adjacent and surrounded by proposed SBEADMR project area), we know that background concentrations of ozone and PM10 in at least this area of the GMUG, "are at or exceed the NAAQS and leave virtually no room for additional growth in emissions."42 Moreover, "[v]isibility in nearby Class I areas is already impaired."43 Ozone data recorded from 2011 to 2013 demonstrates high ozone concentrations in areas such as Gothic, McClure Pass, Grand Mesa, and Flattops #3 that exceeded the higher end of the range of concentrations proposed by EPA in 2014 (60-70 ppb).44 Accordingly, the Forest Service's statement that "[t]he project area is not in an airshed with monitored high winter-time ozone concentrations" does not address the actuality that within the proposed project area there have been ozone exceedances (or close to it). This must be addressed regardless of what season it may have occurred. Comparing Table 2 of this Report for PM10 to the short discussion of this in the DEIS at 149-150 raises a question of whether the Forest Service's statement that there has only been one such exceedance is true.... From what we can tell, the Forest Service's does not acknowledge the most recent and best available data on NAAQS in this area (as demonstrated by citing the 2007 Land Resource Management Plan Amendment that was never adopted). It also does not take into account the size and scale of proposed natural gas in the area that

would greatly affect air quality in the Upper North Fork Valley, which would also likely affect Class I Airsheds like the West Elk Wilderness, Snowmass- Maroon Bells Wilderness, as well as air quality for this area of the GMUG.45 More than a mere sentence noting that development of natural gas "could increase emissions" is required. NEPA expects reasonable forecasting of direct, indirect, and cumulative impacts, an analysis that is currently lacking for air quality. Thus, the Forest Service's attempt to dodge this requirement in determining effects by claiming that "[t]herefore the amount of emissions the equipment would produce would be insignificantly small and generally unknowable because we do not know exactly where, when and how many acres would be treated, the number of and types of vehicles/equipment that would be used, miles driven and their hours of operation" does not relieve the Forest Service of its legal obligations. DEIS at 157 (emphasis added).... 42 Memorandum from Megan Williams, Air Quality Consultant to Alli Melton, High Country Conservation Advocates and Jim Ramey, Citizens for a Healthy Community, Air Quality Review of the Bull Mountain Unit Master Development Plan Draft Environmental Impact Statement (MDP DEIS), Apr. 14, 2015 (hereinafter "Report") Exhibit 17. 43 Id [22-54]

Concern: [Seq#275]
Response: [Seq#275]
Existing, proposed, and reasonable foreseeable activities affecting NAAQS criteria pollutant and GHG emissions will be addressed in the FEIS cumulative effects section. Concerning ozone please see the response to 22-54; 122.01 Cumulative Effects Analysis.

The SBEADMR EIS is landscape in scale adaptive in scope. Smoke dispersion modeling is not required by the State of Colorado for prescribed burning permitting, however emissions estimates are required:

Whether the applicant has demonstrated, through an emissions and smoke generation projection based on a model approved by the Division, the conditions under which the proposed prescribed fire will be conducted and that the applicant will protect scenic and/or important vistas and visibility in class I areas, will minimize the impacts of emissions and smoke and will not cause a violation of any ambient air quality standards (CDPHE 9, V. Planned Ignition Fire Permits, D. 7.) DEIS at 134.

Prescribed burning would occur at higher elevations above most communities in an adjacent to the GMUG and day time smoke plumes would predominately be blown by transport winds aloft towards the east. The elevation of smoke plumes above ground level is determined by mixing heights that are highest above ground level during warm summer days, and lowest during cold winter conditions and at night. Storm or cold fronts moving through the region create windy conditions that, while good for smoke dispersal, present prescribed burning control problems that constrain burning opportunities. Therefore, the vast majority of broadcast/underburning and slash pile burning would occur during clear high pressure conditions when mixing heights and transport winds would be the predominate factors affecting smoke dispersal. Winter time burning of slash piles when there is snow on the ground can be done under windier conditions better for smoke dispersal because snow would prevent surface fire spreading and fire escaping from prescribed burn units. Most smoke impacts to smoke sensitive areas

would occur during night time and early morning hours when smoke pools in drainages and low lying areas such as valleys where most people occupy homes. Night time and early morning inversions can create a cap that holds smoke close to the ground until the inversions breakdown after sun rise when the earth warms. People living in smoke sensitive areas will most likely smell smoke at night and during early morning hours.

In order to protect human health and safety, and prevent NAAQS exceedances, prescribed burning operations are required by state law to obtain and follow the stipulations in Planned Ignition Fire Permits.

Fire managers are required to burn only when authorized by the CDPHE and must meet numerous smoke permit requirements including estimates of smoke production, mitigation measures, notification of the public and CDPHE, ignition timing, ventilation bjectives (mixing heights and transport winds), smoke contingency planning and implementation of best management practices. Burning may not occur when an ozone alert is in effect for the area of the burn (Colorado Air Pollution Control Division, Prescribed Fire Smoke Permits, Use of Ozone Alert Information Memorandum, 8/5/10). CDPHE Regulation 9 requires fire managers to use the Pile Standard Permit Condition Worksheet as a guideline. Smoke dispersal requirements increase as the amounts of slash pile materials increase and as burning operations occur closer to homes. DEIS at 131.

In the FEIS the following statements compare Alternative 3 (WUI) to Alternative 2 (Proposed Action):

- Equipment emissions would be about 20% more PM10 and 26% more NOX compared to Alternative 2.
- Under Alternative 3 prescribed burning would take place in the WUI and in road and utility corridors. Compared to Alternative 2, there would be 3,000 less acres of commercial salvage, 1,200 more acres of commercial resiliency, and 3,000 more acres in the Adapted Treatment Type commercial salvage category. There would be 2,500 more acres of non-commercial mechanical treatment hand pile burning and 5,000 less acres of aspen and mixed vegetation broadcast burning. There would be about 1,800 less acres of incidental vegetation broadcast/underburning.
- Prescribed fire smoke emissions from commercial and non-commercial treatments would be about 6-12% more for PM10 compared to Alternative 2.
- Prescribed fire smoke emissions from aspen broadcast burning would be about 20-32% less of PM10 and 20% less of NOX compared to Alternative 2.
- Under Alternative 3, priority treatment areas were analyzed to determine the optimal location for firelines and an estimated 4,669 acres of non-spruce/aspen could be treated compared to 6,478 acres under Alternative 2. Prescribed fire smoke emissions from broadcast/underburning incidental vegetation types would be about 27-31% less for PM10 and 25-27% less NOX compared to Alternative 2.

- Compared to Alternative 2, there would be about 22% less PM10 and 21% less NOX total project emissions primarily due to the reduction of aspen broadcast burning that would occur.

Associated Comments: [Seq#275]
Regarding the analysis of specific Alternatives, the DEIS does not sufficiently address direct, indirect, and cumulative effects that each action Alternative may have. For example, even if "[d]irect and indirect effects [of Alternative 3] would be very similar to or the same as Alternative 2," because "all prescribed burning would occur in the WUI and/or in road corridors" the potential locations for such activities is different, likely making them closer to communities. DEIS at 163. This seems to suggest that direct and indirect effects may very likely vary between these two Alternatives in their impact on human health, visibility, and other resources. For Alternative 4, we do not find any analysis regarding the different effects it would have even though the DEIS notes that spruce recovery treatment acres would increase. We also ask that the Forest Service clarify the amount of medium slash piles this Alternative would create as it is not clear whether the 42,000- 58,000 stated increase of such piles is before or after subtracting what is stated to be 88,200- 132,300 fewer medium slash piles in comparison to the other two action Alternatives. DEIS at 165. For all Action Alternatives (2-4) rather than a statewide percentage that would result, we ask that the Forest Service determine what the regional effect would be for the activities proposed under SBEADMR alone and then in concert with other existing, proposed, and reasonable foreseeable activities on and adjacent to the GMUG that would have impacts to air quality. This should include but is not limited to: coal mining and methane drainage wells, natural gas extraction, other proposed timber treatments, as well as including harvest and controlled burns. The Forest Service needs to substantially address the issues and inconsistencies noted above for its air quality analysis. This includes the inconsistencies the DEIS has when compared to the Report that analyzed air quality in areas within and adjacent to the proposed project. We specifically request that the Forest Service address the inconsistencies between the Report's findings for ozone and PM10 to what the DEIS concluded regarding these two pollutants (including direct, indirect, and cumulative impacts and such impacts on the surrounding Class I Airsheds identified in the DEIS on page 130). We ask that ozone be specifically addressed in the final EIS, as it is only generally discussed in the DEIS and excluded from the Tables provided in the direct and indirect effects section of the DEIS. [22-55]

Concern: [Seq#280]
Response: [Seq#280]
Prescribed burning would occur at higher elevations above most communities in an adjacent to the GMUG and day time smoke plumes would predominately be blown by transport winds aloft towards the east. The elevation of smoke plumes above ground level is determined by mixing heights that are highest above ground level during warm summer days, and lowest during cold winter conditions and at night. Storm or cold fronts moving through the region create windy conditions that, while good for smoke dispersal, present prescribed burning control problems that constrain burning opportunities. Therefore, the vast majority of broadcast/underburning and slash pile burning would occur during clear high pressure conditions when mixing heights and transport winds would be the predominate factors affecting smoke dispersal. Winter time burning of slash piles when there is snow on the ground can be

done under windier conditions better for smoke dispersal because snow would prevent surface fire spreading and fire escaping from prescribed burn units. Most smoke impacts to smoke sensitive areas would occur during night time and early morning hours when smoke pools in drainages and low lying areas such as valleys where most people occupy homes. People living in smoke sensitive areas will most likely smell smoke at night and during early morning hours.

In order to protect human health and safety prescribed burning operations are required by state law to obtain and follow the stipulations in Planned Ignition Fire Permits.

Fire managers are required to burn only when authorized by the CDPHE and must meet numerous smoke permit requirements including estimates of smoke production, mitigation measures, notification of the public and CDPHE, ignition timing, ventilation objectives (mixing heights and transport winds), smoke contingency planning and implementation of best management practices. CDPHE Regulation 9 requires fire managers to use the Pile Standard Permit Condition Worksheet as a guideline. Smoke dispersal requirements (mixing heights and transport winds) increase as the amounts of slash pile materials increase and as prescribed burning operations occur closer to homes. There would be more prescribed burning constraints under Alternative 3 (WUI), as more burning would take place closer to occupied homes. Burning may not occur when an ozone alert is in effect for the area of the burn (Colorado Air Pollution Control Division, Prescribed Fire Smoke Permits, Use of Ozone Alert Information Memorandum, 8/5/10).

Associated Comments: [Seq#280]
Air Quality (pages 129-169) On page 163, it states that under Alternative 3, in terms of air quality, "direct and indirect effects would be similar to or the same as Alternative 2." This statement directly conflicts with language on page 162-163 that states "most smoke impacts occur during the night time and early morning hours when smoke pools in drainages and low lying areas such as valleys where most people occupy homes." Alternative 3 should discuss the fact that it will be harder to mitigate smoke impacts when all of the required burning will take place within the WUI, because that is what is being treated. Additionally, Alternative 3 is projected to treat more CCF, which equates to potentially more emissions, thus having more impact than Alternatives 2 and 4. [97-36]

Concern: [Seq#281]
Response: [Seq#281]
The sentence quoted from page 157 reads: “There are no proposed management activities under Alternative 1. Therefore, no changes to air quality would result from the implementation of the No Action Alternative.” In other words, there are no direct effects to air quality from the No Action Alternative. However, as noted on page 149, there are indirect effects - delayed in time, different in space - of No Action, such as a potential for wildfires more proximal to the WUI and, therefore, more smoke impacts close to smoke sensitive areas. And continuing DEIS at 157, regarding the cumulative effects: “With respect to ongoing and reasonably foreseeable actions that could result in cumulative impacts to air quality, prescribed burns authorized by other decisions in the project area would result in short-term smoke and its associated PM10 emissions. In addition, increased population growth near the

GMUG results in increased emissions from transportation both on and off Forest System lands, as well as more wood-burning."

See also DEIS at 156.

Associated Comments: [Seq#281]
Page 157, "Therefore, no changes to air quality would result from the implementation of the No Action Alternative." This statement contradicts written text from page 149,"However, under the No Action Alternative, healthy and human safety impacts from wildfire smoke may be higher than the other alternatives." [97-38]

Climate Change Analysis

Concern: [Seq#273]
Response: [Seq#273]
The EIS considered both climate change adaptation and greenhouse gas mitigation. The analysis is commensurate with the Council on Environmental Quality (CEQ) 2014 draft guidance for NEPA and climate change, as well as the USFS guide for considering climate change in project-level analysis.

There are qualitative and quantitative analyses throughout the EIS. The EIS estimated and disclosed GHG emissions and put them in the context of State and National levels. These are helpful ways to display this project in a larger picture for general public information. It is not intended to demonstrate that there will be no impact to GHG emissions, or that this project is somehow exempt of climate change considerations. The analysis discloses likely emissions as well as likely carbon sequestration from vegetation management activities.

In order to conduct prescribed burning operations the GMUG is required by state law to obtain and follow the stipulations in Planned Ignition Fire Permits. The agency must show whether the applicant evaluated the use of non-burning fuel treatments in place of the proposed burn in order to reduce smoke emissions and in doing so would reduce GHG as well. (CADPHE, CAQCC, Regulation 9.V.D.2.)

Colorado State Executive Order D00408, Reducing Greenhouse Gas Emissions in Colorado, was signed by Bill Ritter in 2008 and declares the state's greenhouse gas reduction goals, directing the Colorado Department of Public Health and Environment ("CDPHE") to develop regulations mandating the reporting of greenhouse gas emissions for major emitters, requesting the Public Utilities Commission to require utilities to submit electric resource plans for meeting greenhouse gas reduction goals, and directing CDPHE to propose, after a full vetting process and within 24 months, regulations requiring reduced greenhouse gas emissions from passenger motor vehicles. The Executive Order does not apply to the SBEADMR project.

Colorado incorporated the EPA's Tailoring Rule revisions into Air Quality Control Commission (CDPHE) Regulation No. 3 on October 21, 2010. Effective January 2, 2011, GHG became subject to regulation for prevention of significant deterioration (PSD) from stationary sources. Beginning July 1, 2011, any

stationary source with the potential to emit greater than 100,000 tons per year (tpy) CO2e may be required to obtain a Title V operating permit and/or a PSD preconstruction permit. Prescribed burning is an area source, not stationary, and is exempt from the rule.

Associated Comments: [Seq#273]
Greenhouse Gas (GHG) Emissions and Climate Change: We appreciate the discussion of climate change and the inclusion of GHG emissions inventories in the Draft EIS. We note that the exact locations for treatments have yet to be determined, and the Draft EIS states that net effects of the project on greenhouse gases is unknown given carbon sequestration from forest regeneration and vegetation growth. The Draft EIS references the Council on Environmental Quality (CEQ) December 2014 Revised Draft Guidance for Federal Agencies' Consideration of GHG Emissions and Climate Change. We believe the Draft Guidance offers a reasonable approach for conducting analyses of GHGs and climate change impacts. This approach allows an agency to present the environmental impacts in clear terms and with sufficient information to make a reasoned choice between the no-action and alternatives and mitigation. We note that the Draft EIS compares the GHG emissions to state and national emissions; we believe this approach does not provide meaningful information for a planning level analysis. We recommend that the NEPA analyses provide a frame of reference, such as an applicable federal, state, tribal or local goal for GHG emission reductions, and discuss whether the emissions levels are consistent with such goals. [7-11]

Concern: [Seq#276]
Response: [Seq#276]
Thank you for pointing out the discrepancy in the Global Warming Potential (GWP) for methane and corrections have been made in the FEIS. However, this does not meaningfully change the analysis, because there is no attempt to analyze and disclose full carbon accounting for the project.

The Environmental Protection Agency incorporates the most recent IPCC assessment and suggests a GWP of 28-36 over 100 years. Carbon dioxide equivalents (CO2e) is a metric used to compare the emissions from various greenhouse gases based upon their global warming potential (GWP). For instance, over a 100 year period the GWP of methane (CH4) is estimated to be about 28-36 times greater than carbon dioxide (CO2), so its carbon dioxide equivalent (CO2e) is 28-36. The carbon dioxide equivalent (CO2e) of nitrous oxide (NOX) is 298 (EPA 2015a).

The EIS considered both climate change adaptation and greenhouse gas mitigation. There are qualitative and quantitative analyses throughout the EIS. The EIS estimated and disclosed GHG emissions and put them in the context of State and National levels. These are helpful ways to display this project in a larger picture for general public information. It is not intended to demonstrate that there will be no impact to GHG emissions, or that this project is somehow exempt of climate change considerations. The analysis discloses likely emissions as well as likely carbon sequestration from vegetation management activities. The analysis is commensurate with the Council on Environmental Quality (CEQ) 2014 draft guidance for NEPA and climate change, as well as the USFS guide for considering climate change in project-level analysis.

Associated Comments: [Seq#276]

THE DEIS DOES NOT TAKE A HARD LOOK AT CLIMATE CHANGE. In many ways, the genesis and need for this project is both a direct consequence of and response to the impacts of climate change. This is recognized by the agency throughout the DEIS, and in particular in summary statements defining the scope of the project, including, for example: The SBEADMR project proposes to treat spruce and aspen forests impacted by the ongoing spruce beetle epidemic and by sudden aspen decline (SAD), as well as those areas that are considered high risk for spruce beetle or SAD across the GMUG National Forests. . . . While insects and disease naturally occur in these ecosystems, prolonged drought and unusually high temperatures have exacerbated these disturbances. The rate of change in tree mortality is extensive, and both the bark beetle infestation and SAD outbreak are likely to continue for several more years…. Furthermore, in the context of a changing climate conducive to more frequent and extensive wildfires in forests at high elevation irrespective of tree condition, desired conditions for fire and fuels management include more locations across the landscape from which firefighters can safely and effectively manage or suppress fires for values at risk and/or resource benefit. DEIS at iv. [T]hese disturbances are occurring in the context of a changing climate. Over the past 100 years, Southwestern Colorado temperatures have increased, and modeled climate projections for the region include warmer and longer frost-free summers, snowline moving up in elevation, earlier snowmelt, and consequently, a longer fire season. Due to predicted warming, spruce beetle outbreaks could be more likely in the future. Higher summer temperatures can foster spruce beetle outbreaks by allowing beetles to reproduce every year rather than every two years. Additionally, anticipated more frequent drought conditions place water-stressed stands at greater risk of insect and disease. Climate changes could lead to larger fires and possibly fire with more high-severity area than in previous decades. DEIS at 3. Despite this, the Forest Service's analysis of climate change in the DEIS is largely inadequate, relying on statement such as: "Currently there are no national or state legal requirements concerning the analysis of or compliance with any GHG emissions or sequestration regulations for projects such as SBEADMR[,]" while simultaneously recognizing both Forest Service and CEQ guidance directing the agency to consider the potential effects, estimated GHG emissions, and implications of climate change for the environmental effects of a proposed action. DEIS at 134. If we are to stem the impacts of climate change and manage for sustainable ecosystems, not only must the agency take a hard look at greenhouse gas ("GHG") emissions stemming from the development it authorizes, but the agency's decision must be reflective of the challenges we face. Here, the agency provides important recognition both the scientific consensus on climate change, as well as the associated impacts that climate change will have on the planning area. For example: In the western U.S., elevated temperatures and decreased precipitation is expected to lead to drought conditions that will exacerbate stress complexes that include fire and insect disturbance. Insect infestations are expected to affect more land than wildfire on an annual basis. Higher tree mortality, slower regeneration, and changes in the mix of tree species may result from these disturbances. While short-term effects will depend upon the amount of area affected, the cumulative impact of disturbances may turn western forests from a carbon sink into a source of atmospheric carbon. Due to expected increases in dry weather, especially drought, more cases of SAD are expected. Suitability for aspen in the Southern Rockies is expected to deteriorate rapidly through the rest of the century, though some new areas may emerge as suitable habitat. Aspen forests, like other forest types, store considerable carbon

in above and belowground biomass (and especially for aspen, in the soil). As stands mature and regenerate, there is a cycle of carbon release and sequestration with a high net storage of carbon. If aspen forests are replaced by shrub or meadow communities with lower carbon storage capacities, the difference will contribute to atmospheric CO2. Aspen mortality episodes in the aspen parkland of Alberta and Saskatchewan and in southwestern Colorado are expected to result in significant carbon release and positive feedbacks to climate change. DEIS at 142. Remarkably, however, the GMUG fails to actually apply these recognized impacts on its analysis to other resource values in the planning area. See CEQ Climate Guidance at 8 ("Federal agencies, to remain consistent with NEPA, should consider the extent to which a proposed action and its reasonable alternatives contribute to climate change through GHG emissions and take into account the ways in which a changing climate over the life of the proposed project may alter the overall environmental implications of such actions."). This type of dismissive approach fails to satisfy the guidance outlined in Department of Interior Secretarial Order 3226, Forest Service and CEQ guidance, or the requirements of NEPA. "Reasonable forecasting and speculation is . . . implicit in NEPA, and we must reject any attempt by agencies to shirk their responsibilities under NEPA by labelling any and all discussion of future environmental effects as 'crystal ball inquiry.'" Save Our Ecosystems v. Clark, 747 F.2d 1240, 1246 n.9 (9th Cir. 1984 (quoting Scientists' Inst. for Pub. Info., Inc. v. Atomic Energy Comm., 481 F.2d 1079, 1092 (D.C. Cir. 1973)). The DEIS quantifies the GHG emissions from this project. The GMUG identifies total carbon dioxide ("CO2") emissions of 2,172,531 tons over the 10-year life of the project, and 9,876 tons of methane ("CH4").72 This results in 2,212,977 tons of total CO2e, for annual emissions of 221,298 tons of CO2e. See CEQ Climate Guidance at 18 (providing a reference point of 25,000 MTCO2e as the point when such quantitative analysis of emissions should be provided). Our concern with methane is particularly acute because, as here, the GMUG uses a scientifically stale global warming potential ("GWP") of 21 for methane on the basis, as we understand it, of EPA's use of the Intergovernmental Panel on Climate Change's ("IPCC's) 1997 Second Assessment Report ("AR2").73 See DEIS at 137. Even though EPA has since taken action to update methane's warming potential based on the Fourth Assessment Report ("AR4")74, wherein methane's 100-year warming potential is pegged at 25, federal agencies, like the GMUG, still adopt EPA's old, outdated, scientifically stale warming potential of 21. Moreover, the IPCC has issued a new report, the 2013 Fifth Assessment Report ("AR5"), which supersedes both the AR2 and AR4 reports. The IPCC AR5 explains that fossil methane, over a 100- year time frame and accounting for climate-carbon feedbacks, is 36-not 21 or 25-times as potent as carbon dioxide.75 Over a 20-year time frame, which EPA does not even acknowledge, and again accounting for climate-carbon feedbacks, the IPCC's AR5 report explains that methane's warming potential is 86 times as potent as carbon dioxide.76 Regarding the difference between the 100- and 20-year warming periods, the IPCC AR5 report explains "there is no scientific argument for selecting 100 years [time frame for GWPs] compared with other choices."77 While both the 100- year or 20-year time frames should be accounted for in NEPA analyses (in particular because it involves a simple calculation), we emphasize the 20-year time frame to underscore the importance of near-term GHG reduction opportunities78 and to better align GHG emissions assessments with the lifetime of Federal projects.... Here, not only does the agency cite dated GWP estimates for methane of 21 times the warming potential of CO2, DEIS at 137, but the GMUG also relies on the 100-year time period for these estimates, which fails to recognize the urgency of the climate problems we face. Quite

simply, we do not have a century to make the necessary changes. Many climate effects are projected before the end of the century, and, as recognized in the DEIS and inherent to this project, are already occurring. By looking only at the 100-year figure, the GMUG's analysis ignores costs that accrue in the interim. Methane emissions factor heavily into how we will address greenhouse gas pollution in the near term. Indeed, the IPCC projects that warming increases may reach 3.6°F (2°C) within decades.79 It's possible that we will experience this additional average heat well before mid- century. The dramatic climate impacts we've seen to date come from an increase of only about 1.5°F.80 The dire reality we face was again reiterated in the IPCC's Climate Change 2014 Synthesis Report (attached as Exhibit xx), concluding: Human influence on the climate system is clear, and recent anthropogenic emissions of greenhouse gases are the highest in history. Recent climate changes have had widespread impacts on human and natural systems. Continued emission of greenhouse gases will cause further warming and long- lasting changes in all components of the climate system, increasing the likelihood of severe, pervasive and irreversible impacts for people and ecosystems. Limiting climate change would require substantial and sustained reductions in greenhouse gas emissions which, together with adaptation, can limit climate change risks. Nevertheless, the GMUG fails to provide any quantitative analysis of these emissions, providing: "Implementation of Alternative 2 would produce average annual GHG emissions from prescribed burning of about 0.06-0.12% the amount of estimated GHG that will be produced in Colorado in 2020, and 0.0015-0.0029% of estimated GHG emissions estimated to have been produced in the U.S. 2012[,]" before further concluding that "[t]he net effects of SBEADMR on greenhouse gases, given carbon sequestration from forest regeneration and vegetation growth, is unknown." DEIS at 162; see CEQ Climate Guidance at 6 n.11 ("For example, providing a paragraph that simply asserts, without qualitative or quantitative assessment, that the emissions for a particular proposed action represent only a small fraction of local, national, or international emissions or are otherwise immaterial is not helpful to the decisionmaker or the public."). As recognized by CEQ's Climate Guidance at 5-6: "It is essential, however, that Federal agencies not rely on boilerplate text to avoid meaningful analysis, including consideration of alternatives or mitigation." Citing 40 C.F.R. §§ 1500.2, 1502.2. [22-66]

Concern: [Seq#277]

Response: [Seq#277]

The agency does not consider full quantitative estimates of GHG emissions and sequestration to be useful in this analysis for a project designed to promote forest resiliency and adapt to stressors, including climate change impacts. Emissions were considered and disclosed for some aspects of the proposed treatment, but no attempt was made to model or estimate the total carbon budget, which would include aspects like enhanced carbon sinks from healthy forests and sequestration in wood products. The analysis includes programmatic analyses of carbon, including major forest carbon pools (EIS, p. 139); carbon balance of U.S. forest sector (EIS, p. 141); carbon density in the Rocky Mountain Region (EIS, p. 144), and others.

The EIS considered both climate change adaptation and greenhouse gas mitigation. There are qualitative and quantitative analyses throughout the EIS. The EIS estimated and disclosed GHG emissions and put them in the context of State and National levels. These are helpful ways to display this project in a larger picture for general public information. It is not intended to demonstrate that there will be no impact to GHG emissions, or that this project is somehow exempt of climate change considerations. The analysis discloses likely emissions as well as likely carbon sequestration from vegetation management activities. The analysis is commensurate with the Council on Environmental Quality (CEQ) 2014 draft guidance for NEPA and climate change, as well as the USFS guide for considering climate change in project-level analysis.

Associated Comments: [Seq#277]

In discussing the project's climate change impacts, it is insufficient for the GMUG to only frame the problem in global terms: CEQ recognizes that many agency NEPA analyses to date have concluded that GHG emissions from an individual agency action will have small, if any, potential climate change effects. Government action occurs incrementally, program-by-program and step-by-step, and climate impacts are not attributable to any single action, but are exacerbated by a series of smaller decisions, including decisions made by the government. Therefore, the statement that emissions from a government action or approval represent only a small fraction of global emissions is more a statement about the nature of the climate change challenge, and is not an appropriate basis for deciding whether to consider climate impacts under NEPA. Moreover, these comparisons are not an appropriate method for characterizing the potential impacts associated with a proposed action and its alternatives and mitigations. This approach does not reveal anything beyond the nature of the climate challenge itself: the fact that diverse individual sources of emissions each make relatively small additions to global atmospheric GHG concentrations that collectively have huge impact. CEQ Climate Guidance at 9. Therefore, even though climate change emissions this project looks minor when viewed on the scale of the global climate crisis we face, when considered cumulatively with all of the other GHG emissions from forest service-managed lands, they become significant and cannot be ignored. As recognized in the DEIS: Forested lands across the United States currently serve as a carbon 'sink', offsetting approximately 15% of U.S. emissions from burning fossil fuels in 2012, and from 10 to 20% of U.S. emissions each year. Climate change may affect the ability of forests to continue to store and sequester carbon. Climate change increases the uncertainty of U.S. forests' ability to serve as a "sink" for carbon storage, but management options exist that could buffer the impacts of climate change on forests, and even lead to increased forest carbon storage potential. DEIS at 138. Forest growth and afforestation currently offset approximately 15% of U.S. emissions from burning fossil fuels. This is an enormous ecosystem service; offsetting another ten percent of emissions would require the conversion of one- third of our current U.S. cropland to forest plantations. While individual trees or tracts release some or all of their carbon if harvested, burned, or otherwise disturbed, subsequent forest regrowth will sequester carbon from the atmosphere. DEIS at 139. Our large carbon sink today is a legacy of harvesting and forest conversion that took place in the past. These disturbances released much carbon dioxide (CO2) into the atmosphere decades ago, and the regrowing forest is recovering some of that released CO2 on land that has not been permanently converted to non-forest cover. DEIS at 140. However, as depicted in the graphic below, DEIS at 141 F.20, the collective legacy of human activity on our forests have had a massive

impact on both GHG emissions and our forests sequestration capacity. The decisionmaking, here, must not be made in isolation, and must be reflective of the broader cumulative impacts of agency actions on our public lands. NEPA imposes "action forcing procedures . . . requir[ing] that agencies take a hard look at environmental consequences." Robertson v. Methow Valley Citizens Council, 490 U.S. at 350 (citations omitted) (emphasis added). These "environmental consequences" may be direct, indirect, or cumulative. 40 C.F.R. §§ 1502.16, 1508.7, 1508.8. Even if science cannot isolate each additional projects contribution to these overall emissions, this does not obviate the agency's responsibility to consider this projects contribution to the cumulative impacts in the area. In other words, the GMUG cannot ignore the larger relationship this project will have on the broader climate crisis that we face. Here, while the DEIS listed many of the impacts to the forest from climate change, it failed to actually provide a hard look detailed analysis of impacts. See DEIS at 680; see also Neighbors of Cuddy Mountain v. U.S. Forest Service, 137 F.3d 1372, 1379 (9th Cir. 1998) ("To 'consider' cumulative effects, some quantified or detailed information is required. Without such information, neither the courts nor the public, in reviewing the [agency's] decisions, can be assured that the [agency] provided the hard look that it is required to provide."). If we are to stem climate disaster- the impacts of which we are already experiencing-the agency's decisionmaking, as provided in the DEIS, must be reflective of this reality and plan accordingly. CEQ Climate Guidance provides: "for purposes of this guidance, 'emissions' includes release of stored GHGs as a result of destruction of natural GHG sinks such as forests and coastal wetlands, as well as future sequestration capability." CEQ Climate Guidance at 1, n.1. CEQ Further recommends that "agencies use the projected GHG emissions and also, when appropriate, potential changes in carbon sequestration and storage, as the proxy for assessing a proposed action's potential climate change impacts." Id. at 20 (citing 40 C.F.R. §§ 1502.16, 1508.9). Moreover: [A]gencies should take into account both the short- and long-term effects and benefits based on what the agency determines is the life of a project and the duration of the generation of emissions…. [As an example,] a prescribed burn of forest or grasslands conducted to limit ecosystem destruction through wildfires or insect infestations may result in short-term GHG emissions and loss of stored carbon at the same time that a restored, healthy ecosystem provides long-term carbon sequestration. [22-67]

Concern: [Seq#278]
Response: [Seq#278]
The text from the CEQ draft guidance (December 18, 2014) used by the commenter is incomplete and the complete paragraph states the following concerning analyzing the impacts of this particular project and its contribution to GHG emissions and sequestration potential of the forest (additional text in Italics):

In addressing biogenic GHG emissions, land management agencies should include a comparison of net GHG emissions and carbon stock changes that would occur with and without implementation of the proposed land management actions. This analysis should take into account the GHG emissions (biogenic and fossil), carbon sequestration potential, and the change in carbon stocks that are relevant to decision-making that are relevant in light of the proposed actions and timeframes under consideration. *CEQ recognizes that land management agencies have considered climate impacts and GHG emissions to*

be most important in analyses at a forest or landscape scale, including programmatic NEPA reviews supporting policy or programmatic decisions. In such cases, land management agencies may be able to reasonably conclude that calculating GHG emissions and carbon stocks for site-specific projects (e.g., a proposed forest restoration) would provide information that is not useful to the public and the decision-making process. Rather, as appropriate, site-specific NEPA analyses can incorporate by reference landscape-scale or other programmatic studies or analyses, or tier to NEPA reviews that considered potential changes in carbon stocks (see section V.D., Programmatic – Broad Based – NEPA Reviews, below).

The analysis included a discussion on carbon sequestration and how management and forest processes influence carbon storage and emissions in a variety of carbon pools. There are qualitative and quantitative analyses throughout the EIS. The analysis discloses likely emissions as well as likely carbon sequestration from vegetation management activities. The analysis includes programmatic analyses of carbon, including major forest carbon pools (EIS, p. 139); carbon balance of U.S. forest sector (EIS, p. 141); carbon density in the Rocky Mountain Region (EIS, p. 144), and others. The EIS estimated and disclosed GHG emissions and put them in the context of State and National levels. These are helpful ways to display this project in a larger picture for general public information. It is not intended to demonstrate that there will be no impact to GHG emissions or that this project is somehow exempt of climate change considerations.

Associated Comments: [Seq#278]
It is important to recognize that land management practices such as prescribed burning, timber stand improvements, fuel load reductions, scheduled harvesting, and grazing land management can result in both carbon emissions and carbon sequestration. Id. at 12-13. Here, the GMUG does recognize several options for managing forests for carbon storage, including: * Keep forests as forests (avoid deforestation), including active regeneration of frequent fire forests subjected to crown fires where natural regeneration may take centuries. * Manage forests sustainably for a variety of ecosystem services (maximizing carbon stores on a landscape in the near-term may ultimately lead to more uncertain carbon outcomes, due to an increased risk of fire or disturbance in the mid- to long-term). * Reforest areas where forests historically occurred. * Substitute forest biomass for fossil fuel use, especially forest biomass generated in normal operations, fuels treatment and forest restoration activities. * Promote long-lived forest products such as wood-framed buildings. Long-lived forest products continue to act as carbon stores whereas substitute materials, such as concrete, result in significant carbon emissions. DEIS at 143. The agency continues with a discussion and quantification of sequestration on the GMUG, but, notably, never proceeds in the next critical step of analyzing the impacts of this particular project and its contribution to GHG emissions and sequestration potential of the forest. As recognized by the CEQ: In addressing biogenic GHG emissions, land management agencies should include a comparison of net GHG emissions and carbon stock changes that would occur with and without implementation of the proposed land management actions. This analysis should take into account the GHG emissions (biogenic and fossil), carbon sequestration potential, and the change in carbon stocks that are relevant to decision-making that are relevant in light of the proposed actions and

timeframes under consideration. [22-68]

Carbon Storage

Concern: [Seq#295]

Response: [Seq#295]

It is difficult to forecast, or describe with certainty, all potential end uses for wood or other biomass products. Timber utilized in dimensional lumber, or post and poles, will sequester carbon for the life of that product. Some dimensional lumber might be used for furniture, or structural components for housing or other construction. Wood fiber used for animal bedding, or paper products generally have shorter life cycles, but still sequester carbon. Wood products for pellets or firewood sequester carbon until combustion. These forms of bioenergy often displace traditional fossil fuels, such as coal or natural gas. Sustainably managed forests often regenerate naturally, or through planting and younger stands sequester additional carbon as they grow through photosynthesis.

Associated Comments: [Seq#295]: Page 143, although "Options for Management" is very good and helps explain the importance of forest biomass and forest products in carbon storage, Iam not sure the general public understands exactly what this means and can relate. It could be useful to have a discussion on the various types of wood products that could be produced from the material that will potentially be harvested. For example, while boards will obviously be a main product, others such as wood pellets, compost, animal bedding, biomass for electrical generation, etc. are all possible. [97-37]

Cost of Carbon

Concern: [Seq#125]

Response: [Seq#125]
Some emissions were calculated and disclosed for aspects of the proposal, including machinery emissions and prescribed burning. However, estimating GHG emissions and carbon sequestration for all aspects of this project is not useful in deciding among the alternatives. The purpose and need of this project is not to enhance carbon stocks, or mitigate greenhouse gases. Rather, it proposes management activities to adapt to impacts and make forests more resilient to climate change. It is more useful to focus public input toward describing the impacts of climate change and enhancing forest health.

The analysis includes programmatic analyses of carbon, including major forest carbon pools (EIS, p. 139); carbon balance of U.S. forest sector (EIS, p. 141); carbon density in the Rocky Mountain Region (EIS, p. 144), and others.

The agency does not consider full quantitative estimates of GHG emissions and sequestration to be useful in this analysis for a project designed to promote forest resiliency and adapt to stressors,

including climate change impacts. Emissions were considered and disclosed for some aspects of the proposed treatment, but no attempt was made to model or estimate the total carbon budget, which would include aspects like enhanced carbon sinks from healthy forests and sequestration in wood products.

The social cost of carbon protocol (SCC) was developed by an Interagency Working Group for use in cost-benefit analyses of regulations that impact cumulative global emissions (Technical Support Document: Social Cost of Carbon for Regulatory Impact Analysis Under Executive Order 12866, available at http://www.whitehouse.gov/sites/default/files/omb/inforeg/for-agencies/Social-Cost-of-Carbon-for-RIA.pdf). It is an estimate of the monetized damages associated with an incremental increase in carbon dioxide emissions in a given year. It includes (but is not limited to) changes in net agricultural productivity, human health, property damages from increased flood risk, and the value of ecosystem services due to climate change. This protocol was developed to assist agencies in meeting Executive Order (EO) 12866's requirement to assess costs and benefits during the development of regulations. This project is not a regulation, so EO 12866 is not applicable in this situation.

Land management projects are often difficult to quantify (monetarily, or otherwise), or put in terms that make tradeoffs easily comparable. Therefore, many aspects are often described qualitatively. For example, tree-cutting might lead to negative short-term impacts for soil compaction and wildlife habitat, but might have longer-term benefits that result in healthier forests more resilient to insects, disease, and wildfire. The EIS explicitly recognizes non-market considerations: "Forest management is expected to yield positive benefits, but not necessarily financial benefit" (EIS p. 395). Presenting SCC estimates for a few components of the project– without quantifying all costs and benefits - would be misleading and unhelpful information.

The SBEADMR EIS includes an Economics Section and an evaluation of financial efficiency analysis. This analysis does not attempt to monetize all costs and benefits, but rather provides a comparison of costs and revenues that are part of the agency's monetary transactions (EIS p. 395). The Regional Economic Impact Analysis describes impacts to employment and labor income supported by the forest management activities among alternatives (EIS, p. 414). Under regional economic principles, employment and income effects are considered distributional impacts, or contributions, and are fundamentally distinct from the concept of economic 'benefits'. In fact, Forest Service policy prohibits the inclusion of economic impacts (jobs and income) in financial or economic efficiency analysis (FS directives, FSM 1971.1).

Associated Comments: [Seq#125]

Land management agencies may be able to reasonably conclude that calculating GHG emissions and carbon stocks for site-specific projects (e.g., a proposed forest restoration) would provide information that is not useful to the public and the decision-making process. Rather, as appropriate, site-specific NEPA analyses can incorporate by reference landscape-scale or other programmatic studies or analyses, or tier to NEPA reviews that considered potential changes in carbon stocks. CEQ Climate Guidance at 18. Notably, the CEQ also provides that where "tools or methodologies are available to provide the public and the decisionmaking process with information that is useful to distinguishing between the no-

action and proposed alternatives and mitigations, then agencies should conduct and disclose quantitative estimates of GHG emissions and sequestration." CEQ Climate Guidance at 15; see also 40 C.F.R. § 1508.25(c). One such tool identified by CEQ is the social cost of carbon, which "offers a harmonized, interagency metric that can provide decisionmakers and the public with some context for meaningful NEPA review." Id. at 16. Research conducted by the National Research Council has confirmed the fact that the negative impacts of GHG emissions are not represented in the market price for such generation.81 In other... words, failing to internalize the externalities of GHG emissions-such as the impacts to climate change and human health-has resulted in a market failure that requires government intervention. Executive Order 12866 directs federal agencies to assess and quantify such costs and benefits of regulatory action, including the effects on factors such as the economy, environment, and public health and safety, among others. See Exec. Order No. 12866, 58 Fed. Reg. 51,735 (Sept. 30, 1993).82 The Ninth Circuit has ruled that agencies must include the climate benefits of a significant regulatory action in federal cost-benefit analyses to comply with EO 12866. [T]he fact that climate change is largely a global phenomenon that includes actions that are outside of [the agency's] control . . . does not release the agency from the duty of assessing the effects of its actions on global warming within the context of other actions that also affect global warming. Ctr. for Biological Diversity v. Nat'l Highway Traffic Safety Admin., 538 F.3d 1172, 1217 (9th Cir. 2008) (quotations and citations omitted); see also Border Power Plant Working Grp. v. U.S. Dep't of Energy, 260 F. Supp. 2d 997, 1028-29 (S.D. Cal. 2003) (finding agency failure to disclose project's indirect carbon dioxide emissions violates NEPA). Climate change is the preeminent threat to human health and welfare today, the overwhelming cause of which are human emissions of greenhouse gases. See 74 Fed. Reg. 66,496 (Dec. 15, 2009), Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act. In response to this threat, an Interagency Working Group ("IWG") was formed to develop a consistent and defensible estimate of the social cost of carbon-allowing agencies to "incorporate the social benefits of reducing carbon dioxide (CO2) emissions into cost-benefit analyses of regulatory actions that impact cumulative global emissions."83 In other words, SCC is a measure of the benefit of reducing greenhouse gas emissions now and thereby avoiding costs in the future.84 The charts below depict: (A) dramatically increasing damages from global warming over time, as well as (B) the social cost of these carbon emissions based on 2013 TDS values. [22-69]

Concern: [Seq#296]

Response: [Seq#296]

This project is not a regulation, so EO 12866 is not applicable in this situation. The EIS estimated and disclosed GHG emissions from certain activities and put them in the context of State and National levels. Providing this information does not undermine the contribution of this project to climate change. The purpose and need for action addresses the need for healthy, more resilient forests to better withstand insects, disease, fire, and other climate change stressors.

Associated Comments: [Seq#296]

An agency must "consider every significant aspect of the environmental impact of a proposed action." Baltimore Gas & Elec. Co. v. Natural Resources Defense Council, 462 U.S. 87, 107 (1983)

(quotations and citation omitted). This includes the disclosure of direct, indirect, and cumulative impacts of its actions, including climate change impacts and emissions. 40 C.F.R. § 1508.25(c). The need to evaluate such impacts is bolstered by the fact that "[t]he harms associated with climate change are serious and well recognized," and environmental changes caused by climate change "have already inflicted significant harms" to many resources around the globe. Massachusetts v. EPA, 549 U.S. 497, 521 (2007); see also id. at 525 (recognizing "the enormity of the potential consequences associated with manmade climate change."). Among other things, the agency's analysis must disclose "the relationship between local short-term uses of man's environment and the maintenance and enhancement of long-term productivity[,]" including the "energy requirements and conservation potential of various alternatives and mitigation measures." 42 U.S.C. § 4332(c); 40 C.F.R. § 1502.16(e). As explained by CEQ, this requires agencies to "analyze total energy costs, including possible hidden or indirect costs, and total energy benefits of proposed actions." 43 Fed. Red. 55,978, 55,984 (Nov. 29, 1978); see also Executive Order 13514, 74 Fed. Reg. 52,117 (Oct. 5, 2009) (requiring government agencies to disclose emissions information annually from direct and indirect activities). Failing to perform such analysis undermines the agency's decisionmaking process and the assumptions made. Moreover, the GMUG measures a planning area GHG emissions against a baseline of national and/or global GHG emissions, as discussed above-thereby marginalizing the Proposed Actions contribution to our climate crisis while concluding the agency is powerless to avoid or mitigate such impacts. Indeed, the EPA has also cautioned "against comparing GHG emissions associated with a single project to global GHG emission levels" because it erroneously leads to a conclusion that "on a global scale, emissions are not likely to change" as a result of the project.96 Applying the SCC, as provided above, takes these abstract emissions and places them in concrete, economic[...] terms. It also allows the agency to easily perform the cost-benefit analysis envisioned by EO 12866. Nor can the agency tout the benefits of the project without similarly disclosing the costs. See 40 C.F.R. § 1502.23. Here, Forest Service cites the economic benefits of the project-even using a multiplier to account for broader benefits to the local economy-while failing to discuss the costs. DEIS at 395-96. This type of misleading and one-sided analysis is expressly forbidden. See Hughes River Watershed Conservancy v. Glickman, 81 F.3d 437, 446-47 (4th Cir. 1996) ("it is essential that the EIS not be based on misleading economic assumptions); Sierra Club v. Sigler, 695 F.2d 957, 979 (5th Cir. 1983) (agency choosing to "trumpet" an action's benefits has a duty to disclose its costs). "If a cost-benefit analysis is relevant to the choice among different alternatives being considered, it must be incorporated by reference or appended to the statement as an aid in evaluating the environmental consequences." CEQ Guidance at 16 (citing 40 C.F.R. § 1502.21). The failure to address the externalities and market role of climate change displays the Forest Service's disregard for the CEQ Guidance's recommendation to conduct quantitative analysis for planning area, which, no matter how you quantify it, includes annual emissions over the 25,000 metric tons of CO2e threshold. CEQ Guidance at 18.97 Part of quantitative analysis is monetizing the costs and benefits of agency action. Id. at 16. Here, along with failing to adhere to the CEQ and Forest Service Guidance, the GMUG neglected to comply with Executive Order 12866, which directs federal agencies to assess and quantify the costs and benefits of regulatory action, including the effects on the economy, environment, and public health. Exec. Order No. 12866, 58 Fed. Reg. 51,735 (Sept. 30, 1993). The Ninth Circuit teaches that the inclusion of federal cost-benefit analysis is fundamental to the NEPA process. Ctr. for Biological

Diversity v. Nat'l Highway Traffic Safety Admin., 538 F.3d 1172, 1217 (9th Cir. 2008); see also Border Power Plant Working Grp. v. U.S. Dep't of Energy, 260 F. Supp. 2d 997, 1028-29 (S.D. Cal. 2003) (finding agency failure to disclose project's indirect carbon dioxide emissions violates NEPA). By not including the SCC analysis, the Forest Service ignores the necessity of quantitative analysis, and displays a lack of concern for the impacts of climate change. [22-71]

Concern: [Seq#297]
Response: [Seq#297]
The Agency does not have an obligation to analyze the costs of GHGs to satisfy the hard-look requirement of NEPA. The EIS takes a hard look at the important aspects of this proposal, and addresses them both qualitatively and quantitatively.

The purpose and need for this project includes forest management to restore resiliency and desirable forest health conditions as a way to adapt to climate change and other stressors. This is starkly different than the coal leasing project referred to in the comment above. Healthy forests have a greater potential to sequester carbon over time and better withstand climate change impacts; offsetting many of the short-term emissions from machinery and burning. A coal mining operation recovers coal for energy production. Burning coal releases geologic carbon that has been sequestered for millions of years.

Carbon sequestration is impacted by forest management and natural processes (EIS p. 138). The EIS does not estimate the cost of GHG emissions, or the longer-term benefits of carbon sequestration. Costs and benefits from other resources impacted by this project are not monetized. Therefore, the cost estimate provided in the comment above is inaccurate and based on incomplete information. The monetized cost of carbon presented on its own does not assist in the decision-making process and might be misleading for the public.

Monetizing the cost of some or all GHG emissions is not appropriate for this project, because it ignores all of the non-market benefits. These include wildfire risk reduction, habitat enhancement, watershed protection, public health and safety from falling trees, etc. Managing for resilient forests of spruce and regenerating aspen stands, provide longer-term carbon sequestration as new trees establish and grow.

Thank you for pointing out the discrepancy in the Global Warming Potential (GWP) for methane, and corrections have been made in the FEIS. The Environmental Protection Agency incorporates the most recent IPCC assessment and suggests a GWP of 28-36 over 100 years. However, this does not meaningfully change the analysis, because there is no attempt to analyze and disclose full carbon accounting for the project.

Associated Comments: [Seq#297]
Leading economic models all point in the same direction: that climate change causes substantial economic harm, justifying immediate action to reduce emissions.86 The interagency process to develop SCC estimates-originally described in the 2010 interagency technical support document ("TSD"), and updated in 2013-developed four values based on the average SCC from three integrated assessment

models (DICE, PAGE, and FUND), at discount rates of 2.5, 3, and 5 percent,87 as well as a fourth value demonstrating the cost of worst-case impacts.88 These models are intended to quantify damages, including health impacts, economic dislocation, agricultural changes, and other effects that climate change can impose on humanity. While these values are inherently speculative, a recent GAO report has confirmed the soundness of the methodology in which the IWG's SCC estimates were developed, therefore further underscoring the importance of integrating SCC analysis into the agency's decisionmaking process.89 In fact, certain types of damages remain[...] either unaccounted for or poorly quantified in IWG's estimates, suggesting that the SCC values are conservative and should be viewed as a lower bound.90 In July 2015, the IWG issued some minor technical revisions to the SCC, and published a revised TSD to explain those changes.91 By way of comparison, the 2013 updated interagency SCC estimates for 2020 are $12, $43, $64, and $128 (in 2007$), whereas the July 2015 revised SCC estimates for 2020 are $12, $42, $62, and $123.92 The IWG does not instruct federal agencies which discount rate to use, suggesting the revised 3 percent discount rate ($42 per ton of CO2) as the "central value," but further emphasizing "the importance and value of including all four SCC values[;]"93 i.e., that the agency should use the range of values in developing NEPA alternatives.94 The agency's obligation to analyze the costs associated with GHG emissions through NEPA was directly affirmed by the court in High Country Conservation Advocates v. U.S. Forest Service, 52 F. Supp. 3d 1174 (D.Colo. 2014). In his decision, Judge Jackson identified the IWG's SSC protocol as a tool to "quantify a project's contribution to costs associated with global climate change." Id. at 1190.95 "The critical importance of [climate change] . . . tells me that a 'hard look' has to include a 'hard look' at whether this tool, however imprecise it might be, would contribute to a more informed assessment of the impacts than if it were simply ignored." Id. at 1192. To fulfill this mandate, they agency must disclose the "ecological[,] … economic, [and] social" impacts of the proposed action. 40 C.F.R. § 1508.8(b).[...] According to the Forest Service, total combined emissions for the project are 2.17 million metric tons of CO2e, DEIS at 161-this alone results in a social cost of carbon of $91,246,302, or $9.12 million per year. However, and as detailed above, this figure is depressed based on the Forest Service's reliance on the outdated global warming potential ("GWP") for methane of 21. DEIS at 137. Applying the IPCC's 20-year GWP for methane of 87 results in total combined production emissions of 2.21 MMTCO2e, or a social cost of carbon of $92,945,034. The Forest Service's failure to consider almost $93 million in costs of GHG emissions from the project effectively assumes a price of carbon that is $0. High Country, 52 F. Supp. 3d at 1192 (holding that although there is a "wide range of estimates about the social cost of GHG emissions[,] neither the [agency's] economist nor anyone else in the record appears to suggest the cost is as low as $0 per unit. Yet by deciding not to quantify the costs as all, the agencies effectively zeroed out the cost in its quantitative analysis."). [22-70]

Concern: [Seq#298]
Response: [Seq#298]

The analysis is consistent with agency recommendations in Climate Change Considerations in Project Level NEPA Analysis (2009), available online at:
http://www.fs.fed.us/emc/nepa/climate_change/includes/cc_nepa_guidance.pdf. The analysis

contained in the EIS considered both the effect of the proposed project on climate change, as well as the effect of climate change on the proposed project.

The purpose and need for the proposed action includes activities designed to adapt to the impacts of climate change. Tree-cutting to reduce risk of wildfire and treatments to improve forest health and resiliency to insects and disease are well-documented strategies for land managers to address climate change (Citizen's Guide to Colorado Climate Change, 2008 p.38; Colorado Climate Preparedness Project, Final Report, 2011 p. 33, 89; Colorado Climate Change Vulnerability Study, 2015, p. 31; Rocky Mountain Forests at Risk, 2014 p. 3).

The EIS analyzes and discloses near-term greenhouse gas (GHG) emissions expected from machinery and other operational aspects by alternative. It does not attempt to do a comprehensive carbon accounting that would include emissions from operations, avoided emissions from wildfire, potential carbon sequestration in wood products and longer-term carbon sequestration as healthy trees grow and mature over time (EIS p. 170). There is no requirement for this type of analysis and there is no requirement to monetize costs (or benefits) associated with emissions, or carbon sequestration.

The analysis is also consistent with the Council on Environmental Quality's (CEQ) Revised Draft Guidance for Greenhouse Gas Emissions and Climate Change Impacts (2014), available online at https://www.whitehouse.gov/sites/default/files/docs/nepa_revised_draft_ghg_guidance_searchable.pdf, which provides recommendations to agencies on consideration of emissions, including potential changes in carbon storage. This is discussed both qualitatively and quantitatively. The guidance also recognizes that monetizing costs and benefits may be appropriate in some cases, but offers caution against using it when important qualitative considerations are being considered, stating that "a monetary cost-benefit analysis need not and should not be used in weighing merits and drawbacks" (CEQ p. 15). This EIS includes a financial efficiency analysis, and not a formal cost-benefit analysis aimed at quantifying the total economic benefits and costs of society. The EIS explicitly describes qualitative considerations for this project in the Purpose and Need (p. 22); reducing safety threats of falling trees and wildfire, improving tree and stand resiliency of insect and disease by treating affected stands, and re-establishing desirable forest conditions.

Associated Comments: [Seq#298]
The project's economic consequences do not adequately take into account the effect of this project on climate change as well as the costs associated with greenhouse gas emissions. [9-7]

Additional Comments related to Climate Change

Concern: [Seq#189]
Response: [Seq#189]
The FEIS has been updated to provide a more detailed description of the influence of climate change on forest resources.

Associated Comments: [Seq#189]
Page 263, 1st paragraph under Affected Environment as discussed in paragraph 1, page 261, "homogenous species compositions across large acreages and mature spruce stands with high density" also contributed to the spruce beetle epidemic. We recommend that you discuss those contributions throughout the FEIS wherever you discuss the effects of changed climate and weather patterns on the spruce beetle epidemic, including pages iv, 9,etc. [97-53]

Concern: [Seq#279]
Response: [Seq#279]
The adaptive management nature of the SBEADMR EIS provides flexibility to GMUG managers in treatment planning and implementation phases. Managers may consider treatments to facilitate or assist migration into Aspen emergent zones. DEIS at C-3 (Appendix C – Pre-Treatment Checklist, Planning Steps, 1. Identification of Priority Watersheds):

Climate change projections – Aspen and spruce habitats have been classified into Lost, Threatened, Persistent, and Emergent categories, based on changes anticipated by the 2060 (See chapter 1). Generally, “Lost” habitat would be avoided for treatments oriented principally toward future resilience, unless short-term objectives are identified. Resilience treatments would be focused on Threatened habitat, and restoration treatments on both Threatened and Persistent habitats. At the appropriate time, managers may consider treatments designed to facilitate or assist migration into Emergent zones.

Associated Comments: [Seq#279]
The Silviculture Prescription doesn't mention looking at climate change and how the prescription could be different if the treatment takes place in a lost, versus threatened, persistent or emergent zone. This should be considered. [33-25]

H-1.5: Fire and Fuels Concerns

Concern: [Seq#31]
Response: [Seq#31]
The referenced science is factored into the DEIS and FEIS. See response to comment 22-12.

Associated Comments: [Seq#31]
As far as the relationship between fire and bug kill, it seems the data is not conclusion: From the New York Times: "Report Says Beetles Don't Make Forests More Likely to Burn. DENVER - Mountain pine beetles have left vast tracts of dead, dry trees in the West, raising fears that they're more vulnerable to wildfire outbreaks, but a new study found no evidence that bug-infested forests are more likely to burn than healthy ones. In a paper released Monday, University of Colorado researchers said weather and terrain are bigger factors in determining whether a forest will burn than beetle invasions. The findings could provide some comfort to people who live near beetle infested forests, if those trees are

statistically no more likely to burn than healthy forests. But the study acknowledged that other researchers have found that beetles pose different fire risks. Previous studies by the U.S. Forest Service found that once sparked, beetle-killed trees ignite faster and burn more quickly than healthy trees, posing a danger to firefighters. The new findings were published in the Proceedings of the National Academy of Sciences. Researchers studied the three worst fire seasons in the past 12 years, when the weather was unusually hot and dry." [46-4]

Concern: [Seq#29]
Response: [Seq#29]
On a landscape-scale, the risk of fire occurrence, (ie, ignition) may not be greatly impacted by the treatments. However, those treatments focused on high priority WUI areas should readily have an impact on fire behavior, making fires easier to control and giving firefighters a better opportunity to protect homes, communication sites, powerlines, and other infrastructure. Additionally, by creating a mosaic of treated areas (ie younger vegetation types, changes in stand structure, reduced fuel loadings), fire behavior will change as fire moves across the landscape, giving firefighters an opportunity to manage, or control, the fire as appropriate. Eliminating fire from the landscape is not a goal of the EIS, but to be able to better manage fire on the landscape and provide for improved landscape resiliency to fire and other disturbance.

Associated Comments: [Seq#29]
The DEIS states that proposed treatments will not significantly decrease fire risk. Therefore, this should not be a reason for mitigation [31-10]

Concern: [Seq#35]
Response: [Seq#35]
We agree that it is not possible to generalize about fuels conditions in bark beetle areas, however, for the EIS, we must present the best available science in order to support decision making. The Western Bark Beetle Mitigation FY2012 Accomplishment Report discussed many different western bark beetle species in multiple forest types, so there would of course be too many variables affecting fuels and fire in this broad-scoped report to make generalizations. Most of the literature cited in the 2012 report pertains to beetles other than spruce beetles and vegetation types other than spruce-fir. Very little recent literature exist on the fuel and fire effects of salvage logging particular to spruce-fir of Colorado, hence we must rely on some older literature, or literature based in other vegetation types. We do note that post-harvest fuels can be lower in salvage units if the Brush Disposal Plan dictates low surface fuels. However, there is literature to support the concept that salvage logging can increase downed woody fuels. Peterson et. al (2015) (cited on page 189 of DEIS) summarized salvage logging after wildfire in OR and WA by saying, “Relative to unlogged stands, post-fire logging initially increased surface woody fuel loads, increasing small diameter fuel loads by up to 2.1 Mg/ha during the first 5 years after fire and increasing medium diameter fuel loads by up to 5.8 Mg/ha during the first 7 years after fire.” In lodgepole stands affected by mountain pine beetle which were salvaged, Griffin et. al

(2013) found that, “following harvest, dead woody surface fuels in all size categories doubled. . .” In a windthrown mixed-confier forest in Oregon, Johnson et al. (2013), found that salvage logging combined with pile and burn decreased all of the smaller woody fuel categories, and 1000-hour fuels increased. Griffin, Jacob J. M. Simard, M.G. Turner. 2013. Salvage harvest effects on advanced tree regeneration, soil nitrogen and fuels following mountain pine beetle outbreak in lodgepole pine. Forest Ecology and Management 291 228-239. Johnson, Morris C., J.E. Halofsky, D.L. Peterson. 2013. Effects of salvage logging and pile and burn on fuel loading, potential fire behavior, fuel consumption and emissions. International Journal of Wildland Fire 22, 757-769.

Associated Comments: [Seq#35]
Page 189, surveys done in 1951 are not necessarily representative of fuels (tons/ acre) because the technology was so very different back then. This first statement on the bottom paragraph leads readers to believe that salvaging can actually make the fuel loads worse. Additionally, the research by Collins et al. (2012) is not a recommended reference to include in this section as it pertains to lodgepole pine. Plus, while the statement that is included is true, it is not a fair representation of the overall results that were presented within the research. Finally, the Western Bark Beetle Mitigation FY2012 Accomplishment Report, published in January of 2013, found "it is not possible to reliably generalize about the effects of bark beetle-caused mortality on fuels or file characteristics." This statement was based on the review of 39 previously published studies, including the Collins et al. study. [97-41]

Concern: [Seq#34]
Response: [Seq#34]
Thank you for your comment. No changes made, as comment notes the DEIS included noted clarification on page 189.

Associated Comments: [Seq#34]
Page 188, under Mechanical treatment bullet, it states that surface fuels may be increased, but that depends on the type of harvesting (as you later describe on page 189). When an operator utilizes whole tree skidding, branches and unmerchantable material is typically brought into a landing, and either removed as biomass or later burned. [97-40]

H-1.6: Sensitive Plants/Invasive Plants/Range Resources Concerns

Sensitive Plants

Concern: [Seq#160]
Response: [Seq#160]
The Forest acknowledges that treatments could negatively impact sensitive plants but has included various design features to avoid or minimize these effects (FSSP-2 through FSSP-9). Through the use of these DFs, the effects will be minimal and will not result in a trend toward federal listing under the

Endangered Species Act. In the FEIS, required surveys and other treatment planning considerations have been added to the Treatment Design Checklist to ensure sensitive plants are properly addressed. Required surveys would be completed by a qualified botanist. Residual effects are disclosed in the Botany section, Chapter 3 of the FEIS.

Associated Comments: [Seq#160]
SENSITIVE PLANTS WOULD NOT BE SUFFICIENTLY PROTECTED. Sensitive plants and those of local concern are so designated because of concerns about their population viability. It is thus important not only to protect existing populations, but also to give them an opportunity to expand. Such expansion will be necessary for each species to recover to full, stable, and secure populations. Any use of heavy equipment may compact soil, which would reduce the chances of expansion of a nearby sensitive or local concern plant population, and might also facilitate the spread of non- native vegetation. Felling of trees and piling of slash would also prevent such expansion. Therefore, it is important to have a sizable buffer around each population to ensure that plants are not damaged, and that the populations have an opportunity to expand. DEIS Appendix C (checklist), does have one measure requiring a buffer of 20 to 100 feet around all sensitive plant occurrences. However, 20 feet is not enough space to protect sensitive plants and allow them to sufficiently expand to recover to full and stable populations. We recommend that buffers around all sensitive plant occurrence be at least 100 feet and be included in the design features. [22-56]

Concern: [Seq#178]
Response: [Seq#178]
The Forest Service acknowledges the recommended change and made the change in the FEIS.

A**ssociated Comments: [Seq#178]**
Changes to Appendix B: Under Forest Service Sensitive Plants, For Fen Sensitive Species, Change "Reduce potential for recreation--related resource damage to fens" to say "treatment--related" [33-19]

Concern: [Seq#182]
Response: [Seq#182]
The vast majority of Threatened, Endangered, and Sensitive (TES) plants on the GMUG occur in wetlands and in particular fens. In accordance with Forest Plan standards and multiple design features prescribed in the EIS, buffers around water bodies, including riparian areas, wetlands and swales and intermittent drainages will be required. In addition, any TES plant discovered during treatment planning will be avoided as specified on the Treatment Design Checklist.

Associated Comments: [Seq#182]
XII. SENSTIVE PLANTS AND NOXIOUS WEEDS WCC reiterates the importance of a sizable buffer around each population of sensitive plants to ensure that plants are not damaged and that the populations have an opportunity to expand. We recommend that buffers around all sensitive plant occurrences be at least

100 feet and be included in the design features (HCCA et al., Section XV, pg. 44). We also support an added design feature that would require a survey for noxious weeds prior to ground disturbance at proposed treatment sites and to eradicate any populations discovered (HCCA et al., Section XVI, pg. 44). [40-14]

Invasive Plants

Concern: [Seq#76]
Response: [Seq#76]
We use local seed sources as much as possible.

Associated Comments: [Seq#76]
We recommend that the Forest Service use local ecotypes of native seed for revegetation when possible, e.g., local grass and forb seed when reseeding along roads, etc. [33-16]

Concern: [Seq#161]
Response: [Seq#161]

The FEIS completed an analysis of low, moderate and high risk areas for spread of noxious weeds. During treatment planning, areas that are determined to be of high risk for weed establishment will be inventoried and identified populations treated prior to ground disturbing activities (see design feature IW-5).

Associated Comments: [Seq#161]
SURVEY FOR NOXIOUS WEEDS AND ERADICATE THEM PRIOR TO GROUND DISTURBANCE. Ground disturbances from road and skid trail construction and from logging operations create an ideal environment for the introduction and spread of noxious weeds. Indeed, existing weed populations are most often found near areas of past disturbances. DEIS at 230. There are several design features for addressing noxious weeds at DEIS B-5 and B-6. However, we do not see an explicit requirement to survey for noxious weeds prior to ground disturbance, and to eradicate any populations discovered. There also needs to be a requirement to survey and eradicate for a minimum of three full growing seasons after completion of activities in any area where ground disturbance was done under the project. Surveys for noxious weeds can also be used to detect sensitive plants. Sufficient buffer zones can then be marked prior to weed treatment, to reduce the chances of herbicide drift onto the sensitive plants. [22-57]

In the DEIS, Figure 32 shows the distribution and concentration of management priority invasive plants on the GMUG, based on the invasive inventory and priorities. Figure 33 details the predicted habitat vulnerability based on aspect, elevation, vegetation, precipitation, slope, and road and trail densities. We recommend, where possible, avoiding or limiting treatments in these red areas. In WUI or near infrastructure where treatments are needed to reduce hazards, invasive weeds in red zones should be

treated before any trees are cut. The data from Figures 32 and 33 should be plugged into the GIS model that is used for choosing locations for treatment. Another good source of weed invasibility information that could be used is available in: "CFLRP - Uncompahgre Plateau Desired Conditions for Invasive Plant Weed Species September 12, 2013" by Barry Johnston. There are several design features for addressing noxious weeds at DEIS B--5 and B--6. However, we do not see an explicit requirement to survey for noxious weeds prior to ground disturbance, and to eradicate any populations discovered. There also needs to be a requirement to survey and eradicate for a minimum of three full growing seasons after completion of activities in any area where ground disturbance was done under the project. Surveys for noxious weeds can also be used to detect sensitive plants. Sufficient buffer zones can then be marked prior to weed treatment, to reduce the chances of herbicide drift onto the sensitive plants. [33-10]

Concern: [Seq#265]
Response: [Seq#265]
We have removed this requirement from the design features.

Associated Comments: [Seq#265]
Page B-6, Design Feature IW-2 "Workers need to inspect, remove, and properly dispose of weed seed and plant parts found on their clothing and equipment. Proper disposal means bagging the seeds and plant parts and incinerating them." Comment: The timber sale contract already provides for cleaning of off-road equipment before entering a timber sale (Reference Provision B6.35) as well as requiring clean sources of gravel and noxious weed free grass seed. Cleaning of clothing and burning debris is onerous and should not apply to timber sale purchasers. Logging contractors are generally only working on one timber sale at a given time and are not importing weed seeds to any great extent from outside the sale area. [97-86]

Range Resources/Administration

Concern: [Seq#68]
Response: [Seq#68]
The effects from grazing by domestic and wild ungulates have been mitigated in aspen stands by increasing treatment areas to 60 acres or greater. We have been successful in mitigating grazing effects in spruce stands by maintaining slash and large woody debris. Both of these design features are incorporated into the action alternatives, as well as the requirement for the range staff to work directly with timber staff to coordinate pasture rotations to minimize effects on vegetation treatment areas.

Associated Comments: [Seq#68]
Recent research conducted by CPW on the wildlife response to habitat treatments has highlighted the need to evaluate and consider domestic grazing system influences on vegetation treatment response. We suggest that the GMUG incorporate and evaluate grazing system management in the analysis area. [8-10]

There are inconsistencies with the prescriptions for the aspen forest type, and in the mixed aspen/conifer forest type. One of the primary concerns we have in the treatment of any aspen forest stand condition is the impact of livestock grazing use on aspen regeneration. Throughout much of the GMUG we consistently see high levels of livestock grazing and an apparent lack of flexibility in cattle grazing management. Prior to any aspen site being treated, the detailed prescriptions should include a site-specific evaluation of the current livestock grazing situation and a determination made about the potential for successful regeneration. The potential for aspen suckering to persist and thrive within domestic sheep allotments is often very low. The same is true on cattle allotments where grazing use is high and of longer duration. [13-29]

The EIS must analyze and disclose the impacts of project operations and livestock grazing on conifer and aspen regeneration. [22-24]

Concern: [Seq#137]
Response: [Seq#137]
Flexibility is written into each allotment management plan as well as annual operating instructions. This includes: dates of use, number of livestock, and pasture rotations. Grazing is within allowable use standards but if exceeded in some years or in some portions of a pasture, livestock numbers, season of use, and/or pasture rotations are amended the following year.

Associated Comments: [Seq#137]
Range/Weeds • Does the allotment have management flexibility? • Is grazing use within acceptable AMP standards? [13-34]

Concern: [Seq#223]
Response: [Seq#223]
In the Pre-Treatment Checklist process, range improvements including fences, cattle guards, corrals, water developments, pipelines, troughs, stock trails, and stock driveways would be identified as protected improvements in timber sale contracts, service contracts, and burn plans so that impacts to these features would be avoided (pp. 259, C-6 - C-7).

Associated Comments: [Seq#223]
Specify steps to protect range improvements (fencing, exclosures, etc.) that protect water quality and habitat. [7-9]

H-1.7: Silviculture Concerns

Concern: [Seq#17]
Response: [Seq#17]
See Chapter 1 and the silviculture section of Chapter 3 in the FEIS. Despite the fact that sudden aspen decline appears to not be increasing into additional stands, currently-affected stands are continuing to die; the intent is to use active treatment to promote regeneration in stands before the overstory mortality in a given stand exceeds 50%. At such a point, regeneration attempts have proven largely ineffective. As the commenter points out, the lack of a market for aspen means that such treatments would be noncommercial; limited capacity to conduct noncommercial treatments would not be spent in areas with adequate existing regeneration.

Regarding the comment that climate change renders aspen treatments pointless, it depends upon the ultimate objective and values. There may be near-term value to promoting resiliency of aspen stands in the WUI; they retain moisture better than other vegetation types, and thereby help to offset some fire risk as well as retain water in the landscape during drier periods anticipated during climate change. There may be low-elevation, south-facing slopes where aspen treatments would not hold as long-term a benefit, as climate models show these areas to be unlikely locations for aspen to persist into the future. The Forest Service would weigh such costs with other immediate social and ecological benefits to determine whether to invest in such stands. These trade-offs, given climate models and corresponding vegetation persistence models, are articulated in the DEIS and FEIS, Chapters 1 and 2.

Associated Comments: [Seq#17]
SAD treatment in the face of global warming seems a waste of precious resources. [9-10]

Since the aspen decline involvement has not increased since 2009, this disease can probably be disregarded. There has been considerable regrowth of the clones and, considering the fact that there is no commercial use for aspen wood, there is no need for further mitigation. [31-1]

Concern: [Seq#26]
This comment presents the following concerns: 1) the purpose and need of treatments associated with safety from wildfire is limited due to a) fire is not necessarily out of the historical range of variability in spruce; b) dead stands may not be more susceptible to fire risk than live stands; c) especially outside of WUI, wildfire is not a high concern, thereby reducing need for treatments there;

2) resiliency treatments would not reduce fire hazards/fire severity;

3) spruce treatments would result in more hazardous fuel scenarios than in untreated stands after needles have fallen off, owing to the downed woody debris;

4) the effects of leaving 10-20 tons/acre of coarse woody debris in that it could create more passes with equipment and, therefore, more soil compaction;

5) mechanical equipment used for piling can impact other remaining trees;

6) mechanical equipment compacts soil and reduces regeneration success;

7) the effects of removing fuel on reducing shade in regeneration sites and therefore reducing regeneration rates;

8) the effects of prescribed fire on young trees and, in general, the appropriateness of broadcast burning in spruce.

Response: [Seq#26]
The following responses correspond to the numbered items in the summary statement.1) The DEIS and FEIS acknowledge that research suggests that the ecological severity and incidence of wildland fire in spruce-beetle-affected stands may not be higher than in live stands, owing to the overriding effect of climate on wildfire occurrence in this vegetation type; however, fire behavior relevant to wildland firefighters is affected. The DEIS and FEIS acknowledges that fire suppression has not played as large a role in the GMUG spruce as it has, classically, in other parts of the West. Chapter 1 identifies the focused objectives of "public safety" treatments, some of which are irrespective of the stand condition. Note that the focused Priority Treatment Areas in the FEIS, irrespective of Alternative, were prioritized in part due to fire risk in the WUI, also irrespective of the stand condition; in 4 of the 6 Geographic Areas (GAs), WUI accounts for ~3/4 of the PTAs; in the more remote GAs, WUI accounts for 25-50% of the PTAs. Therefore, WUI continues to play a large role in both alternatives, but public safety is not the only objective of the project.

2) Note that SBEADMR does not intend to eliminate wildland fire, but with respect to treatments designed with a fuels objective, to create a mosaic on the landscape of redundancy whereby a) fire behavior is influenced and/or b) wildland firefighters may more safely, effectively influence fire behavior in order to both manage it away from values at risk and for resource benefit. Note also that spruce resiliency treatments would not truly be thinning, but involve small patch cuts: "Resiliency treatments are designed to mimic natural gap dynamics that maintain or encourage multi-storied attributes in accordance with the Southern Rockies Lynx Amendment" (DEIS, Activities Common to All Action Alternatives, Spruce Resiliency and Recovery). "Aspen and spruce/aspen treatments would consist of coppice cutting, prescribed fire or removal of single spruce or groups of spruce within a stand dominated by aspen. The treatment goal is to regenerate or maintain aspen" (DEIS, Activities Common to All Action Alternatives, Aspen Resiliency).

3) The commenter's statement, "The proposed treatments in spruce may even increase the fire risk by putting a considerable amount of fuel of all sizes on the ground, where it can more easily be ignited compared to standing trees after the needles have fallen off," does not portray the entire fuel situation accurately. Near infrastructure, surface fuels will likely be piled and burned. If tree cover is reduced, wind and sun on a site would increase, and fuels would dry more readily. However, in recently dead,

grey-phase spruce, unlike other species affected by bark beetle, many fine branches still exist which can support torching. Additionally, lichens and loose bark are some of the materials most likely to be lofted as burning embers, responsible for fires spreading quickly through spotting (Charles McHugh, pers. comm.). Without following up with pile/broadcast burns to reduce residual fuels, we would expect surface fuels to increase relative to the no action alternative. Yet residual fuels would be treated in SBEADMR as appropriate to mitigate. The fuels analysis, Chapter 3, FEIS, discusses the shifting dynamics of fuels in the no action alternative and under different treatment options considered in the FEIS.

4) The effects of leaving 10-20 tons/acre of coarse woody debris would not necessarily increase compaction because generally, the operators want to economize the use of their equipment and wouldn't haul it twice. If operators need to drag logs back into the unit to meet the 10-20 tons/acre guideline, they would do so as they go out into the unit for their next hitch. However, the FEIS does not rely on the efficiency of the operator to ensure compaction is limited; design feature WQSP-5A limits the sum of severely burned soil and detrimentally compacted, eroded, and displaced soil to no more than 15% of any activity area.

5) The Design Feature SV-6 is designed to protect areas of advanced regeneration. Residual effects on regeneration are disclosed in the silviculture section of the FEIS.

6) Disturbance from timber harvest activities and roads can reduce soils productivity due to compaction and removal of organic material. Design features are included to reduce the effects of soil compaction including: WQSP-5A, 5B, 7b and 9A; residual effects are disclosed in the watershed and soils section of the FEIS.

7) Removing fuel would reduce some shade for regeneration sites and therefore reduce regeneration, however adhering to the guideline of leaving 10-20 tons/acre of coarse woody debris on sites after treatment would allow seedlings many microsites to establish between coarse woody debris and stumps. Also, the Silvicultural Design Feature SV-6 was added to avoid impacts to advanced regeneration to the greatest extent possible. Residual effects on regeneration are disclosed in the silviculture section of the FEIS.

8) Most broadcast burning would occur in areas with an aspen component with goals of regenerating or maintaining aspen. As SV-7 notes, broadcast burning would only be conducted in more pure spruce stands, where aspen regeneration is not an objective, when such stands were single-story and treated with a salvage cut. In these single-story stands, there is limited/no advanced regeneration that would be impacted by the burn, and on the contrary, the burn would be implemented to promote spruce recruitment by exposing mineral soil. SV-3 is clarified to correspond only to jackpot and pile burns.

Also, the Design Feature at B-20 (WFRP-3) is consistent with GMUG LMRP guidance concerning the retention of course woody debris for vegetation, soil and wildlife purposes: "Maintain 10-20 tons per acre of coarse woody debris within harvest units. Where possible in regeneration units, create piles of logs, stumps, or other woody debris to minimize the effects of larger openings." In treatment units

where excessive activity fuels would be produced, the goal of the fuels reduction treatment would be to meet the course woody debris objectives in design feature WFRP-3.

Associated Comments: [Seq#26]

FIRE. Due to the cool and moist high altitude locations, fires are infrequent in the spruce-fire ecosystem, though they may become more frequent with a warming climate. DEIS at 187. But climate is likely to be more important in determining the extent of subalpine fires than fuels, as fuels will always be present. DEIS at 171, citing Sibold et al., 200613; DEIS at 186. Due to the long interval between significant fires (400 or more years), spruce-fir stands have been less affected by fire suppression than stands dominated by other species at lower elevations. DEIS at 175. Sibold et al., 2006 stated: There is no evidence that fire suppression has resulted in either the fire regime or current forest conditions being outside their historic ranges of variability during the past 400 years. 13 Jason S. Sibold et al., Spatial and Temporal Variation in Historic Fire Regimes in Subalpine Forests Across the Colo. Front Range in Rocky Mountain Nat'l Park, Colo., USA, 32 J. OF BIOGEOGRAPHY 631-647 (2006) (hereinafter "Sibold et al., 2006") Exhibit 1. Some studies have also shown that beetle-killed stands are no more susceptible to fire than other stands. See e. g., Bebi et al., 2003.14 Fires are of the greatest concern in the wildland urban interface, near where people live and work. They are much less a concern in the backcountry, which again is where much of the opportunity area under SBEADMR lies.15 Thinning, as resiliency treatments would essentially do, is not likely to reduce the fire hazard, as noted by Sibold et al: . . . in the context of fuel treatments to reduce fire hazard, regardless of restoration goals, the association of extremely large and severe fires with infrequent and exceptional drought calls into question the future effectiveness of tree thinning to mitigate fire hazard in the subalpine zone. Sibold et al., 2006. The DEIS even admits that the proposed treatments "will not result in a significant reduction in the potential severity of large wildland fires." DEIS at 96. The proposed treatments in spruce may even increase the fire risk by putting a considerable amount of fuel of all sizes on the ground, where it can more easily be ignited compared to standing trees after the needles have fallen off. The fuel in treated areas would dry faster each year than it would if it were even partially under a tree canopy, as it would be well exposed to the summer sun. See DEIS at 188. The Forest Plan requires that 10-20 tons of down wood be retained per acre. Plan at III-10.16 This must include, where available, 50 linear feet per acre of logs at least 12 inches in diameter. Id. Any kind of mechanical treatment creates a considerable amount of small diameter, or "fine" fuels and medium sized fuels that would add to this total. See DEIS at 189. The small diameter wood is the most easily ignitable, and could help ignite the larger wood pieces. Having this wood on the ground and a reduced or eliminated canopy would make it easy for any fires to spread. If whole-tree yarding is used, as is said to be likely, then some logs would have to be redistributed from the landing back in to the areas of treatment, requiring further use of heavy equipment, which causes additional problems, as is discussed below. See id. 14 Peter Bebi, et al., Interactions Between Fire and Spruce Beetles in a Subalpine Rocky Mountain Forest Landscape, 84 ECOLOGY 362-371 (2003) (hereinafter "Bebi et al., 2003") Exhibit 2. 15 DEIS at 149 states that most areas where burning would be done are remote, i. e., not near communities. Burning includes both pile and broadcast burns. Id. at 47. 16 A project design feature also requires this. See DEIS at B-20, measure WFRP-3. U.S. DEP'T OF AGRI. FOREST SERV., GRAND MESA, UNCOMPAHGRE AND GUNNISON NATIONAL FORESTS AMENDED LAND RESOURCE MGMT. PLAN (1991) (hereinafter "Plan") available at

http://www.fs.usda.gov/Internet/FSE_DOCUMENTS/fsbdev7_003092.pdf. Fuel loading can be reduced by various methods, but all such methods have adverse impacts. Piling fuels requires the use of heavy equipment, which would kill young conifer trees and probably damage some larger standing trees. Heavy equipment use also compacts soils, reducing the probability of successful regeneration. Such compaction and concomitant decreased soil productivity can persist for 50-80 years or longer. Rhodes, 2007 at 16.17 Removing fuel, especially the larger material, removes shade that would help shelter young spruce and fir trees in the critical early years of regeneration. Whole-tree yarding, without redistribution of coarse woody debris ("CWD"), would especially deprive treated areas of shade for protection of existing and future young spruce and fir seedlings. The redistribution of whole-tree yarded CWD would cause further soil damage and kill more young trees, if any were left. See section VI. below for further discussion on spruce regeneration. Prescribed fires would reduce fuels but it would also likely kill young spruce trees, as they are very fire sensitive. DEIS at 269. It would also reduce shade for existing and future regeneration. In general, broadcast burning would not be appropriate for spruce-fire areas, as fires are very infrequent here. The tree species and other vegetation did not evolve with fire because of its rare occurrence.18... 17 Jonathan J. Rhodes, THE WATERSHED IMPACTS OF FOREST TREATMENTS TO REDUCE FUELS AND MODIFY FIRE BEHAVIOR, PREPARED FOR PACIFIC RIVERS COUNCIL (2007) (hereinafter "Rhodes, 2007") Exhibit 3. 18 The DEIS states that "[m]ost broadcast burning will occur in areas with an aspen component. Id. at 47. However, two design features (SV-3 and SV-7, DEIS at B-11, B-12) would allow broadcast burning in spruce stands. [22-12]

Concern: [Seq#59]
Response: [Seq#59]
Any action alternative will have design features and mitigation measures built into the implementation design that will mitigate the effects of temporary roads and skid trails.

Lynx linkage zones will be maintained as a design feature for all action alternatives.

All advanced regeneration occurring in groups the size of 1/3 acre or larger will be identified and maintained as part of all action alternatives.

Soil compaction will be maintained under the 15% detrimental effects forest plan standard.

The project is designed to harvest trees prior to losing their monetary value.

During the pre-treatment design, a certified silviculturist will determine the feasibility and need to shift species composition. The need for machine piling versus broadcast burning will also be determined by a silviculturist and fuels specialist during treatment design.

Associated Comments: [Seq#59]
After review of the draft EIS for SBEADMR, I would recommend Alternative 3 as the primary objective for the project because of its lesser infringement on the natural environment, with less roads, less skid trails, less problems with watersheds and erosion, improved quality of recreational opportunities, both motorized and non-motorized, as well as improvements in downhill skiing and winter sports. There

would be considerably less destruction of lynx crossings and habitat, and less damage to regenerating young spruce trees less than 4" in diameter that are already growing in many areas of the forest and will not be affected by the current spruce beetle epidemic. There will also be less cost and need for revegetation as there will be less packed soils from heavy equipment. Some aspects of Alternative 4 could be included in the program, but at a reduced level, in order to satisfy the wood products industry and salvage some of the dead or dying mature trees before they become uneconomical, but the areas should be restricted to those areas that are lower elevation where the spruce will not regenerate as well because of the climate change predictions over the next 50 years, as you clearly pointed out in the EIS. Those areas then can be revegetated with what the silviculturists suspect will grow better over the next 50 years. I would have the EIS encourage more pile burning in these areas rather than broadcast burning, so as to not destroy quality naturally occurring young tree regeneration. [3-7]

Concern: [Seq#60] – Aspen comments
Response: [Seq#60] – Aspen comments
Research from the Terror Creek study has shown that the greatest response to coppice cutting regeneration in aspen occurs in stands with an overstory with less than 50% mortality, and these stands will be identified as the highest priority for treatment. Individual stands that are not affected by SAD or have greater than 50% affected are a lower priority for treatment, and they would be evaluated during treatment design to determine effectiveness for fuels, wildlife, or other integrated objectives.

As noted in Appendix A, Silvicultural Prescription Matrix, a primary objective for aspen treatments is a fuels objective: in stands near/in WUI, there is long-term value in trying to maintain some aspen on the landscape to reduce fire risk to the adjacent WUI. In such stands, even if exhibiting higher (>50%) overstory mortality, if research and/or professional judgment of site conditions indicate regeneration potential, and suckering potential is high, then treatments would be considered (see Appendix A).

Regarding aspen stands with significant encroachment of spruce/fir in the understory, regeneration treatments would be applied only in certain conditions (see Appendix A). Only if the stand had low overstory mortality from SAD (<50%), a high suckering potential, and/or value as a fire-resistant stand in the WUI, would regeneration treatments be pursued. Otherwise, as the commenter supports, the stand would be passively managed and succession would continue.

Regarding impacts to post-treatment regeneration from ungulates, design features SV-8 and SP-1 are incorporated to minimize these impacts (See Appendix B).

Associated Comments: [Seq#60] -– Aspen comments
The overall plans for SAD seem good in the EIS, and I would simply encourage Burke Greer to be involved with forest service contract decisions on what aspen colonies to cut/burn. If the aspen colony is too far gone, it does not warrant treatment (except for safety considerations), as it will not regenerate. [3-8]

I still question the treatment of pure aspen stands that do not exhibit SAD. These stands are currently

healthy and provide excellent wildlife habitat. They are also resistant to fire and would serve to break up fuel continuity and/or buffer infrastructure in the WUI. Analysis in the DEIS indicates these sites are not considered a prescribed fire burning priority either. Treating these stands is also inconsistent with the stated Purpose and Need for the SBEADMR project. Aspen with <50% SAD is identified in the Purpose and Need as the primary objective for treatment. Hopefully these stands could be cut and/or burned to allow them to persist on the landscape. These stands would be targeted for commercial harvest if a market were to develop. Apparently these stands are also not considered a prescribed burn priority due to the difficulty in getting them to burn. Aspen stands with >50% SAD are apparently not a priority for any type of treatment because of the perceived lack of potential for suckering. However, I have observed successful regeneration of these types of stands following wildfire and some prescribed fire treatments. I would suggest that the Forest Service revisit the prescriptions for both of these stand conditions to evaluate the potential benefits for treatments to meet wildlife habitat objectives within the opportunity areas and fuels management objectives within the WUI. [13-30]

Another concern with the prescription matrices is the inclusion of the mixed stands of aspen and spruce-fir that currently have an aspen overstory and spruce-fir understory. These stands are likely to be seral to spruce-fir instead of stable or self-perpetuating aspen stands where aspen is the climax community. There is no reason to treat any of these stands if they are in a healthy (no SAD) condition since they will continue to provide forest cover and wildlife habitat for a wide variety of species. If the overstory aspen is affected by SAD, the understory spruce and fir will eventually dominate the stand under natural successional processes. Prescribed burning in mixed stands of aspen and conifer would likely result in high intensity burns that require extensive efforts and expense to revegetate the burned area and/or plant trees to begin reforestation. Wildlife habitat values are relatively high within these stands and they would likely persist over time given their tree species diversity. These sites should only be treated in WUI areas where the priority is the protection of infrastructure and for public safety. [13-31]

MAJOR TREATMENT OF ASPEN IS UNNECESSARY. Since there has been very little new occurrence of sudden aspen decline ("SAD") since 2009, it is questionable whether there will be any aspen-dominated stands worth treating. DEIS at 3, 15; see also Shepperd and Smith, 2013. Any stands already affected by SAD will likely have a large percentage of the overstory dead by the time treatment could begin. Research shows that stands with a large percentage of the overstory dead cannot be revived with treatment. See Shepperd and Smith, 2013,23 and Worrall et al., 2010.24 SAD has most likely appeared, and future attacks will most likely occur, in areas most susceptible to drought: south and west-facing slopes at the lower elevations. Under a warming climate, these... areas may no longer be suitable for occupation by aspen. They will likely convert to conifers or meadows. While some aspen clones have already died, and some more may die in the future, a warming climate means more frequent fires, which would result in replacement of conifer-invaded aspen stands with pure aspen. Morelli and Carr, 2011.25 Increased carbon dioxide may also favor aspen regeneration and growth. Id. SAD vulnerability does not appear to increase with age once trees are physiologically mature. Id.; see also Worrall et al., 2010 at 646. In a study of aspen on the Grand Mesa, Kulakowski et al., 2004,26 found that aspen likely covers more area now than it did historically (including some areas historically dominated by spruce and

fir) because of a large number of fires in the late 19th century. They stated: The total area where spruce and fir have replaced aspen is small in comparison to the area where aspen has increased or has persisted. The successional replacement of aspen by conifers is more pronounced at higher elevations and where the predisturbance vegetation was dominated by conifers. In other words, the areas where conifers are succeeding aspen are locations where spruce fir likely dominated historically. This succession "may be within the range of historical variation." Id. With its high altitude location, cool temperatures, and abundant precipitation, SAD is extremely unlikely to ever affect the aspen on the Grand Mesa. Thus, there seems to be little need for treating aspen stands anywhere on the GMUG. In fact, in some cases, cutting could do more harm than good. Depending on the soil type, clearcutting aspen stands with considerable conifer invasion may hasten the conversion to spruce-fir. Cryer and Murray, 1992.27 Treating aspen in areas with high water table, very moist areas (as indicated by presence of false hellebore (Veratrum tenulpetalum), and any areas with high potential for soil compaction may lead to inadequate regeneration. Forest Service researcher Barry Johnston, 2001, (Exhibit 32) found that areas with inadequate aspen regeneration on the Uncompaghre Plateau after logging had two or more of the following: high water table, heavy browsing by elk or cattle, soils with a thin Mollic layer, or compacted soil from logging operations.... Accordingly, it is important to: avoid areas with high water tables and thin Mollic soils, protect against livestock and ungulate browsing and trampling, and minimize soil compaction during logging and related operations. Aspen stands with no signs of SAD that can reproduce under themselves, i.e., have two or more stories, should not be treated. These stands will likely perpetuate themselves. Removing the overstory would likely damage the other stories. It would also compact soil, reducing the area where aspen could sprout. Information on aspen canopy condition from a 2006 evaluation shows that 18-74 percent (depending on the GA) of the GMUG's aspen is multi-storied. DEIS at 14. The GAs with the largest areas of aspen (Gunnison Basin, 197,500 acres and North Fork Gunnison River, 212,600 acres) are 74 percent and 60 percent multi-storied, respectively. Id. The DEIS states that "[a]pproximately 54% of the stands on the GMUG are experiencing regeneration, shifting the stand to a younger age class." Id. at 17. It thus seems that little treatment in aspen is needed. With aspen already reproducing on over half of the GMUG's aspen acreage, stands with no sign of SAD should be left alone. If any aspen is treated, it should only be in the areas where the species is most "threatened", i. e., where the future climate is expected to be unfavorable, but that aspen may survive. See DEIS at 18. The full opportunity area for Alternatives 2 and 4 contains 289,000 acres of aspen and 171,000 acres of aspen-spruce mix. DEIS at 64. Most of this area should not be treated.... 23 WAYNE D. SHEPPERD, PH.D. AND FREDERICK W. SMITH, PH.D., FINAL 2013 REPORT APPLIED SILVICULTURAL ASSESSMENT: QUAKING ASPEN AFFECTED BY SUDDEN ASPEN DECLINE IN SOUTHWESTERN COLO. (U.S. Forest Serv. Rocky Mountain Research Station Rocky Mountain Region, in Cooperation with Colo. State Univ. 2013) (hereinafter "Shepperd and Smith, 2013" or "Sheppard and Smith") Exhibit 5. 24 James J. Worrall, et al., Effects and Etiology of Sudden Aspen Decline in Southwestern Colo., USA, 260 FOREST ECOLOGY AND MGMT. 638-648 (2010) (hereinafter "Worrall et al., 2010") Exhibit 6... 25 TONI L. MORELLI AND SUSAN C. CARR, A REVIEW OF THE POTENTIAL EFFECTS OF CLIMATE CHANGE ON QUAKING ASPEN (POPULU TREMULOIDES) IN THE WESTERN UNITED STATES AND A NEW TOOL FOR SURVEYING SUDDEN ASPEN DECLINE (U.S. Dep't of Agric., Forest Serv. 2011) (hereinafter "Morelli and Carr, 2011") Exhibit 7. 26 Dominik Kulakowski, et al., The Persistence of

Quaking Aspen (POPULUS TREMULOIDES) in the Grand Mesa Area, Colo., 14 ECOLOGICAL APPLICATIONS 1603-1614 (2004) (hereinafter "Kulakowski et al., 2004") Exhibit 8. 27 Douglas H. Cryer and John E. Murray, Aspen Regeneration and Soils, 14 RANGELANDS 223-226 (1992) (hereinafter "Cryer and Murray, 1992") Exhibit 9 [22-25]

Research demonstrates that Sudden Aspen Decline has not expanded its range since 2009/2010. In addition, there currently exists no commercial market for aspen. I see no scientific reason to treat these areas (except in locations that pose a threat to public safety) even though previously affected stands may continue to decline. Again, treatments negatively impact the regenerating forest that has the potential for resiliency without human interference. Moreover, our fellow Broads in the Southern San Juans have observed the negative effects of excessive browsing by deer on regeneration in aspen stands. If this impact is evident in the proposed treatment areas, perhaps a wildlife management strategy would be advantageous and less destructive than proposed treatments [26-8]

The need for aspen treatment is also questionable as Sudden Aspen Decline syndrome is a response to drought and climate conditions, not a specific disease. The forest will adapt and aspen will grow where the environment is suitable. Aspen stands, with no signs of SAD, can reproduce themselves and should not be treated. The DEIS sates that approximately 54% of aspen stands on the GMUG are experiencing regeneration and shifting to younger age class, reinforcing that there is no need for massive treatment. Research also shows that aspens that have a large percentage of dead trees cannot be revived with treatment, so stands with more than 50% mortality should not be treated. Aspen should only be treated in areas where the species is most threatened where the future climate is expected to be unfavorable to aspen regrowth, but where aspen may survive if given extra help [39-14]

VI. ASPEN TREATMENTS WCC has also expressed concerns about the stated need to treat aspen stands from the beginning of this proposal. The need for aspen treatments is questionable, as Sudden Aspen Decline (SAD) syndrome is a response to drought and climate conditions, not a specific disease. The forest will adapt and aspen will grow where the environment is suitable. Aspen stands with no signs of SAD that can reproduce themselves (i.e. have two vegetative stories) should not be treated. The DEIS sates that approximately 54% of aspen stands on the GMUG are experiencing regeneration and shifting to younger age class, reinforcing that there is no need for massive treatment. Research also shows that aspens that have a large percentage of dead trees cannot be revived with treatment, so stands with more than 50% mortality should not be treated. Aspen should only be treated in areas where the species is most "threatened," where the future climate is expected to be unfavorable to aspen regrowth, but where aspen may survive if given extra help. In this regard, we also agree with the HCCA et al. letter and their comments regarding this topic (HCCA et al, Section IX pgs. 24-26). [40-8]

Concern: [Seq#61]
Response: [Seq#61]

Advanced regeneration and live trees will be maintained in treatment units in groups of 1/3 acre or larger.

The use of pheromone treatments are currently being implemented on the forest at high value administration sites; these practices are expected to continue, but are beyond the scope of this EIS.

Associated Comments: [Seq#61]
There are also a few science notes that would be useful to add to the EIS, based on Scott Ferrenberg's recent SBEADMR review (Phd Entomologist, USGS Biosciences, Moab, Utah). Smooth-barked spruce as well as younger spruce, particularly under 4-5" diameter are very unlikely to be attacked by the beetle in this epidemic, and therefore should not be cut or treated or damaged. The possibility of use of "Pherotec" pheromones ($5-7/treatment) in specific WUI locations to repel the beetles from otherwise healthy trees may be quite useful. [3-10]

Concern: [Seq#62]
Response: [Seq#62]
The main objective of salvaging beetle-killed spruce is to capture the economic value of the timber and implement reforestation activities to establish the second cohort.

Associated Comments: [Seq#62]
5 year resin duct information from tree bores can help assess tree health. Overall, of course, any management by tree removal will have very limited effect, if any, on the spruce beetle epidemic at this point. [3-11]

Concern: [Seq#63]
Response: [Seq#63]
The identified potential need for both types of treatments - commercial and noncommercial- exceed the current and expected operational capacity of the Forest Service. As noted elsewhere, the maximum acres for the action alternatives are based on the Forest's operational capacity to conduct commercial and noncommercial treatments during the 8-12 year implementation timeframe analyzed in this EIS. Across the GMUG's landscape, both types of treatments have been prioritized for the Final EIS. Fewer commercial treatment acres implemented does not equate to more noncommercial, and vice versa, so the commenters' recommendation to consider a flexible split is somewhat moot. Rather, the maximum operational capabilities for noncommercial and commercial work would be employed to implement a SBEADMR action alternative; this maximum capability is reflected in the proposed treatment acres.

Associated Comments: [Seq#63]
Although the 120,000 acres is proposed as 60,000 acres of commercial mechanical treatments and 60,000 acres of noncommercial mechanical and prescribed fire treatments, we would suggest that it is more important to use the best and most productive treatments as necessary and available. We support the cap of 120,000 acres but realize that adaptive management might suggest that the 50/50 split

between commercial and noncommercial could actually lessen the overall impact of the project. [5-12]

Concern: [Seq#64]
Response: [Seq#64]
We are required by NFMA to reforest harvest units within 5 years of final harvest. Typically reforestation activities occur one year after harvest or site preparation activities if needed. More detail has been included in the Decision-Making Triggers table of Chapter 2 regarding replanting timeframes. Note that Appendix E details the required public participation components of any action alternative; continued annual public involvement is explicitly included in the adaptive implementation plan.

Associated Comments: [Seq#64]
The modifications that I would add are: 1. Add a shorter time period for review of the success or failure of treatment and or regeneration. Please add more detail and shorter term goals in the EIS for the re-vegetation plans. Perhaps collaboration with citizen groups on a yearly basis or every two years would help to ensure success. [11-4]

Concern: [Seq#65]
Response: [Seq#65]
Regarding climate models for potential vegetation shifts, recent scientific literature such as Rehfeldt et al. has been incorporated into the analysis. Target species for reforestation will be determined during treatment design by a certified silviculturist, based on attributes such as extent of beetle mortality, single or multi-storied stand, and the extent of dense horizontal cover as well as the slope, aspect, and elevation. Objectives for maintaining shade-tolerant species or for shifting species composition toward drought-resistant, shade-intolerant species are outlined accordingly in Appendix A, silvicultural prescription matrix.

Associated Comments: [Seq#65]
Re-vegetate with a combination of other more drought tolerant conifers and spruce. Provide enhanced conditions for tree growth by including ground cover and low but fast growing plants when planting trees to increase better micro-climate conditions. [11-6]

Concern: [Seq#66]
Response: [Seq#66]
Proposed treatment totals reflect the Forest Service's operational capacity over an 8-12 year implementation timeframe and includes both commercial and noncommercial treatments.

Associated Comments: [Seq#66]
With Proposed Alternative 2, the total treatment area is described as 4% of the entire GMUG. While this is an important first step, Hinsdale BOCC urges the GMUG to go no smaller. In truth, our county wishes the project were larger. We live in the midst of a dangerously at-risk forest and, even with a significant response, time is not on our side. We MUST begin and begin quickly to vigorously mitigate fuels at a

rapid pace to, hopefully, reduce the risk to people, vital infrastructure, and our environment. The most effective method to move towards forest health in the current situation is to quickly move towards commercial treatments. More commercial treatments will increase effectiveness as well as decreasing cost and therefore is a common- sense tool. Due to the limited window of merchantability for desirable timber, we request that the Forest Service prioritize preparation and implementation of commercial treatments [17-4]

Concern: [Seq#67]
Response: [Seq#67]
See response to comment 4-6.

Associated Comments: [Seq#67]
Scope and Scale of the Project After reviewing this section of the DEIS and discussing it with members of Backcountry Hunters and Anglers (BHA) and the SBEADMR Working Group, it is very apparent that there needs to be more refinement of the scope and scale of the project. There is a tremendous gap between the 718,000 acres of opportunity areas and the 120,000 acres of potential treatment within those opportunity areas in every alternative. This has been a primary issue with us since the beginning of the analysis, especially for non-commercial treatments. We understand and support the commercial treatment component of the proposal under the stipulations of the various actions included in the Implementation Toolbox. Commercial activities would be limited to lands identified as tentatively suitable for timber production in the GMUG Forest Plan. The identification of tentatively suitable lands was included in the development of the 1991 Forest Plan Amendment, and was subject to public review and comment. However, with some minor variation in the emphasis for treatments, every alternative in the DEIS includes up to 60,000 acres of non-commercial treatments that would likely be focused outside the tentatively suitable lands. The identification of areas proposed for non-commercial treatments should be refined and more clearly identified in the FEIS based upon the resource objectives for those treatments. [13-25]

My best suggestion to advance portions of the proposal would be to break the whole into smaller pieces, each of which could be better evaluated on its merits for the specific areas and specific objectives. I would think that smaller projects would fall under EA and perhaps even CE categories of NEPA, still cumbersome I know, but less so than an EIS. [29-10]

Concern: [Seq#70]
Response: [Seq#70]
In stands that are currently still green with endemic populations of spruce beetle, uneven-aged management (group selection) will be used to increase age class diversity (multi-aged stands) and increase vertical structure. These management actions are considered a conservation measure under the Southern Rockies Lynx Amendment. These management actions are not to "bullet proof" the stands

from future outbreaks but to decrease the likelihood of a stand-replacing event should an epidemic occur.

It is true that if the stands remain green that an entry could happen every decade; this is uneven-aged management by its very definition. Natural regeneration in small groups (less than 2 acres) has been proven to be successful, and in areas that are salvaged and lack an understory, receipts or appropriated dollars will be used to fund reforestation activities.

Damage to advanced regeneration from logging will be minimized through the use of designated skid trails and retention of advanced regeneration in patches 1/3 of acre or greater.

With respect to old growth retention, any portion of a stand that is old-growth or has old-growth characteristics may be retained as part of a variable retention regeneration harvest.

Decision-making triggers for impacts to regeneration, old growth and for replanting requirements are outlined in Chapter 2.

Associated Comments: [Seq#70]
TREATMENTS WOULD NOT LIKELY REDUCE FUTURE BEETLE ATTACKS. Resiliency treatments would likely be ineffective in making treated stands more resistant to SBB. First, only 4-5 percent of the GMUG and about 8 percent of its total spruce and aspen acreage would be treated, which is an insignificant amount. DEIS at 186, 196. In the areas not treated, there would still be numerous sources of SBB to attack the spruce trees remaining in resiliency-treated stands.19 Second, by the time treatments under SBEADMR begin, there might not be very many spruce-dominated stands with a low enough level of overstory mortality to treat for resiliency. We are concerned that the purported reason for treatments under SBEADMR, to create and maintain areas of different age classes in an attempt to make the GMUG less susceptible to SBB, would create a situation that results in continuous treatment of spruce over time. That is, every decade or so, some portion of the spruce acreage on the GMUG would be treated to achieve and maintain the given balanced age-class distribution. This assumes that regeneration would be successful, which is not assured and also that money and industry would be available to fund and perform the work in a timely manner. See section VI. below. This is also concerning because old growth stands, which are important for various species of wildlife, might not be allowed to develop... or be retained in treated areas. This would occur even though it is not unusual, nor is it outside the range of natural variability, for much of the spruce-fir type to be in the older age classes. Moreover, spruce-fir stands often diversify on their own, as many stands have at least some regeneration of various ages within them. In fact, SBB mortality will create some early successional areas in spruce, as will SAD mortality for aspen. DEIS at 265. Going into areas such as this for logging causes damage and can destroy such regeneration and the forest's self-diversification. Significantly, most of the GMUG's spruce fir is already multi-storied. See DEIS Table 1 at 6. This is especially true in the Gunnison Basin Geographic Area, which has the largest share of the GMUG's spruce acreage, and where 79 percent of the spruce-fir is multi-storied.... 19 DEIS at 284: "Bark beetle activity is not generally curtailed until the population entirely exhausts available [22-13]

Concern: [Seq#71]
Response: [Seq#71]
The market for dead spruce is currently strong and is predicted by industry to continue; if timber in a commercial Priority Treatment Area (PTA) was no longer merchantable, then commercial treatment would not be implemented in that PTA.

With respect to proportions of types of treatments by area, the Final EIS more closely identifies the proportions of salvage, resiliency, and combination treatments in each PTA based on the best available remote sensing data and analysis of the current spruce conditions.

Associated Comments: [Seq#71]
CAN DEAD AND DYING SPRUCE BE TREATED COMMERCIALLY? The DEIS states that "[o]nce dead, trees remain merchantable for about 3-5 years." DEIS at 44; see also id. at 289. By the time implementation of SBEADMR begins, many trees will have been dead 3-5 years or more. They will by then have developed weather checks and splits, and will not be suitable for manufacture into dimension lumber (like 2 X 4s). They could possibly still be used for house logs, firewood, poles, etc. The short time available for utilizing dead spruce calls into question the need for, and practicality of, a large acreage spruce salvage. The DEIS assumes that in the Gunnison Basin Ranger District, 80 percent of the treatments would be "recovery" (i. e., salvage) and 20 percent would be "resiliency" (or removal of dead and dying trees from stands with some live overstory). On the remainder of the GMUG, the split would be 50-50. Id. With the Gunnison Ranger District, assuming it corresponds to the Gunnison Basin Geographic Area (GA), having the largest acreage of spruce in all the GAs (see DEIS Table 6), this means that well over half the proposed treatment would be salvage, even though much of the material made available would probably not be useful for any commercial wood products. [22-14]

Concern: [Seq#72]
Response: [Seq#72]
In areas where seed sources for natural regeneration are not available, planting would occur to achieve the 5 year stocking required by NFMA. See the Decision-Making Triggers table in Chapter 2.

Associated Comments: [Seq#72]
In areas where the overstory is 90 percent or more dead, salvage logging would remove all dead and dying spruce trees. DEIS at A-1. This would create large openings; the majority of the area in these openings would be well beyond the seeding distances of any live spruce trees. [22-19]

Concern: [Seq#73]
Response: [Seq#73]
Reforestation activities will be funded through a combination of KV, retained receipts and appropriated dollars. We do expect to receive enough funding to meet our requirements under NFMA. Under our current funding levels this year and projected the next two years we can realistically fund those

acres. KV dollars collected in a sale area can only be spent in that particular sale area that it was collected in. The only time KV funds are held at the region is if more KV is collected than what is funded in the plan at the time of sale closure. KV funds may be affected by fire borrowing/fire transfer at the end of a fiscal year, but such funds are restored in the following fiscal year.

Associated Comments: [Seq#73]
Under the proposed action, up to 1,700 acres per year would be planted in the Gunnison Basin area, with 750 acres per year planted elsewhere. DEIS at 276. If planting costs $400 per acre (DEIS at 398), it would require almost $1 million annually to fund the desired level of planting. Does the GMUG really expect to get that amount of funding? And if not, how would areas with spruce treatment be regenerated? The Forest Service should not count on the existence of Knutson-Vandenburg ("K-V") funds to finance artificial regeneration. Though presumably the GMUG would add a K-V deposit to what industry would pay for commercial timber sold under SBEADMR, our understanding is that this money does not automatically come back to where it originated. Rather, it goes into a fund in the agency's Washington Office, to be doled out as the Chief or his designee deem appropriate. Also, as we noted in our August 30, 2013 scoping comments (hereby incorporated in whole by reference), the K-V fund can be raided to pay for fire suppression. See scoping comments (Exhibit 2) at 19-20. Therefore, the availability of K-V money for planting in areas treated under SBEADMR is not assured. [22-23]

Concern: [Seq#74] - Spruce regeneration
Response: [Seq#74] - Spruce regeneration
Where high-quality advanced regeneration exists, retention of the overstory would prevent damage to those areas. Where marginal advanced regeneration exists, B provisions in sale contracts protect advanced regeneration and leave trees from logging damage. If excessive logging damage is occurring, the sale administrator can suspend operations until the purchaser can come up with a plan to protect regeneration and leave trees. This is a common practice and not specific to SBEADMR. Note that 0.3 acres is the smallest area that would be retained; it is anticipated that retention areas on average will be bigger than 0.3 acres.

This project has been designed to balance structural and seral stages across the landscape as required by the Southern Rockies Lynx Amendment. Effects to other resources will be reduced or mitigated through the use of the design feature checklist. Nevertheless, despite treatment designs and applied design features, some impacts--including impacts to existing regeneration--would be unavoidable, and these are disclosed in the effects analysis of the FEIS.

The silviculture effects analysis has been updated in the Final EIS to include a more in-depth analysis and discussion of reforestation issues.

Associated Comments: [Seq#74] -- Spruce regeneration
In stands with more than one story, the proposed treatments would likely result in the death of some of the existing small spruce and fir trees due to felling and skidding, which would break and/or uproot some seedlings. Such operations may also damage larger live trees by creating wounds due to trees being felled or skidded hitting larger residual trees. This would be particularly true if whole-tree yarding

is used, which is said to be likely. DEIS at 189, 192. Skidding trees with branches and tops intact would hit more seedlings and damage more of the larger residual live trees. A design feature would require attempts to protect advanced regeneration: During any types of harvest in spruce-fir, pockets or areas of advanced regeneration will avoided to the greatest degree practicable protect advanced regeneration (sic). DEIS at B-11. This is appropriate but insufficient. To log at all in multi-storied stands, some advanced regeneration would be damaged or destroyed, making it more difficult for a new stand to arise and survive without expensive planting. [22-20]

It is at best questionable whether young trees in multi-storied stands would be conserved. The relevant design feature states: Areas supporting live advanced regeneration will be avoided during unit layout (also SV-6). Focus should be placed on areas with >35% Dense Horizontal Cover in blocks greater than 0.3 acres. DEIS at B-21. Measure SV-6 states: During any types of harvest in spruce-fir, pockets or areas of advanced regeneration will avoided to the greatest degree practicable protect advanced regeneration. Id. at B-11.31 In other words, dense horizontal cover, which is very important for hare and lynx, will be avoided only where "practicable", and in blocks as small as 0.3 acres. Even if implemented fully, the result would be well-fragmented habitat for hare and lynx. [22-34]

* GMUG silvaculture experts know this better than I do, but I will still mention a few things regarding regenerating cut areas. They all look better when there is the right amount of dead/down/wood material left on the ground, especially large enough logs to provide some shade. The edges of the cuts always seems to come back better than the sunnier, drier middles, so it makes sense to have smaller or skinnier cuts. I am willing to support whatever the ongoing research tells us will help our chances of regenerating spruce. [34-5]

Primary in my thoughts are the issues of regeneration. Spruce is very difficult to regenerate because young trees frequently do not survive in the open & planted seedlings often die. Where spruce is naturally regenerating in dead stands, the FS should not try to apply any type of treatment. Salvage logging will remove most of the dead and dying spruce trees, but will likely damage natural regeneration. Where spruce is naturally regenerating in dead stands, the FS should leave it alone. Nothing in this project is going to prevent the spread of the spruce beetle. In any case, the size of any clearcuts should be greatly reduced to address impacts of windthrow, erosion, wildlife habitat, noxious weed introduction, and other concerns. [39-13]

We know that there is wide disagreement about what types of treatments are most beneficial to forest health. This has been the discussion of many working group meetings. Below are our thoughts on how the DEIS can address how treatments relate to forest health issues. V. SPRUCE TREATMENTS One of WCC's largest concerns with this project is the issue of spruce regeneration after treatment. WCC agrees with the comments laid out on this subject in the HCCA et al letter (Section V, pgs. 16- 20 and Section VIII, pgs. 22-24). To reiterate some of these concerns, spruce is difficult to regenerate because young trees do not survive in the open well and planted seedlings often die. The science around spruce regeneration after beetle infestation is evolving and needs more research, as has been acknowledged by

the creation of the Battaglia research proposal that has been created out of this process. As the science of spruce regeneration is still an emerging area, treatments in spruce areas need to be held to the highest degree of scrutiny. Forest health decisions should be the primary driver in deciding on location, size, and design features of spruce treatments. To make informed, collaborative decisions on these treatments, triggers, as described above, will be critical. We strongly recommend that where spruce is naturally regenerating in dead stands, the FS should leave it undisturbed to regenerate on its own. Salvage logging will remove most of the dead and dying spruce trees, damaging natural regeneration and making the regeneration conditions more difficult. The success rate of planted spruce seedlings is variable, and if the forest is taking care of its own regeneration, we should not interfere with human activity that is not guaranteed to produce the same result. We are also concerned about the possible size of clear cut treatments, including the proposed 40 acre maximum for coppice cutting in aspen, but especially in spruce/fir. Regeneration in large spruce-fir clear cuts, such as at the Alpine Plateau and Black Mesa, has consistently failed. After some on the ground investigation of treatments in the Cow Creek and Hubbard Creek timber sales above Paonia by Robin Nicholoff and Bill Day in early July, it was apparent that natural regeneration in treatments larger than what they estimated as approximately two acres is minimal, especially away from the shady edges of the cuts. Clear cutting treatments should be strictly limited in size by design features in the DEIS and silviculture matrix. The DEIS should also analyze the possible success of spruce regeneration. [40-7]

Concern: [Seq#75]
Response: [Seq#75]
Drought stress was indeed identified as one of the causal agents that contributes to sudden aspen decline. However, studies have shown that stands with less than 50% overstory mortality can be treated and recover to healthy stands. Stands that were not treated continue to decline. We have proven BMPs to implement during coppice cutting of aspen that reduces the impacts on young stands from grazing; these have resulted in successfully regenerated aspen stands (Design features SV-8 and SP-1; see Appendix B).

Associated Comments: [Seq#75]
Aspen and its associated understory are absolutely key to renewing and building soil fertility throughout the broad aspen zone. Aspen leaf fall builds fertile A horizons faster than any other tree species in the area. Aspen will be the most likely climax species on fine textured soils in the upper montane and lower subalpine zones in most of the forest. At the dryer end of the montane zone Gambel oak assumes or shares this role. Such landscapes transition or have a successional pathway between mountain sagebrush and steppe communities and aspen woodlands often present as mosaics created by wildfire patterns with aspen largely in the moister slope positions. These fire-mosaic landscapes are diverse and productive. I suspect this is where the Sudden Aspen Death syndrome is most obvious and concerning. It may be simply a result of drought and overgrazing. The first and most cost effective way to mitigate the problem would be reduction of grazing and/or healthy burns. And remember that aspen will die-back and later recover when soil moisture conditions improve and that fire promotes aspen regeneration. Coppice cuts of aspen are one of the proposed treatments. This could have been stated as cutting aspen since any cut of aspen would fall under that category broadly defined. I am looking into some research

to further inform my understanding but for the time being I see cutting aspen as problematic to what the real problems may be. Again without placing the problem in a specific context of soil moisture conditions and grazing impacts we have an "apples or oranges" problem in finding the right approach to particular problems. [29-4]

Concern: [Seq#78]
Response: [Seq#78]
The goal of multi-aged stands is specific to the spruce-fir cover types. The goal for active aspen treatments is to generate a single-aged, single storied stand.

Associated Comments: [Seq#78]
Aspen: in row: aspen without SAD or <50% SAD (also in Aspen overstory and Spruce--fir understory and Aspen with Mixed Conifer), it says: "Remove all live aspen trees from the stand to trigger sprouting ( ) to re--establish pure stand of aspen growing in open conditions." If it's a large (> 30--50 acre) stand, the Forest Service shouldn't assume all live trees should be removed. It seems one goal is multi--aged stands, so in some cases it makes sense to leave some live trees. This could mimic the patchy effects of some natural fires. [33-27]

Concern: [Seq#79]
Response: [Seq#79]
Shifting species composition will be determined during treatment design by a certified silviculturist who will take into account all biophysical attributes to make their decision.

Associated Comments: [Seq#79]
In row: Mixed conifer with aspen: It says, "Shift species composition toward drought-- resistant, shade--intolerant species." Again, this depends on the site, as in #3, and what trees can thrive in a given elevation, aspect, etc. [33-29]

Concern: [Seq#80]
Response: [Seq#80]
All stand treatments will be determined by a certified silviculturist who will take into account all biophysical attributes and the best available science to determine the proper treatment.

Associated Comments: [Seq#80]
In row: Mixed conifer with aspen & column Detailed prescription: It says, "Remove spruce and fir to favor shade--intolerant conifer species and aspen." Again, SMA would suggest that the prescription should depend on the climate change zone and conditions like elevation, aspect, etc [33-31]

Concern: [Seq#81]
Response: [Seq#81]
Regarding the objectives and conditions that would warrant aspen treatments in SBEADMR, see

response to comment 3-8. Regarding spruce regeneration, see response to comment 22-20. Note that the purpose and need has always included economic considerations as well as ecological and social/safety objectives.

Associated Comments: [Seq#81]
I have understood from the beginning that aspen cutting would be managed as sort of a triage decision making routine. The regenerating aspens do not need to be treated. I don't see why hopelessly dead ones do, either. Aspen stands that are doing badly with little regenerating can possibly be helped. I think this is still the plan, but I want to mention it again. Although it is not as simple, I think spruce fir should be subject to about the same decision making. I am still concerned about anyone being able to get spruce to regenerate after logging. If there is advanced regeneration in spruces I don't see a reason to cut dead or dying trees. (I am OK with whatever is genuinely needed for public safety, and in some cases for firefighters' safety.) It is not appropriate in a Forest Health plan to make decisions on whether or not to cut patches of spruce based upon timber industry desires. [34-2]

Concern: [Seq#86]
Response: [Seq#86]
The Forest Service already has enough data and experience to anticipate spruce regeneration success rates in various cutting configurations. That data and discussion has been added to the final EIS. However, the project by its very design has been developed to be adaptive over time to account for emerging science, changing conditions, and changing policies. See Appendix E, Adaptive Implementation.

Associated Comments: [Seq#86]
During the next ten years we can expect major new information re environmental sustainability. Design the project to start small and take advantage of what is being learned to adapt your plans as you continue.... I understand the desire to take action in the face of the massive changes that the spruce beetle has brought to our forests and the motivation to support the local economy through timber treatments. However, the science behind regeneration in spruce-fir ecosystems is still being developed and it is unclear what this project will mean for the long-term forest health of the GMUG [50-2]

I understand the desire to take action in the face of the massive changes that the spruce beetle has brought to our forests and the motivation to support the local economy through timber treatments. However, the science behind regeneration in spruce-fir ecosystems is still being developed and it is unclear what this project will mean for the long-term forest health of the GMUG [59-2]

I understand the desire to take action in the face of the massive changes that the spruce beetle has brought to our forests and the motivation to support the local economy through timber treatments. However, the science behind regeneration in spruce-fir ecosystems is still being developed and it is unclear what this project will mean for the long-term forest health of the GMUG [63-2]

I understand the desire to take action in the face of the massive changes that the spruce beetle have brought to our forests and the motivation to support the local economy through timber treatments. However, the science behind regeneration in spruce & fir ecosystems is still being developed and it is unclear what this project will mean for the long term forest health of the GMUG [96-2]

Concern: [Seq#89]
Response: [Seq#89]
Impacts of SBEADMR on age-class distribution are noted in the silviculture section, Chapter 3 of the FEIS.

Associated Comments: [Seq#89]
Throughout the U.S. new wildlife groups are forming to address a serious new issue for some species. This issue is that public forests are remarkably out of balance in terms of age class - way too much older growth and not near enough young forest habitat. For example, multiple wildlife groups joined forces in Virginia because "without active forest management many game and non-game species will continue to decline, even dangerously close to elimination in large portions of public land." Tables 1 and 2 on pages 6 & 7 of the EIS show the seral stages of the GMUG forests. The young forest advocacy has been almost non-existent in the GMUG discussions to-date. Forest management is a focused way of achieving age class diversity even in beetle infested environments and should clearly be a goal in the aspen response due to the importance of aspen habitat. [97-50]

Concern: [Seq#90]
Response: [Seq#90]
A discussion has been added to the silviculture section of Chapter 3 of the FEIS, describing the reproductive process for aspen.

Associated Comments: [Seq#90]
Silviculture and the concepts of regeneration, recovery, and resilience received much discussion in the pre-DEIS meetings. On regeneration, given the level of spruce beetle outbreak and the climate change projections, regeneration, both natural and artificial, is crucial. As highlighted on page 17, approximately 46% of aspen stands affected by SAD are not regenerating. Aspen trees are very important to wildlife as well as a huge economic draw for many areas. Without treatment, these areas will continue to decline. It would be beneficial to include a section on how aspen grow and reproduce, highlighting the overall need for treatment. [97-42]

Concern: [Seq#94]
Response: [Seq#94]
The objective in mixed conifer stands with aspen in areas where suckering potential is low would be to maintain the existing aspen component while reducing competition for nutrient, water, and light. By removing the spruce/fir component the stand would remain in the aspen cover type, representing early seral habitat, for a longer period of time than if no management occurs.

Associated Comments: [Seq#94]
In row: Mixed conifer with aspen & column Suckering potential low & Detailed prescription: It says, "Remove spruce--fir / conifer and allow stand to succeed to aspen dominated stand." If the suckering potential is low, are aspens likely to come in successfully? And wouldn't this depend on site conditions like elevation, aspect, etc. [33-30]

Concern: [Seq#95]
Response: [Seq#95]
Any treatment that occurs in Aspen-dominated stands will depend on current budget funding levels as well as the potential for new markets. We have acknowledged this situation from the beginning. The aspen treatments would increase resilience at the landscape scale by perpetuating and regenerating this early seral species. All treatments will be prioritized based on budget and market conditions, however, the objectives will remain the same.

Associated Comments: [Seq#95]
In row: Aspen overstory and Spruce--fir understory, it says, "Coppice harvest cut if defect low to high." As in # 3, there should be some rationale for when to cut, especially if there's no market for aspen. [33-28]

Concern: [Seq#96]
Response: [Seq#96]
Silviculturists are aware of the difficulty of regenerating spruce in large openings with minimal shade. Some techniques they have developed include leaving more large woody debris in the unit to provide additional and high quality microsites as well as using shade cards. These techniques have resulted in good reforestation success rates. Please refer to the Silviculture section in Chapter 3 of the FEIS for further discussion on regeneration strategies and success rates.

Associated Comments: [Seq#96]
Englemann spruce is difficult to regenerate because young trees do not survive in the open very well. See Alexander, 1987, at 29. Even planted seedlings often die. Id. Since one of the goals of the project is to "re-establish and maintain forest cover via replanting where seed sources are lacking," the EIS must analyze the chances of reforestation success. See DEIS at 23. We do not find such an analysis in the draft. [22-18]

Concern: [Seq#97]
Response: [Seq#97]
These effects are analyzed in the silviculture section of Chapter 3 of the FEIS. Please refer to this section for further discussion on regeneration strategies and success rates. [ID#98]

Associated Comments: [Seq#97]
Salvage logging would remove shade needed for regeneration. Snow would melt earlier in openings, and the increased exposure to the sun would create a warmer and drier environment that is less conducive

to seed sprouting and seedling survival. Fuel reduction treatments, such as piling and/or burning, would further reduce shade. Trees "that pose a blow down risk" may be cut (id. at A-2, A- 3), increasing the size of openings, or at least increasing areas without shade. [22-21]

The use of heavy equipment would compact soils. It is unlikely that seeds will germinate below areas of compacted soil, or if they do, the sprouts would not be able to push through the denser soil. Livestock grazing could destroy or damage regeneration. Large animals like cows can easily trample young seedlings, and also can eat them. Grazing is an issue because there are 165 active grazing allotments within the opportunity areas. DEIS at 258. Thus, even in stands with advanced regeneration present or where regeneration later appears, artificial regeneration may be necessary to reestablish and perpetuate spruce stands. Given the... requirement under the National Forest Management Act to regenerate logged areas, the SBEADMR EIS must examine the likely effectiveness of efforts to regenerate spruce stands, and discuss what would be done if regeneration is not successful. [22-22]

Concern: [Seq#98]
Response: [Seq#98]
Research from the Terror Creek study has shown that the greatest response to coppice cutting regeneration in aspen occurs in stands which are affected by SAD in 50% or less of the stand and will be identified as the highest priority for treatment regardless of understory. Individual stands that are not affected by SAD or have greater than 50% affected will be evaluated on a site by site basis to determine effectiveness for fuels, wildlife, or other integrated objectives. Stands with significant encroachment of spruce/fir in the understory will be evaluated to determine if the stand should be maintained in the aspen cover type or allowed to convert to spruce/fir.

Associated Comments: [Seq#98]
Aspen: in row: aspen without SAD or <50% SAD, it says: "create a younger, stand more resilient to SAD. The goal is to mimic natural disturbance patterns resulting from a stand replacing event." There should be a rationale for when to treat aspen and when not to- especially if the stand is without SAD, as not all aspen needs to be treated. Looking at whether the aspen is in a lost, versus threatened, persistent or emergent zone could be one factor. Other factors could include wildlife habitat needs and the overall patterns of aspen stands on the landscape. [33-26]

Concern: [Seq#99]
Response: [Seq#99]
With respect to the timber volume projections in the DEIS and FEIS, these volumes are derived from commercial treatments only. Noncommercial treatments are not included in this volume projection.

With respect to the allowable sale quantity, the National Forest Management Act of 1976 in Sec. 13. Limitations on Timber Removal subsection (a) directs national forests to not exceed the allowable sale quantity in any 10 year period. Subsection (b) allows national forest to exceed this limit for specific reasons. As quoted "(b) Nothing in subsection (a) of this section shall prohibit the Secretary from salvage or sanitation harvesting of timber stands which are substantially damaged by fire, windthrow, or other

catastrophe, or which are in imminent danger from insect or disease attack. The Secretary may either substitute such timber for timber that would otherwise be sold under the plan or, if not feasible, sell such timber over and above the plan volume. (16 U.S.C. 1611)" Therefore, timber volume generated from salvage activities does not count toward the Forests' ASQ. However, resiliency volume would count toward the Forests' ASQ; the anticipated resiliency volume generated by SBEADMR activities would not exceed the ASQ.

Associated Comments: [Seq#99]

THE PROPOSED PROJECT COULD CAUSE AN EXCEEDANCE OF THE ALLOWABLE SALE QUANTITY OF TIMBER, IN VIOLATION OF THE FOREST PLAN. Under the proposed action, up to 990,000 CCF (hundred cubic feet), or 99,000 MMCF (million cubic feet) could be cut over the 8-12 year duration of the project. DEIS at 157. It isn't clear if this is commercial volume only, or if it also includes wood from non-commercial logging treatments.21 The allowable sale quantity (ASQ) of sawtimber for the GMUG National Forest is 46.7 MMCF per decade.22 Plan at F-7. Just considering SBEADMR, the total estimated volume is close to double the ASQ. But there would likely be other projects implemented at the same time as SBEADMR, contributing to an even greater exceedance of the ASQ. The DEIS estimates that: approximately 40-50,000 acres of spruce-fir and aspen vegetation management within the SBEADMR project area are anticipated that would be authorized by other existing and/or future NEPA decisions. Id. at 35. Though aspen would likely be treated non-commercially because there is currently no market for it (DEIS at 38), the conifer sawtimber component of this additional treatment would increase both the chance the ASQ would be exceeded and the magnitude of the exceedance. It is possible, of course, that the maximum treatment proposed would not be implemented. However, the Forest Service must not authorize a project that could cause an exceedance of the ASQ and a violation of the Forest Plan even if full implementation seems unlikely. The agency must show that SBEADMR will not cause the Forest Plan's ASQ to be exceeded. If the proposed action in the forthcoming record of decision might authorize a treatment level that would exceed the ASQ, the Forest Service must either: a) reduce the treatment volume so the ASQ is not exceeded, or b) amend the Forest Plan to allow a higher ASQ. For the latter, additional public comment under NEPA would first be necessary, as there is no indication from the DEIS that a plan amendment is being considered.... 21 This volume is "estimated to be harvested" (id.), indicating that it is an estimate of commercial volume. 22 This ASQ is specifically for the 2001-2010 decade. The Plan does not specify the ASQ for any later decades, but this ASQ is the same as for the previous decade, 1991-2000. Id. Available at http://www.fs.usda.gov/Internet/FSE_DOCUMENTS/fsbdev7_003091.pdf [22-16]

Concern: [Seq#100]

Response: [Seq#100]

To reduce windthrow in stands with green tree and snag retention, retention will occur in groups of 1/3 of an acre or larger. Individual tree retention will be avoided to prevent windthrow. Topographical features will be factored into the placement of group retention and ridges will be avoided. Moderate to steep slopes have already been filtered out based on suitability.

Local beetle population in individual stands can be managed through the use of trap trees. Trap trees are trees that are felled and left on site prior to harvesting operations. These trees are left on site for a specified time and will attract endemic populations of beetles. Once the beetles have colonized the felled trees they are removed before the beetles fly reducing the potential for additional outbreaks.

Associated Comments: [Seq#100]

WINDTHROW WOULD BE LIKELY FROM SPRUCE TREATMENTS. Spruce often has shallow rooting depth, and soil moisture is often high, due to the cool, moist environment at high altitude where spruce resides. DEIS at 275. The Silvicultural Prescription Matrix, DEIS Appendix A, states that up to 40 percent of the overstory could be removed and still maintain a stand's windfirmness. But Alexander, 1987,20 stated the following: Trees that have developed together in dense stands over long periods of time mutually protect each other, and do not have the roots, boles, or crowns to withstand sudden exposure to wind if opened up too drastically. If the boles and roots are defective, the risk of windthrow is increased.... Alexander describes low, moderate, and high risk exposures for windthrow. The highest windthrow risk situations are stands on: ridgetops, saddles in ridges, moderate to steep middle south- and west-facing slopes not protected to the windward, and all upper south- and west-facing slopes. Id. Even removing dead trees can reduce the windfirmness of the residual stand. Most importantly, if live spruce blow down, they are very attractive to SBB, and will start a new infestation center or increase an existing one. As Alexander states: Damaging attacks have been largely associated with extensive windthrow, where down trees have provided an ample food supply needed for a rapid buildup of beetle populations. . . . Cull material left after logging and road right-of-way clearing have also started outbreaks, and there are many instances of heavy spruce beetle populations developing in scattered trees windthrown after heavy partial cutting . . . Id. at 14. Indeed, the DEIS even confirms that beetle outbreaks commonly occur following windthrow events and that "[s]everal current spruce beetle activity centers on the GMUG are known to have been initiated by windthrow." DEIS at 8. The Forest Service must not take a chance of creating more SBB breeding areas. Doing so would contradict the project's purpose. Instead, the Forest Service should apply Alexander's guidelines, or more recent ones if available and scientifically credible, rather than allowing 40 percent overstory removal in all stands with live overstory. We recommend that every stand to be cut, even ones where most or all of the overstory is dead, and adjacent areas be evaluated for windthrow risk prior to treatment. We also recommend that no more than about 20 percent of the live basal area be removed even from stands at low risk for windthrow, and that some standing dead trees be retained.... 20 ROBERT R. ALEXANDER, U.S. DEP'T OF AGRICULTURE, FOREST SERV. AGRICULTURE HANDBOOK NO. 659, ECOLOGY SILVICULTURE, AND MGMT. OF THE ENGLEMANN SPRUCE-SUBALPINE FIR TYPE IN THE CENTRAL AND SOUTHERN ROCKY MOUNTAINS (1987) (hereinafter "Alexander, 1987" or "Alexander") Exhibit 4. [22-15]

Concern: [Seq#101]

Response: [Seq#101]

The design feature has been clarified but is retained. The new text reads: "Retain all live healthy Engelmann spruce, subalpine fir and aspen trees in salvage units, except for trees that need to be removed for operational/safety or silvicultural purposes. Operational/safety or silvicultural purposes

include the need to remove live trees if necessary to access dead trees for salvage or to address safety concerns."

Associated Comments: [Seq#101]
Page B-21, Design Feature WFRP -8 "Retain all live trees in salvage units, except for trees that need to be removed for operational/safety or silvicultural purposes." Comment: This provision is too broad and could be used to minimize or eliminate resiliency treatments under Alternative 2. It should be eliminated. [97-98]

Concern: [Seq#102]
Response: [Seq#102]
Significant changes have been made between the draft EIS and final EIS, as specific priority treatment areas have been identified through a prioritization process. Furthermore, the FEIS identifies the specific treatments that will occur based on the existing condition as well as based on the potential for increased mortality (the adaptive management action in spruce-fir). This has enabled the USFS to do a specific analysis on the effects of habitat structural stage and seral stage at the stand, LAU, and Geographic area. This applies to treatments in spruce fir and aspen.

Associated Comments: [Seq#102]
What I found lacking in the discussion of the objectives was an understanding of plant community succession and the role of early and mid-seral communities to renewing soil fertility. I also see an oversimplified picture of the role of aspen in forest succession. Common knowledge about the impacts of grazing has been replaced by an acronym that makes it seem SAD and mysterious. I see a complex set of possible treatments with each action alternative and no predetermination of which treatments will be implemented and where each treatment will be implemented. Without knowing what treatments will be applied to each situation evaluating likely impacts is simply not possible without making assumptions. The actions alternatives seem to say "just trust us to do the right thing". That high degree of public trust does not exist. [29-1]

Concern: [Seq#103]
Response: [Seq#103]
Each individual stand will be evaluated by a certified silviculturist to determine treatment needs based on the level of existing mortality and the condition of the understory. Cutting of live aspen trees promotes coppice regeneration, and although a stand may appear to have some regeneration, it may still be advantageous to treat stands to increase root stimulation to ensure successful regeneration of an entire stand.

With respect to signage on hazard trees, while not considered as part of the SBEADMR project, the Forest Service is doing its best to communicate about existing hazards and has closed one campgrounds during the beetle epidemic. In SBEADMR, the proposed actions include treatment of hazard trees - dead/dying trees adjacent to infrastructure.

Associated Comments: [Seq#103]
I recently drove on Stevens Gulch road north of Paonia into Gunnison National Forest. While I did pass large stands of dead aspen there were plenty of new aspen and other large shrubs filling in the understory of the dead forest. I'm quite concerned that attempts to remove the dead trees through logging will damage the existing understory and set the restoration of the health of the area back decades. Commercial logging in particular tends to damage a large amount of the healthy shorter plants in an area.... Taking care to not damage the existing understory is crucial to the health both of the vegetation and the wildlife in the area. This may require warning signs that dead trees may fall and that people need to take precautions. Certainly places like Yellowstone National Park issued a general warning after the bad 1988 fire that left so many dead trees standing - they closed some areas completely for a while. Even now they warn on their main page "Falling Trees: Following the fires of 1988, thousands of dead trees, known as snags, were left standing in Yellowstone. These snags may fall with very little warning. Be cautious and alert for falling snags along trails and roadways, and in campsites and picnic areas. Avoid areas with large numbers of dead trees. Again, there is no guarantee of your safety." Where the understory seems to be recovering with new growth, a leave as is approach should be considered and included in the plan. [4-5]

Concern: [Seq#104]
Response: [Seq#104]
This is a good idea. During SBEADMR implementation, we will consider designating firewood cutting areas on a case-by-case basis depending on the quality and quantity of residual material and access. Thank you for your comment.

Associated Comments: [Seq#104]
If noncommercial treatments produce viable firewood product that will be burned in slash piles we ask you consider the opportunity for community members to access and utilize this valuable resource. This would still require a forest service wood cutting permit but by mapping and allowing access to this product it creates revenue for the USFS and makes easier the collection of this resource in the local communities. We feel this is a good opportunity to allow better awareness of the stewardship and work taking place on our public lands and connect the communities to the issues of forest health. [5-14]

Concern: [Seq#105]
Response: [Seq#105]
Where high quality advanced regeneration exists, retention of the overstory will prevent any damage to those areas. Where marginal advanced regeneration exists, B provisions in the contract protect advanced regeneration and leave trees from logging damage. If excessive logging damage is occurring, the sale administrator can suspend operations until the purchaser can come up with a plan to protect regeneration and leave trees. This is a common practice and not specific to SBEADMR. This project is not

designed to stop the spread of the spruce beetle. Effects to other resources will be reduced or mitigated through the use of the design feature checklist.

Associated Comments: [Seq#105]
Alternative 1 would be preferable if the goal is spruce regeneration as logging and other treatments tend to damage seedlings in multi storied canopies. [9-4]

Concern: [Seq#106]
Response: [Seq#106]
Shifting species composition will be determined on a stand by stand basis by a certified silviculturist who will take into account all biophysical attributes to make their decision.

Associated Comments: [Seq#106]
* I don't usually like the idea of replacing the naturally occurring tree species with something different. In some cases, due to climate change, this might be appropriate. Letting aspen grow almost anywhere, but especially in previously mixed spruce fir/aspen or even in formerly spruce fir would be OK. Experimenting with some ponderosa or Douglas fir would be OK. Pure lodgepole stands don't have as much wildlife value. [34-3]

Concern: [Seq#107]
Response: [Seq#107]
Monitoring of regeneration success in past regeneration harvest areas for the last 10-15 years has shown that natural regeneration and artificial regeneration of spruce can be successful without going through an early seral successional stage. While the comment has merit, and natural processes would occur in areas that are not treated (>90% of the spruce-fir cover type would not be treated by SBEADMR), on lands designated suitable for timber production, we are required by NFMA to reforest harvested areas within 5 years. Based on evaluations by a certified silviculturist of a site's biophysical attributes, management activities may be conducted to shift species composition away from spruce.

Associated Comments: [Seq#107]
Insect and disease epidemics should be seen as signs of stress caused by drought, (rarely excessive water on upland soils), and/or depletion of nutrients necessary for healthy growth, or simply over-maturity of the forest overstory. Plant communities do not remain constant over long time periods, and trying to follow spruce decadence with spruce seeding without the soil renewal of early and mid-seral communities will likely result in poor stands at best. Replacing a dead forest with a forest doomed by lack of nutrients is not a plan for good regeneration. We should not seek quick gratification because it will not happen. That is not how ecology works. [29-3]

Concern: [Seq#108]
Response: [Seq#108]
Where high quality advanced regeneration exists, retention of the overstory will prevent any damage to

those areas. Where marginal advanced regeneration exists, B provisions in the contract protect advanced regeneration and leave trees from logging damage. If excessive logging damage is occurring, the sale administrator can suspend operations until the purchaser can come up with a plan to protect regeneration and leave trees. This is a common practice and not specific to SBEADMR. This project is not designed to stop the spread of the spruce beetle. Effects to other resources will be reduced or mitigated through the use of the design feature checklist. With respect to funding reforestation activities, they will be funded through a combination of KV, retained receipts and appropriated dollars. We do expect to receive enough funding to meet our requirements under NFMA. Under our current funding levels this year and projected the next two years we can realistically fund those acres.

Associated Comments: [Seq#108]
There has been significant regrowth of spruce in involved areas. It is feared that the heavy equipment necessary for adequate logging will destroy this regrowth. This would require planting of saplings, an expensive process to say the least. In today's climate of budgetary restraints, it is unlikely that sufficient funds would be available. [31-9]

Concern: [Seq#109]
Response: [Seq#109]
Providing wood products to the economy has always been one of the primary purposes and need for implementation of this project. With respect to the NEPA process, see response to comment 29-1. With respect to the relationship between the project and the allowable sale quantity, see response to comment 22-16.

Associated Comments: [Seq#109]
4) In early conversations about this proposal, the mentions of commercial logging and the timber mill were not a prominent part of the discussion but has now become a notable topic. I can support recovery actions that supply the local mill as long as there is a robust and NEPA compliant adaptive management strategy in place. I am sensitive to the economic needs of the greater Montrose community but would oppose the introduction of a larger national wood product concern becoming involved. I would also point out that some research shows that the proposal could cause the allowable sale quantity of timber to be exceeded, which would violate the forest plan. [39-4]

Concern: [Seq#185]
Response: [Seq#185]
We agree; this section is no longer part of the FEIS.

Associated Comments: [Seq#185]
Page 44, time since mortality, Engelmann spruce typically die within 2 years of beetle infestation, not within 1year. In fact, depending on the level of attack, trees can take several years to die. [97-16]

Concern: [Seq#186]
Response: [Seq#186]

This statement has been corrected in the EIS. Every effort to ensure consistent GIS acres have been made for the FEIS, however, there may still be some minor discrepancies.

Associated Comments: [Seq#186]
Page 282,Table 63,it is confusing to put spruce/spruce. Please consider just listing it as spruce. Additionally, this table shows a total of 296,234 suitable acres, whereas on page 23, the total is given as 278,000 acres. [97-47]

Concern: [Seq#202]
Response: [Seq#202]
The silviculturist writing the prescription for the treatment will determine which trees will be harvested and which will remain. In areas with extensive mortality one of the goals is to retain as many live trees in a treatment area as possible. Retention of live trees provide seed trees and wildlife habitat. Sale administrators can determine which trees pose hazards to operations and which do not. Those that pose a hazard will be removed.

Associated Comments: [Seq#202]
WFRP-8 - As written, WFRP 8 would almost certainly limit achievement of Silvicultural Objective b (Maintenance of green stands where they exist). Further, WFRP-8 would almost certainly lead to disagreements on-the-ground about whether or not individual trees are "live" and whether or not a unit is a "salvage unit". All of this is better handled through silvicultural prescriptions. We recommend that you delete WFRP 8. [97-68]

Concern: [Seq#239]
Response: [Seq#239]
This has been corrected in the FEIS.

Associated Comments: [Seq#239]
Page 296 -The first sentence in the last paragraph, ie, "The aspen species considered in this document generally occur in rare or unusual habitats with the montane and subalpine zones" is incorrect. As discussed on pages 200-201, "Aspen is a common constituent in [the spruce fir] vegetation type". The following sentence at the top of page 201 perhaps contributed to the confusion - "The species considered in this document (referring to the twelve sensitive species) generally occur in rare or unusual habitats within the montane and subalpine zones." We recommend you rewrite both sentences to clarify that aspen (Populus tremuloides) is a common species that occurs throughout the GMUG and that the species referred to on page 201 are the twelve sensitive species within the project area. [97-55]

Concern: [Seq#242]
Response: [Seq#242]
This quoted language is from a section of the FEIS that has been re-written. Because there is not a lot of

data about historic outbreaks, we chose to describe the current epidemic on the GMUG rather than attempt to compare it to past/historic outbreaks.

Associated Comments: [Seq#242]
Page 2, it would be beneficial to explain that while spruce beetles are natural and outbreaks have occurred throughout history, the outbreaks have never been this large or comprehensive. The language on page 183 ("however, due to the higher mortality rates in this outbreak of as much as 4 times mortality rates in historic outbreaks, there could be novel and/or unanticipated effects") does a great job of explaining this concept and should be included in Chapter 1,rather than be buried in Chapter 3. [97-5]

Concern: [Seq#243]
Response: [Seq#243]
The design feature Rec-1 has been updated to ensure consistency with the Slash Pile design feature. Rec-1 now reads, "Avoid use of broadcast burning treatments in campgrounds (if piles are burned, ensure that impacts to residual trees are negligible)."

Associated Comments: [Seq#243]
Page B-13,Design Feature SP-3, this design feature conflicts with Design Feature REC-1 (B-8). [97-90]

Concern: [Seq#246]
Response: [Seq#246]
The design feature has been clarified but is retained. The new text reads: "Areas supporting live advanced regeneration with >35% Dense Horizontal Cover in blocks greater than 0.3 acres will be avoided during layout."

Associated Comments: [Seq#246]
Page B-21, Design Feature WRFP-10 111 Areas supporting live advanced regeneration will be avoided during unit layout . Focus should be placed on areas with .35% Dense Horizontal Cover in blocks greater than 0.3 acres." Comment : As written, WFRP-10 would require exclusion of all areas greater than .3 acre with advanced regeneration. Not only is that totally impractical, but that requirement goes far beyond any requirement in the SRLA. We recommend including contract provisions that provide for protecting desired regeneration. [97-99]

Concern: [Seq#249]
Response: [Seq#249]
This has been corrected in the FEIS.

Associated Comments: [Seq#249]
Page 106, bottom paragraph, "there would also be fewer acres of mechanical harvest with accompanying ski trails, landings, and temporary roads." I am not sure this is a true statement. [97-31]

Concern: [Seq#250]
Response: [Seq#250]
Thank you for your comment. We have now cited this in the FEIS: Huggard, David., Klenner, Walt., Vyse, Alan. 1999. Windthrow following four harvest treatments in an Engelmann spruce - subalpine fir forest in southern interior British Columbia, Canada. Canadian Journal of Forest Research. 29(10): 1547-1556.

Associated Comments: [Seq#250]
Page 275, it would be nice to include a reference for why matrix areas will have no more than 40% of the existing stand stocking harvested to resist blowdown. [97-44]

Concern: [Seq#252]
Response: [Seq#252]
This has been corrected in the FEIS.

Associated Comments: [Seq#252]
The repeated references to the 'risks' of logging is a questionable conclusion about environmental consequences since every risk has a complementary safeguard within FS manual and guidelines and associated timber sale or stewardship contract provisions. After decades of logging projects there were no streams listed as impaired from past timber management (page 84). Other DEIS sections list effects, but preface them as potential IF forest service manuals and guidelines are not followed. [97-20]

Concern: [Seq#253]
Response: [Seq#253]
This has been corrected in the FEIS.

A**ssociated Comments: [Seq#253]**
Page 277, 2nd paragraph, it states "the group selection and matrix areas combined in the larger stand would exhibit the highest level of age class diversity under the resiliency prescription than under the recover and resiliency or resiliency prescriptions." I believe the highlighted resiliency should be recovery. [97-45]

Concern: [Seq#254]
Response: [Seq#254]
This has been corrected in the FEIS.

Associated Comments: [Seq#254]
Page 277, 4th paragraph, it states "since the recovery prescription would be applied to stands with less than 40% overstory mortality." I believe this is supposed to say "resiliency prescription." [97-46]

Concern: [Seq#255]
Response: [Seq#255]
GIS analysis inherently produces some errors; attempts have been made to improve consistency in the FEIS.

Associated Comments: [Seq#255]
Page 285, table 64, this table shows a total of 143,701 total suitable acres, but page 55 says 164,000 acres as does page 287. [97-48]

Concern: [Seq#256]
Response: [Seq#256]
GIS analysis inherently produces some errors; attempts have been made to improve consistency in the FEIS.

Associated Comments: [Seq#256]
Page 288-289, Table 65, this table shows a total of 326,405 total suitable acres, but page 60 says 323,000. Additionally, the numbers in this table do not add up correctly. [97-49]

H-1.8: Wildlife Concerns

Concern: [Seq#126]
Response: [Seq#126]
Forest Service Manual 2670 Threatened and Endangered and Sensitive Plants and Animals, Region 2 supplement dated August 29, 2015, establishes policy and management direction for the conservation of Forest Service Sensitive species and threatened, endangered, candidate and proposed species. If critical habitat is proposed or designated for a species, FSM 2670 also requires an analysis of Forest Service actions be completed. FSM 2670 requires species on this list be addressed by preparing a biological evaluation (BE) for sensitive species and a biological assessment (BA) for Threatened and Endangered Species. As these documents are being written, Forest Service biologists work directly with Fish and Wildlife biologists to enhance the conservation of imperiled species by using a streamlining process. Streamlining is accomplished by emphasizing coordination and communication during informal consultation. Throughout development of the SBEADMR project, Forest Service biologists have discussed the project with the Fish and Wildlife Service to ensure conservation of sensitive and threatened and endangered species, in particular Canada lynx and Gunnison sage grouse. If the FWS identifies any terms and conditions in the biological opinion, these measures will be incorporated into the Final ROD. Additionally, comments and input from Colorado Parks and Wildlife (CPW) have also been sought and where appropriate used to structure the proposed action, the adaptive implementation approach and design features.

Associated Comments: [Seq#126]

Special-Status and Threatened and Endangered Species: The project area may contain special status species, including Endangered Species Act listed threatened species, endangered species, and/or their designated critical habitat, as well as candidate species. These include Gunnison sage-grouse, Mexican spotted owl, Southwestern Willow Flycatcher, Yellow-billed cuckoo, Uncompahgre Fritillary butterfly, Black-footed ferret, and the Canada Lynx. We recognize that the USFS will discuss the Preferred Alternative if it differs from the currently proposed action alternatives with the USFWS as it relates to potential impacts to these species if present in the project area. To best inform the decision-maker and the public, we recommend the NEPA documentation include any USFWS recommendations to reduce potential impacts to these species including project design criteria, mitigation, conservation measures and monitoring measures. The results of the USFWS discussions and subsequent recommendations will be a valuable addition to the Final EIS. [7-14]

Concern: [Seq#127]
Response: [Seq#127]
Current BMPs in place for forest wide vegetation management should preclude any negative effects on the collective "Three Species". Because Flannelmouth Sucker and Roundtail Chub habitat are not present within GMUG administered lands, only issues such as altered flow regimes and instream sedimentation would have a negative effect on these downstream fishes. By utilizing stream buffers and minimizing the number of road-stream crossings, the probability and amount of instream sedimentation is negligible. Community Structure monitoring of all Catostomid inhabited waters should continue to evaluate the spread of non-native introduced White Suckers, which provide the greatest danger to native Bluehead Suckers.

Associated Comments: [Seq#127]
For the "Three Species," i.e.,flannelmouth sucker, bluehead sucker ,and roundtail chub, CPW recommends: conducting an inventory and analysis, identifying treatment areas and mapped conservation waters within the project boundary and developing design criteria and features to protect native fish and their habitats... AQUATIC WILDLIFE SPECIES: NATIVE NON-SALMONID FISH HABITAT An inventory and analysis of the potential impacts to "the Three Species," will add great value to the integrity of the final EIS.1 Streams such as Cunningham Creek, Terror Creek and Hubbard Creek Middle Fork in Delta County are examples of habitats fall within the proposed treatment area and may be affected. [8-1]

Concern: [Seq#128]
Response: [Seq#128]
Design feature WFRP-24 has been added to the FEIS, and see also design feature IW-2. WFRP-24: "To minimize spread of Amphibian Chytrid Fungus, at least one member of the Aquatics Team will participate in the planning and implementation of project-level operations. See also IW-2 for equipment washing requirements."

Associated Comments: [Seq#128]
Add and/ or strengthen design features to avoid the spread of invasive species... AQUATIC WILDLIFE SPECIES: INVASIVE SPECIES CPW recommends that the Forest Service add and/ or strengthen design features that address equipment sanitation to avoid the spread of Aquatic Nuisance Species (ANS), noxious weeds and other invasive species. Decontamination protocol for chytrid fungus should occur regardless of whether the equipment had been "pre-disposed ." Forest Service contractors should always assume that the fungus is present and disinfect accordingly. Areas that are known to be contaminated with chytrid fungus should be treated last. [8-2]

Concern: [Seq#129]
Response: [Seq#129]

The FEIS was modified in response to this comment as follows: 1) GMUG district terrestrial biologists have worked for a number of years with CPW biologists to identify priority treatment areas on the Forest benefitting big game and other wildlife species. These data were used to identify priority treatment areas in mixed conifer and aspen stands within the project area. In addition, in cooperation with Colorado State University a GIS optimization model was developed to identify treatment areas where multiple resource objectives could be realized in the SBEADMR planning area. The Forest reviewed CPW oil and gas stipulations and where appropriate either created a new design feature or modified a proposed design feature. During SBEADMR implementation, GMUG biologists will work closely with CPW biologists to achieve overall habitat objectives. This step has been added to the implementation strategy discussed in Appendix E.

Associated Comments: [Seq#129]
For big game species, CPW recommends: designing specific projects to meet USFS objectives and CPW's mule deer strategy, coordinating timber harvest activities and or burns to avoid critical time periods for big game, incorporating timing limitations into design features so they remain in place for life of the project.... TERRESTRIAL WILDLIFE SPECIES: BIG GAME CPW supports large aspen treatment projects (>40 acres) when they avoid crucial sensitive periods for big game. We recommend that the Forest Service incorporate specific timelines into design features so that the timing of treatment activities and wildlife protections remain consistent over the life of the project. Attached is a document titled Colorado Recommended... Stipulations for Oil and Gas within the State of Colorado (Attachment 1). While CPW developed this document to reduce impacts from oil and gas operations on wildlife, many of the timing and distance buffer recommendations are applicable in developing design guidelines to protect wildlife in other land use/management plans, including the Final EIS.... CPW supports the Forest Service's range of tools proposed to implement forest treatments. Our Mule Deer Strategy (2014) recommends many of the same treatment tools e.g., hydro axe, roller-chop, prescribed fire, etc. to manage habitat for deer. CPW requests that the Forest Service identify opportunities to add the following actions in the planning, design features, and implementation of site specific project activities: 1) Pursue separate habitat treatments for deer and elk on the same landscapes to minimize overlap and lessen forage competition; 2) Work closely with CPW staff to create and share a habitat treatment and

monitoring database for this project; 3) Work closely with CPW staff to monitor effectiveness of habitat management to inform future decisions [8-3]

Concern: [Seq#130]
Response: [Seq#130]
US Fish and Wildlife Service has listed Gunnison sage grouse as threatened and designated critical habitat. As such, an analysis (Biological Assessment) of potential effects to the bird and designated critical habitat has been completed for the project and formal consultation initiated with Fish and Wildlife Service. In most cases actual management of sage brush ecosystems will be avoided under SBEADMR. Aspen stands within non-commercial Priority Treatment Areas (PTA) that are within critical habitat may be managed with the use of prescribed fire or non-commercial means but only to enhance habitat for the bird. These actions were discussed in the Biological Assessment. During treatment planning in designated critical habitat, coordination with Parks and Wildlife will occur as required by design feature (WFRP-16).

Associated Comments: [Seq#130]
For Gunnison Sage Grouse, CPW recommends: conducting a Section 7 consultation with the U.S. Fish and Wildlife Service (USFWS) within designated Critical Habitat, coordinating with the BLM as described in the final EIS Record of Decision, conducting a review of potential treatment areas within designated Critical Habitat to apply treatments to aspen stands.... In November of 2014, the United States Fish and Wildlife Service (USFWS) determined that the Gunnison sage-grouse (GuSG) warranted protection as a threatened species under the federal Endangered Species Act (16 U.S.C. 1531- 1534). Management activities within designated Critical Habitat require a Section 7 consultation with the U.S. Fish and Wildlife Service (USFWS). GuSG require a variety of habitats, including large expanses of sagebrush with a diversity of grasses and forbs (fall and winter) and healthy wetland and riparian areas including aspen stands (at approximately 8500-9500 feet in elevation) for summer brood rearing. The Forest Service Draft EIS states on page 298 that: "Although the proposed treatment activities do not involve suitable habitat for this species, Gunnison sage-grouse could potentially be affected because transportation routes to access treatment areas and haul material may cross occupied habitat consisting of National Forest, Bureau of Land Management and private lands." We concur that hauling could negatively impact Gunnison sage-grouse. We also see an opportunity to enhance GuSG habitat in some aspen treatment areas.... The Colorado State Office of the Bureau of Land Management (BLM) is preparing a programmatic EIS for GuSG. The USFS and CPW are Cooperating Agency partners in the development of that EIS. We recommend the Forest Service work closely with the BLM to address Gunnison sage-grouse protections described in the final EIS Record of Decision. CPW reviewed the overlap between potential project locations in the SBEADMR DEIS (GMUG) aspen and spruce map layers and the U5FWS' designated Critical Habitat and found numerous locations where treatment areas lie within designated Critical Habitat. We recommend conducting a more extensive review of potential treatment areas within designated Critical Habitat to apply treatments to aspen stands. CPW has identified the following potential treatment areas within the Southwest Region that lie within Critical Habitat for your review and consideration: Montrose County: T45N, R11W, S16, New Mexico Meridian; T46N, R11W, S34, New

Mexico Meridian; T49N, R6W, 514, 1S, 16, 21, 22, 23, 26, 27, New Mexico Meridian Gunnison County: T1SS, R87W, 525, 26, 36, 6PM; T49N, R4W, 55, 6, 7, 8, New Mexico Meridian; T49N, RS.SW, S12, 14, 23, New Mexico Meridian; T49N, R6W, S13, 24, 2S, New Mexico Meridian; T50N, R4W, S31, 32, New Mexico Meridian; TS1 N, R2W, S10, 11, 14, New Mexico Meridian Saguache County: T45N, R1E, 59, 10, 1S, New Mexico Meridian; T4SN, R2E, S2S, New Mexico Meridian; T46N, R3E, 55, 16, 20, 21, 28, New Mexico Meridian; T47N, R1E, S10, 11, 12, 13, 14, 1S, 22, 23 , 24, New Mexico Meridian; T47N, R3E, S31 , 32, New Mexico Meridian Most of these lower elevation aspen stands are smaller patches, and treatments may be susceptible to over browse by domestic cattle and wild ungulates. In order to achieve treatment goals and desired outcomes, treatments in these stands need to be carefully timed and on a sufficient landscape scale. Please refer to, the GuSG Rangewide Conservation Plan (RCP 200S) (http:I Icpw .state.co.us/ l earn/ Pages/ GunnisonSagegrouseConservati onPlan.aspx) and the U5FWS to develop appropriate design features to ensure that impacts on Gunnison sage-grouse from the proposed project are avoided, minimized, and mitigated. [8-4]

Concern: [Seq#131]
Response: [Seq#131]
WFRP-10 and 12 requires protection of live understory to the greatest extent practicable. Emphasis is placed on areas of larger blocks of habitat of 0.3 acres or larger in size that provide high quality hare habitat. Under the SRLA the Forest is required to report the amount of incidental removal during salvage from skid trails or road construction under exception 3 of Standard Veg S6. SRLA also establishes a cap on the number of acres of high quality hare habitat that can be affected over the life of the amendment. As of 2015 total acres under Exceptions 1-4 in Veg S5 and Exceptions 1-3 in Veg S6 is 4,149 acres or approximately 0.5% of the lynx habitat on the GMUG. Acres allowed under the exceptions are tracked annually and reported to Fish and Wildlife Service.

Associated Comments: [Seq#131]
For Canada lynx, CPW recommends: including design criteria to minimize understory disturbance and including a project selection criterion to evaluate the understory and advanced regeneration, and avoiding quality lynx / hare habitat. [8-5]

Concern: [Seq#133]
Response: [Seq#133]
See response to comment 8-5. In addition, the GMUG worked with Dr. Jake Ivan from Colorado Parks and Wildlife and the Geography Lab at Colorado State University to identify and map high use areas for Canada lynx. Areas identified as high use were assigned a low priority in the prioritization process, since it was assumed these areas already provided good quality habitat for lynx. Live spruce areas lacking an understory will be targeted for treatment to stimulate regeneration.

Associated Comments: [Seq#133]
Snowshoe hares comprise a major portion of the lynx diet. Hare populations in Colorado rely heavily on

the understory structure and advanced regeneration of the forest. In areas where understory structure exists or has been enhanced by over-story mortality hare populations have benefited. Results from CPW and USF5 monitoring efforts indicate that lynx are still present in nearly all of the areas they inhabited prior to the spruce beetle outbreak on the Rio Grande NF (roughly 4-6 years ago depending on location). In 201 S two GP5-collared female lynx produced kittens within beetle-killed forest patches. Thus, we believe that areas lacking a living overstory, but with a sufficient understory are continuing to function as lynx habitat. The EIS indicates that when timber is salvaged, some portion of the understory is disturbed or damaged. We recommend including design criteria to minimize understory disturbance that may degrade lynx and hare habitat quality. Design criteria may include: increasing distance between skid trails, using machinery to pluck and stack logs, and requiring winter salvage, etc. in areas with advanced understory regeneration... In addition, the EIS identifies several types of forest stands and provides treatment prescriptions for each type. We agree that many of the prescriptions will benefit hares and lynx e.g., single storied stands without much understory. However, other stands e.g., multi- or single story with >35% Dense Horizontal Cover could not be improved by and would likely be degraded by salvage activity to some degree for hares and lynx [8-8]

Concern: [Seq#134]
Response: [Seq#134]
See response to comments 8-5 and 8-8.

Associated Comments: [Seq#134]
We recommend that the USFS include a project selection criterion that evaluates the understory and advanced regeneration, and avoids areas that are functioning as quality habitat for lynx/hare. Of particular importance are those areas where current or historic data indicate that lynx are/were present. We believe that this approach will aid the USFS in the design and identification of specific treatment areas that will be most beneficial to lynx and minimize potential disturbance lynx from treatment activities [8-13]

Concern: [Seq#135]
Response: [Seq#135]
See response to comments 8-5 and 8-8. In addition, the project is designed to meet or exceed all requirements of the SRLA which amended the GMUG Forest Plan in 2008. The SRLA contributes to conservation of lynx in the Southern Rocky Mountains and incorporates all terms and conditions contained in the U.S. Fish and Wildlife Service's Biological Opinion for the 2008 Decision. GMUG staff have also worked closely with Fish and Wildlife staff in development of the SBEADMR project to incorporate additional conservation measures where needed. All terms and conditions contained in the SBEADMR Biological Opinion will be incorporated into the Final ROD.

Associated Comments: [Seq#135]
The effect of the project on lynx and other sensitive species has not been adequately addressed as the

locations for the treatments have not been established and the proposed mitigation measures fall short of what is required for habitat protection. [9-6]

Concern: [Seq#138]
Response: [Seq#138]
During project implementation, GMUG biologists will be consulting with CPW to determine areas sensitive to wildlife within the proposed project areas. This step has been added to the treatment design checklist.

Associated Comments: [Seq#138]
Wildlife • Consult with CPW on big game concentration area, elk security areas, and other key wildlife use areas. Identify those key habitats and concentration areas and protect through avoidance and/or seasonal restrictions. [13-35]

Concern: [Seq#139]
Response: [Seq#139]
Additional analysis is included in the FEIS addressing habitat effectiveness. Design features have been modified to better address the importance of wildlife concentration areas and how these areas should be addressed during project planning. Additional direction has also been added to the treatment design checklist for consideration during treatment planning.

Associated Comments: [Seq#139]
Winter is often one of the most stressful times for wildlife. Minimizing disturbance, especially in winter range increases survival rate of adults and reduces probability of aborted fetuses. Including the following additional Design Features would further recognize the sensitivity of wildlife to stress caused from activities during vulnerable periods. • Ensure compliance with Forest Plan standards and guidelines for elk habitat effectiveness. • Include seasonal operation restrictions to protect elk calving, deer fawning, summer concentration (security) areas, and winter concentration areas. • Sequence operations to avoid impacting large landscapes simultaneously. These Design Features are standard operating procedures that have been routinely included in timber sale contracts on the GMUG and other National Forests throughout the Nation. They are critical elements for the protection of big game herd survival and production. The maps produced by the CPW are based on long term distribution data and professional knowledge of agency biologists and do not need to be re-validated each year to determine their necessity... The DEIS includes the concept of limiting operation periods to minimize impacts during the breeding season. This concept is based in sound science and has been shown to be effective in reducing impacts to big game during sensitive times. The CPW has mapped seasonal concentration areas and calving/fawning areas for big game in the State. The FEIS needs to reference these resource maps and provide firm direction to avoid disturbance to breeding animals and to big game winter concentration areas. [13-39]

Concern: [Seq#140]
Response: [Seq#140]
See response to comment 13-39. See also the cumulative impacts section of the watershed section of Chapter 3, FEIS. This quantifies the maximum cumulative percent disturbance on NFS lands by NFS lands in the watershed (in equivalent clear-cut acres) and illustrates that the cumulative effects of all SBEADMR activities, when considered with past, present, and other foreseeable actions on NFS lands, would never constitute a "majority" of the watershed. Indeed, a decision-making trigger limits such disturbance to no more than 25% of the watershed; analysis indicates that only one sub-watershed may reach 20% impact.

Associated Comments: [Seq#140]
Another tool or solution to mitigate impacts to elk habitat effectiveness would be to schedule proposed treatments on the landscape to provide undisturbed areas. At the Habitat Unit or watershed scale, this would mean planning treatments to avoid affecting a majority of the watershed at one time by implementing a sequence of treatments that will provide undisturbed areas in juxtaposition with active treatments to provide areas of temporary refuge for big game. [13-40]

Concern: [Seq#141]
Response: [Seq#141]
The FEIS was modified in response to this comment as follows: Since open road density is a major factor in determining habitat effectiveness, GMUG staff analyzed the effects of the existing road network on habitat effectiveness. Within priority areas for commercial treatment, a transportation system was developed to treat all identified spruce and spruce-aspen stands. The addition of these roads was then used to determine how these additional roads affected habitat effectiveness in accordance with Forest Plan Direction.

Associated Comments: [Seq#141]
The Forest Plan includes standards and guidelines for elk habitat capability and effectiveness as related to vegetation conditions and open road densities at the Habitat Unit (watershed) scale. The DEIS does not discuss these standards and guidelines and the FEIS should include or require an analysis of the existing and projected effects of the actions upon elk habitat capability and effectiveness to comply with this direction. There is clear evidence in multiple scientific studies that the density of open roads and motorized/mechanized trails directly affect elk habitat effectiveness, and that elk seek unroaded areas for security. The DEIS does not include the identification of elk security areas outside designated wilderness and Colorado Roadless Areas that are within the proposed opportunity areas. The FEIS should include or require this analysis and protect and/or mitigate impacts to those areas during the project implementation phase. These same unroaded security areas provide high quality hunting and fishing opportunities on the GMUG and should be considered by this project [13-41]

Concern: [Seq#142]
Response: [Seq#142]
The SRLA does require the Forest Service to complete project-level (site specific) consultation as required by section 7(a)(2) of the Act. The Record of Decision for the SRLA further states project-level consultation will "reference back" to the SRLA Biological Opinion to insure the effects of the specific projects are within the effects issued on the SRLA decision. The SRLA provides specific guidance and direction in the form of standards, guidelines and objectives for vegetation management activities in lynx habitat. There are management exemptions and exceptions that are allowed up to a pre-determined acreage at the Lynx Analysis Unit and Forest scales. As long as lynx management standards are followed and the amount deviation from these vegetation standards do not exceed what is allowed for exemptions and exceptions, the project is in compliance with the SRLA and terms and conditions identified in the BO. Between the Draft and Final EIS, much additional analysis has been completed, and the supporting Biological Assessment now analyzes effects of the action at the Forest and LAU scales. Refined design features are identified to ensure actions meet requirements of the SRLA. Monitoring will occur annually to ensure impacts are within those identified in the SRLA and reported to Fish and Wildlife Service. If impacts are outside predicted impacts, re-initiation of consultation under section 7(a)(2) will be required.

Associated Comments: [Seq#142]
Compliance with requirements for protecting Canada lynx, a threatened species under the Endangered Species Act, cannot be determined with just the programmatic analysis. Due to "the lack of specificity of when and where treatments may occur, and the current lack of field reconnaissance," analysis of impacts to lynx is qualitative rather than quantitative. Draft Biological Assessment, Biological Evaluation, and Management Indicator Species Report (BE-BA-MIS) at 8 (63)1. This makes it impossible to determine how much land in each lynx analysis unit (LAU) and how much suitable lynx habitat would be affected by proposed activities. Id. at 9 (64). It also makes it impossible to determine how much acreage might apply toward the exceptions and exemptions in the Southern Rockies Lynx Amendment (SRLA). Id. at 20 (75) and 35-36 (90-91). Thus compliance... with the SRLA cannot be determined at this time, and further site-specific analysis will be needed, if SBEADMR is approved, before implementation can begin. [22-4]

Concern: [Seq#143]
Response: [Seq#143]
The FEIS identifies priority treatment areas (PTA) which is a sub-set of the land base analyzed in the DEIS. The Science Team from Colorado State University utilized lynx use data provided by Colorado Parks and Wildlife as one of the parameters to identify priority treatment areas. High use areas by lynx were identified as a low priority for treatment. It was assumed that a high use area by lynx indicated good habitat conditions and therefore treatments to improve habitat or treatments that could negatively affect habitat should be avoided. Under the preferred alternative, approximately 99,000 acres of lynx habitat could be affected through commercial treatments and 14,000 acres of non-commercial treatments. Road construction would be allowed in lynx habitat but are subject to Design

Features used to minimize impacts, and constructed roads will not be open to the public. It is estimated that 70% of constructed roads will be decommissioned by the purchaser once treatment operations have been completed. The remaining 30% will be decommissioned within 5-years of sale closure through a service contract or force account. Potential affects to LAU and linkage zones are addressed in the FEIS. Design Features will also be used during project layout to maintain connectivity in accordance with the SRLA. In addition, because the revised proposed action identifies specific treatment areas by treatment type (resiliency, combination and salvage) and probable location from constructed roads, the analysis has been improved and more thoroughly discloses specific impacts.

Associated Comments: [Seq#143]
The proposed SBEADMR project would be implemented across a large portion of Colorado that is home to a robust, but fragile, population of Canada lynx. Because the lynx is listed as threatened pursuant to the federal Endangered Species Act, and is an endangered species under Colorado State law, the EIS must adequately consider the effects of the project on lynx and its habitat by using the best available science. The DEIS, however, fails to disclose and analyze the direct, indirect, and cumulative impacts of the SBEADMR project on lynx, including impacts to its habitat and linkage areas. The DEIS does not provide the decisionmaker, or the public, with a full consideration of all impacts to lynx and lynx habitat, nor does it seek to minimize impacts to the lynx. Further, the DEIS presents inconsistent information and lacks clarity with regards to its presentation of the effects of the SBEADMR project on lynx. [22-28]

Concern: [Seq#144]
Response: [Seq#144]
The Forest Service tiered to the SRLA and included both the Biological Assessment (BA) and Biological Opinion (BO) by reference. These documents provide a description of the effects of commercial treatments on lynx and established thresholds of incidental take by Forest, including the GMUG. As long as actions are carried out to minimize effects to lynx and an individual Forest does not exceed these limits, actions are in compliance with the Endangered Species Act. Once these generalized effects have been disclosed, the BA provides an analysis by Lynx Analysis Unit (LAU) and Linkage Zone (LA) by the types of treatment (resiliency, combination and salvage) by SBEADMR alternative. Direct, indirect effects and interrelated and interdependent actions resulting from SBEADMR that could have an effect to lynx were also discussed. Finally, effects of SBEADMR actions were compared to the levels of impact as measured by incidental take in SRLA to ensure compliance with the tiered document. Annual monitoring and annual reporting to Fish and Wildlife Service are also required to provide evidence of compliance.

Associated Comments: [Seq#144]
The DEIS states that several documents are incorporated by reference, and that many of the impacts from the project are "addressed by th[o]se documents." DEIS at 295. The DEIS asserts that Southern Rockies Lynx Amendment (SRLA) "supporting documents" are relied upon, but fails to describe with particularity what those documents are. The Forest Service must provide a list of precisely what

documents the Forest Service relied upon so that the public knows with certainty what documents it relied upon in considering the impacts to lynx. While it is true that the SRLA does contemplate effects of timber management generally on lynx and lynx habitat, it cannot contemplate, disclose, or analyze the site-specific impacts of the SBEADMR project on lynx. Indeed, the SRLA Biological Opinion recognizes that "[e]ffects would be based on site specific conditions and would require subsequent project level . . . consultation with the [U.S. Fish and Wildlife] Service." SRLA BiOp at 69 (July 25, 2008). The DEIS, however, fails to disclose and analyze the site- specific impacts of the SBEADMR project on lynx and lynx habitat. This failure violates both NEPA and the SRLA (and therefore the National Forest Management Act), and is discussed in greater detail throughout these comments. [22-29]

Concern: [Seq#145]
Response: [Seq#145]
The Forest Service acknowledges the error in Table 68 and it has been corrected in the Final EIS. While specific locations of Canada lynx may not be known, all suitable habitat is assumed occupied and managed as such.

Associated Comments: [Seq#145]
The Forest Service must fix an error in Table 68 of the DEIS (pg. 297-98). Table 68 asserts that Canada lynx are not known/suspected to be present in the action area for the SBEADMR project. This is incorrect and negated by the rest of the DEIS' analysis of impacts to lynx and compliance with the SRLA. Indeed, page 299 of the DEIS explicitly states that "lynx have been documented within the project planning area" and notes that "the SRLA identifies all lynx habitat for the... National Forests in the Southern Rocky Mountains as occupied." Table 68 should correctly note that lynx are known to be present in the SBEADMR action area. [22-30]

Concern: [Seq#146]
Response: [Seq#146]
The Forest Service acknowledges the need to better describe how a design feature will be used to avoid or minimize effects to lynx and other species. The FEIS has been re-written to provide additional clarity.

Associated Comments: [Seq#146]
Table 74 in the DEIS (beginning at page 312) describes the wildlife design features for the SBEADMR project. This table, however, does not relate well to the rest of the analysis of effects for the project. The Forest Service should make this table more clear and tie it to specific analysis of effects elsewhere in the DEIS, including reference to specific provisions of the SRLA and specific negative effects it may reduce. Additionally, more explanation is needed as to why these design features will have the anticipated result. Simply stating that the design features will result in a reduction of negative effects is insufficient for compliance with NEPA and the SRLA. The Forest Service needs greater explanation as to how the design features would work and why they would work as anticipated. [22-31]

Concern: [Seq#147]
Response: [Seq#147]
Standard VEGS6 applies to all vegetation management practices within multi-story mature or late successional conifer forests. These stands provide some of the best snowshoe hare habitat and therefore are areas of concern when management actions may affect under-story components important to hares. VEGS6 only allows management actions that reduce winter hare habitat in these stands under 4 exceptions: 1). within 200 feet of administrative sites, dwellings, outbuildings, recreation sites, and special use permit improvements, including infrastructure within permitted ski areas; 2) for research studies; 3) for incidental removal during salvage harvest; 4) where uneven-aged management (single tree and group selections) practices are employed to maintain or encourage multi-storied attributes. The SBEADMR project is designed to adhere to VEGS6. Dr. Ivan 2014 research findings have also been referenced in the BA for the project. Also see response to comment 22-29.

Associated Comments: [Seq#147]
Indeed, because SBEADMR contemplates such extensive logging in some of the most important lynx habitat in Colorado, the EIS must provide greater detail and fully disclose and analyze all impacts to lynx and lynx habitat. Ivan (2014) concluded that spruce-fir stands "may be the most valuable forest type for snowshoe hares in the region."29 Because of the important of these stands, the environmental analysis takes on increased importance. As such, the Forest Service should also disclose and analyze snowshoe hare densities in the project area, and the anticipated effects of the SBEADMR project on snowshoe hare densities.... 29 Jacobs Ivan et al., Density and Demography of Snowshoe Hares in Central Colorado, 78 THE J. OF WILDLIFE MGMT. 580-594 (2014) Exhibit 10. [22-32]

Concern: [Seq#148]
Response: [Seq#148]
A Biological Assessment (BA) has been prepared for the project and formal consultation initiated with Fish and Wildlife Service. The analysis in the BA addresses effects of proposed activities on snowshoe hare habitat, multi-story and single storied stands, snow compaction resulting from snow plowing or other winter logging activities, use of haul routes by truck traffic that could impede lynx movement and connectivity at the Lynx Analysis Unit and Linkage Zone scales. The BA and FEIS also provide a summary table documenting compliance with the SRLA.

Associated Comments: [Seq#148]
Lynx avoid areas that have been clearcut, logged, and even thinned. The Interagency Lynx Conservation Assessment and Strategy (August 2013) (LCAS) includes vegetation management as one of the top four anthropogenic threats to lynx. See LCAS at 69. The LCAS also recognizes that managing forests to the extent that the canopy is opened discourages use of those stands by lynx. LCAS at 73. Further, reduction in horizontal cover, which would occur with the SBEADMR project from logging operations damaging and destroying understory trees, degrades the quality of winter habitat for lynx. Id. at 73, 74. The LCAS also notes that lynx avoid clearcut areas, especially during winter. Id. John Squires, one of the preeminent lynx researchers, also emphasizes the importance of maintaining and recruiting lynx winter

habitat as opposed to winter hare habitat, as that is what is most important to conserve lynx, especially in winter when lynx are most taxed. See Squires et al., 2010.30 The DEIS, however, ignores this science, and does not disclose or discuss how SBEADMR could possibly benefit lynx in light of this science.... The DEIS explicitly discusses the benefits of SBEADMR in terms of the benefits of the project on snowshoe hare. See DEIS Table 75, pp. 323-326. However, lynx winter habitat may actually be more important than producing habitat for snowshoe hare. The Forest Service has confused these two issues and has failed to analyze and disclose the effects of the SBEADMR project on lynx winter habitat, as well as any effects on snowshoe hare, recognizing that they are not the same thing. In fact, the DEIS fails to mention lynx winter habitat once. There is no analysis or discussion on the... effects of the project to lynx winter habitat, either in terms of retention or recruitment. The Forest Service should prioritize retention and recruitment of abundant and spatially well- distributed patches of mature, multi-storied forest stands (lynx winter habitat). The SBEADMR project does not conserve lynx winter habitat, nor does it manage stands in a manner that would allow younger stands to eventually become good lynx winter habitat. Young stands in the stand initiation stage may be decent habitat for snowshoe hares (once tree seedlings and saplings grow above the snow) but they are not good lynx winter habitat. The Forest Service has ignored this in its environmental analysis.... 30 John Squires et al., Seasonal Resource Selection of Canada Lynx in Managed Forests of the Northern Rocky Mountains, 74 J. OF WILDLIFE MGMT. 1648-1660 (2010) Exhibit 11 [22-33]

Concern: [Seq#149]
Response: [Seq#149]
The FEIS has been revised to provide a better tie between SRLA requirements and management actions carried out under SBEADMR. In addition annual monitoring with reporting to FWS is a requirement of the FEIS.

Associated Comments: [Seq#149]
This lack of specificity is common to all of the SRLA objectives, standards, and guidelines that are mentioned in the DEIS. See DEIS at 292-93. The short discussions merely conclude that the project will meet all of these and follow the SRLA without any concrete analysis or substantiation about how they will do so, what the current status of the SRLA's requirements and habitat levels are, and what the resulting landscape will look like post-implementation. The conclusion that "[a]ll standards and guidelines, exemptions and exceptions contained within the SRLA pertaining to habitat thresholds would be met with the implementation of this project" is unjustified without an actual analysis of the SRLA objectives, standards, and guidelines, including disclosure of the baseline and disclosure of what specific effects SBEADMR will have on the SRLA objectives, standards, and guidelines. [22-37]

Concern: [Seq#150]
Response: [Seq#150]
The Biological evaluation/assessment has been revised to better address effects to hare habitat and red

squirrel. Updated data from Dr. Jake Ivan (Colorado Parks and Wildlife) on the effects of spruce beetle induced mortality has been added to the analysis.

Associated Comments: [Seq#150]

Another example of the lack of specificity and disclosure comes with regards to SRLA guideline VEG G5, which states that habitat for alternative prey species, primarily red squirrel, should be provided in each LAU. See DEIS at 295. But nowhere in the DEIS is an explanation for whether or not the Forest Service will be implementing this guideline, how it intends to implement it, what habitat for alternative prey (red squirrel) currently exists within the project area, how much alternative prey habitat would be subject to treatment as a result of the SBEADMR project, whether or not any alternative prey habitat would be degraded as a result of the SBEADMR project, what alternative prey habitat would look like after the project is fully implemented, and what alternative prey habitat is expected to look like in the future within the project area. Absent the answers to these questions, the Forest Service cannot assert that it took the requisite hard look at the direct, indirect, and cumulative effects of the project, nor can it assure that the project would comply with the SRLA. The August 2013 Lynx Conservation Assessment and Strategy (LCAS) stated that in Colorado, "66.4 +/- 5.6% of annual documented kills by lynx (n=604) were [snowshoe] hares . . . while an average of 22.6 +/- 5.7% were red squirrels (Shenk 2009)." LCAS at 18. Because of the important of red squirrels to lynx diet in Colorado, the Forest Service must disclose and analyze the effects of SBEADMR on red squirrel habitat within the project area, but cannot do so if it fails to establish a baseline of where red squirrel habitat currently occurs within the project area and which of those areas are subject to treatments through the SBEADMR project. The LCAS provides greater detail on red squirrel habitat, none of which is disclosed or analyzed in the DEIS: Red squirrel densities tend to be highest in older, closed-canopy forests that have substantial quantities of coarse woody debris, and lower in young stands that lack cone production (Layne 1954, Obbard 1987, Klenner and Krebs 1991). Population densities are highest (250-400/km2 [96-154/mi2]) in spruce forests, lower (100- 200/km2 [38-77/mi2]) in mixed conifers and mixed conifer/hardwoods, and lowest (25-100/km2 [10-38/mi2]) in pines and hardwoods (Obbard 1987). Lachowski (1997) found red squirrels to be abundant across all forest types in Maine during spring, but more abundant in conifer and mixed forest during winter. Sullivan and Moses (1986) showed that red squirrel densities and recruitment were significantly higher in young (20 year-old) unthinned lodgepole pine stands (stem density of 20,000-35,000/ha [8,000-14,000/ac]), than in thinned stands (stem density 850-2,300/ha [350-900/ac]) in interior British Columbia. Where available, spruce is used by red squirrels as nest trees. Other conifers with a high branch density are also utilized (Hatt 1945, Fancy 1980). Where cavities in coniferous trees are not available, underground nests and out-side tree (leaf) nests are commonly used (Fancy 1980). In eastern hardwood forests, tree cavities offer preferred nest sites, but underground and outside tree nests are also used (Hatt 1929, Hamilton 1939, Layne 1954). Tree nests are usually located in contact with the trunk in dense stands with high canopy closure (Rothwell 1979). Dense conifer clumps, especially those with snags or fallen logs, provide important shade and protective cover for food caches (Vahle and Patton 1983). LCAS at 19. Resiliency treatments in spruce would be very likely to adversely affect red squirrel habitat. Openings up to two acres could be cut in multi-storied spruce stands, including those with at least 35 percent dense horizontal cover, that have less than 40 percent overstory mortality. DEIS at A-2, A-3. In other words, high quality lynx habitat would be treated, possibly quite a

bit of it, because about two-thirds of the spruce stands in the opportunity areas are multi-storied. BA-BE-MIS Report at 23 (78). But the impacts on the important secondary prey species are not disclosed in the DEIS. [22-38]

Concern: [Seq#151]
Response: [Seq#151]
Guideline VEG G11 is evaluated at a LAU scale in the form of large pockets of large woody debris composed of either down logs or root wads or wind thrown "jack strawed" trees. The updated BA provides an analysis of management toward Potential Natural community at the LAU -scale. Also see response to comment 40-11.

Associated Comments: [Seq#151]
Similarly, the Forest Service neglects to describe its compliance with SRLA Guideline VEG G11 related to lynx denning habitat. The DEIS fails to discuss and analyze the current state of lynx denning habitat within the project area. Without this baseline, there can be no legitimate determination of the effects of the project on lynx denning habitat. The environmental analysis should disclose (preferably on a map) and analyze what portions of the project area currently is considered to be lynx denning habitat, what portions of that lynx denning habitat would be subject to SBEADMR treatments, what portions of lynx denning habitat would be degraded as a result of SBEADMR treatments, and how long it would take for degraded or destroyed denning habitat to once again become lynx denning habitat. Importantly, the DEIS also does not disclose what percentage of each LAU is made up of lynx denning habitat, how much coarse woody debris currently exists within the denning habitat in each LAU, or what anticipated changes to coarse woody debris in each LAU's denning habitat would result from SBEADMR implementation. These unanswered questions must not only be answered and analyzed, but they should be answered both qualitatively and quantitatively. If the Forest Service does not have this information, it should not proceed without knowing what kinds of effects it will have on important lynx denning habitat in the project area. If the Forest Service does not have this information, it cannot legitimately assert that it will comply with VEG G11. Again, conclusory statements without analysis and explanation are not sufficient for compliance with NEPA and the SRLA. Because lynx denning habitat must occur near lynx foraging habitat (see LCAS at 29), the Forest Service must disclose and analyze how much denning habitat would be removed by the project, how much denning habitat would remain under the selected alternative, and whether the remaining denning habitat is near suitable lynx foraging habitat. Because this analysis is absent from the DEIS, the Forest Service has not taken the required hard look at the effect of the project on lynx denning habitat. [22-39]

Concern: [Seq#152]
Response: [Seq#152]
The FEIS was revised to better articulate baseline conditions in each of the affected LAU in regards to SRLA standards. With the use of recently acquired "change detection" photo interpreted data,

approximate levels of overstory mortality could be determined and data used to break stands in less than 40% mortality, 40-90% mortality and greater than 90% mortality. These data were considered "current" condition. The Forest Service then used the prescription matrix to determine how these stands would be managed and effects of those actions. Because SBEADMR is designed to be adaptive to changing spruce conditions, a second analysis was conducted based upon the premise that mature spruce would continue to die into the future. These data were considered "future" conditions. Under both scenarios how various harvest methods affect lynx, their habitat and prey were determined. Impacts were then compared to requirements of the SRLA. Annual monitoring and tracking requirements have been established to ensure compliance with SRLA.

Associated Comments: [Seq#152]
With regards to SRLA VEG S1, S2, S5, and S6, the Forest Service should better explain the effects of SBEADMR implementation on these SRLA standards. For example, the Forest Service explains how much logging has occurred pursuant to exceptions to these standards, as well as the remaining amount of logging before the caps are reached, but the Forest Service neglects to disclose what the total amount of logging under these exceptions and its relation to the caps for these standards would be. The public and decisionmaker should know how close to the SRLA caps the GMUG would be after implementation of the SBEADMR project. The Forest Service could, for example, add another column to table 66 (DEIS at 293-94) with a heading of "Standard - Forest-wide or LAU acres remaining post-implementation of SBEADMR." [22-40]

Concern: [Seq#153]
Response: [Seq#153]
Many of the design features provided in the EIS have been used by the Forest Service for many years and as such we have learned the most effective way to lay them out during treatment planning. Retention of snags within cutting units are generally clumped with a combination of dead and live trees composing the retention (no cut) areas. Under SBEADMR, the Forest Service is striving to create retention areas that will accomplish multiple objectives by centering them in areas with high quality hare habitat and planning cutting units to minimize blowdown. SBEADMR also includes an adaptive implementation process requiring annual project reviews and completion of a Findings Report. Lessons learned will be shared with the Forest Leadership Team with recommendations regarding how to adapt design features or management actions to make them more effective in accomplishing resource management objectives. Accepted recommendations will be applied to all future treatments. This Plan>Do>Check>Act process will also be open to public participation, as detailed in Appendix E.

Associated Comments: [Seq#153]
The proposed treatments would adversely affect numerous wildlife species, especially those that need forest cover for habitat. We acknowledge the design features, requiring retention of snags; coarse woody debris; live trees (where feasible considering safety and operational efficiency); and dense horizontal cover (for snowshoe hare and lynx). DEIS at B-20 through B-22. These measures would reduce impacts to wildlife. However, they will not compensate for habitat loss. For example, retaining snags in

an area where much of the live and dead overstory is removed would not retain habitat for species needing forest cover. Also, snags may just blow down if they are well exposed to the wind. They would need to be left in clumps, and in areas where blow down is less likely.... 32 While design feature WFRP-2 directs snags to be left in clumps and to be protected from damage during operations, there is no direction to ensure that they are retained in areas where wind loss would be less likely to occur. DEIS at B-20. [22-43]

Concern: [Seq#154]
Response: [Seq#154]
The Forest Service acknowledges treatments will alter habitat for several species, including American Marten. Design Features have been added to minimize these impacts. Qualified Forest Service biologists will work with silviculturists during treatment design to ensure design features are properly included. This process will be tracked through use of a Treatment Design Checklist with required signature from resource specialists and the Line Officer (District Ranger) in charge of the treatment. The BE provides a detailed analysis on the effects of proposed treatments to Marten.

Associated Comments: [Seq#154]
American Marten have habitat requirements similar to those of lynx?they like "mesic mature coniferous forests with a complex physical structure near the ground." BE-BA-MIS at 46 (101). Treatments in spruce stands would pile and/or burn some of the existing down logs and thus damage or eliminate marten habitat. With removal of all dead and dying trees in stands with a high level of SBB mortality, habitat would be destroyed. "Habitat destruction due to clearcutting" is listed as a threat to marten. Id. Down dead structure is critically important for marten, as this provides access to areas under snow. Most winter prey is taken under the snow surface. Ruggiero et al., 1994.33 Fuel treatments could remove or rearrange fuels, which could degrade or destroy marten habitat, and habitat for prey. Snags and trees are also important. Various studies, summarized by Ruggiero, et al., 1994, show that snags and live trees are often used for denning. The BE-BA-MIS report states that some treatments would result in loss of canopy cover, stand density, coarse woody debris, and snags, and thus result in degradation or loss of marten habitat. Id. at 67 (122) -70 (125).... 33 LEONARD F. RUGGIERO ET AL., THE SCIENTIFIC BASIS FOR CONSERVING FOREST CARNIVORES, GEN. TECH. REP. RM-254 (1994) (hereinafter "Ruggiero et al.") Exhibit 12. [22-44]

Concern: [Seq#155]
Response: [Seq#155]
The Forest Service acknowledges treatments will alter habitat for several species, including Boreal owls. Potential effects to boreal owl are discussed in the project BE and FEIS.

Associated Comments: [Seq#155]
Boreal owls like forests, preferably spruce-fir, with high basal area, large trees, high canopy cover and a low understory. BE-BA-MIS at 42 (97). This species nests exclusively in tree cavities excavated by other species. Verner and Hayward, 1994.34 Its principal prey, red-backed vol [22-46]

Clethrionomys gapperi) resides in mature forests with greater overstory cover. Id. Boreal owls hunt form perches that average about four meters above the ground. Id. Some spruce treatments would degrade or destroy habitat for this species. BE-BA-MIS at 49 (114) - 64 (119). Such treatments in stands with live overstory would open up stands, making them unsuitable for this species. Snags and perches would be removed, reducing nesting and foraging habitat. Open areas would not be suitable for the principal prey, red-backed vole... 34 FLAMMULATED, BOREAL, AND GREAT GRAY OWLS IN THE UNITED STATES: A TECHNICAL CONSERVATION ASSESSMENT, GEN. TECH. REP. RM-253 (G.D. Hayward and J. Verner 1994) (hereinafter "Verner and Hayward"), available at http://www.fs.fed.us/rm/pubs_rm/rm_gtr253.pdf Exhibit 13. [22-47]

Concern: [Seq#156]
Response: [Seq#156]
Inventories will be completed by qualified Forest Service Biologists during treatment design as required by the treatment planning checklist. When purple martin colonies or habitat that is currently vacant but are considered high quality are discovered, they will be avoided. Design feature WFRP-22 was added to address this potential issue. Purple Martin were also addressed in the project BE.

Associated Comments: [Seq#156]
Western purple martin (Progne subis arboricola)35 like stands with large aspen trees located within 175 feet of open meadows and 1000 feet of water. BE-BA_MIS at 43 (98). As of 2005, there were only an estimated 250-500 pairs of this species in Colorado, so conservation of this species is important. Wiggins, 2005, at 29.36 Clearcutting aspen stands would destroy habitat, and these areas would not become new habitat for purple martin for decades, until the regenerated aspen became mature. Cutting mature aspen is recognized as a threat to this species. Wiggins, 2005, at 27.37 Logging may also alter local water availability by redistributing the snowpack. There would be less snow accumulation in clearcut areas, especially mixed aspen-conifer stands. This could affect the availability of water for purple martin. Id. At a minimum, stands of mature aspen not affected by SAD that are near meadows should not be treated. See Wiggins, 2005, at 30.... 35 This is a separate subspecies from purple martin found in the eastern and midwestern U. S., and from those in California. See Behle, 1968. Exhibit 34. 36 DAVID A. WIGGINS, PH.D. PURPLE MARTIN (PROGNE SUBIS): A TECHNICAL CONSERVATION ASSESSMENT, PREPARED FOR THE USDA FOREST SERV., ROCKY MOUNTAIN REGION, SPECIES CONSERVATION PROJECT (2005) Exhibit 14. 37 Wiggins also states that the lack of aspen regeneration is an even bigger threat to purple martin. Id. However, there is quite a bit of aspen regeneration on the GMUG in stands not affected by SAD, as many stand are multi-storied. See DEIS at 14. [22-48]

Western purple martin (Progne subis arboricola)10 like stands with large aspen trees located within 175 feet of open meadows and 1000 feet of water. BE--BA_MIS at 43 (98) and Righter et al., 2004.. As of 2005, there were only an estimated 250--500 pairs of this species in Colorado, so conservation of this species is important. Wiggins, 2005, at 29. 10 This is a separate subspecies from purple martin found in the eastern and midwestern U. S., and from those in California. See Behle, 1968. Clearcutting aspen stands would destroy habitat, and these areas would not become new habitat for purple martin for

decades, until the regenerated aspen became mature. Cutting mature aspen is recognized as a threat to this species. Wiggins, 2005, at 2711. Logging may also alter local water availability by redistributing the snowpack. There would be less snow accumulation in clearcut areas, especially mixed aspen--conifer stands. This could affect the availability of water for purple martin. Id. At a minimum, areas where purple martin are nesting, or have nested in the past (per Rocky Mountain Bird Observatory or Forest Service records) should not be treated. Ideally, stands of mature aspen not affected by SAD that are near meadows and water should not be treated. See Wiggins, 2005, at 30. [33-5]

Western purple martin (Progne subis arboricola) like stands with large aspen trees located within 100 meters of open meadows (email communication with Bill Day, July 31, 2015). According to the Colorado Bird Breeding Atlas, "the practice of removing standing dead trees has reduced nest availability in other areas, so the relatively small size of the population, combined with the Purple Martin's strong site fidelity, indicates that clear cutting of aspen in its territory could disturb its nesting" (Kingrey 1998 at 334). As of 2005, there were only an estimated 250-500 pairs of this species in Colorado, so conservation of this species is important (Wiggins, 2005, at 29). [40-16]

Concern: [Seq#157]
Response: [Seq#157]
Northern goshawk was addressed in the project BE. Inventories will be conducted prior to treatment design and said data used to design treatments to avoid or minimize effects to goshawk. Design feature WFRP-7 will be applied as needed during implementation.

Associated Comments: [Seq#157]
Northern Goshawk would be adversely affected by the proposed treatments. On the GMUG, most goshawk nests have been found in aspen or mixed aspen-conifer stands. GMUG Goshawk Assessment, 2005, at 6.38 Aspen treatments would clearcut stands. Spruce or aspen treatments could occur in aspen-spruce mix stands, as 171,000 acres, or 24 percent of the total opportunity area under alternatives 2 and 4, is in this stand type. DEIS at 64. Any kind of logging is likely to degrade or destroy goshawk habitat, as noted by the Assessment [22-49]

Concern: [Seq#158]
Response: [Seq#158]
The Forest acknowledges that treatments could negatively impact Northern goshawk but has included various design features to avoid or minimize these effects (WFRP-7, 8, 9). Through the use of these DFs, effects will be minimal and will not result in a trend toward federal listing under the Endangered Species Act. The no harvest within 30-acres of a nest applies to all discovered nests (active and discovered nests currently not in use) in the project area. In accordance with the Treatment Design Checklist, surveys will be completed by a qualified Biologist and the data used to guide treatment layout, use of specific DFs

and monitoring. For example, discovery of an active or inactive nest will require a field visit by the biologist; the no activity within 1/2 mile would be applied to all active nests in a treatment area.

Associated Comments: [Seq#158]
Silvicultural treatments that cause forest fragmentation, create even-aged and monotypic stands, increase younger age classes, and decrease tree species diversity have been recognized as potential threats to goshawks. GMUG Goshawk Assessment, 2005, at 6. Treatments in spruce-fir would reduce canopy cover, degrading foraging habitat. BE-BA-MIS at 49 (104)-50 (105). Reduced canopy cover and subsequent fuel treatments might also reduce habitat for goshawk prey. Treatments in aspen would involve clearcutting, which would destroy nesting habitat. The same treatment would be done in mixed spruce-aspen stands, since the treatment objective in these stands "is to regenerate or maintain aspen." DEIS at 54; see also BE-BA-MIS at 55 (110). A proposed design feature, WFRP-6, DEIS at B-21, would protect nests with a buffer of up to a half mile in which all activities would be prohibited from March 1 to August 31. Disturbing activities (like use of chainsaws and heavy equipment) would be prohibited in a 30-acre area around the nest. These measures do not go far enough to prevent loss of nesting sites. According to Reynolds et al., 1992,39 it is recommended to retain three nest sites and three replacement nest sites of 30 acres each. Also, the design features would not prevent the loss of habitat. It would not be good for goshawks if their nest sites were protected but habitat adjacent to them was degraded or destroyed. Reynolds recommended a 420-acre post-fledging family area ("PFA"), in which canopy cover in the older structural stages in spruce-fir is maintained at 70 percent. He also recommended a 5400-acre foraging area, which has requirements similar to those of the PFA.40 It will be a challenge to maintain habitat for goshawk and other species needing forest cover in spruce-fir in the face of SBB mortality. Some habitat has been degraded or even eliminated already with SBB mortality. The Forest Service must ensure that any remaining habitat is retained. Such areas may get attacked by SBB, but there is no sense in damaging or destroying habitat in advance of a possible SBB attack. [22-50]

Northern Goshawk would be adversely affected by the proposed treatments. On the GMUG, most goshawk nests have been found in aspen or mixed aspen--conifer stands. GMUG Goshawk Assessment, 2005, at 6. Aspen treatments would clearcut stands. Spruce or aspen treatments could occur in aspen--spruce mix stands, as 171,000 acres, or 24 percent of the total opportunity area under alternatives 2 and 4, is in this stand type. DEIS at 64. Any kind of logging is likely to degrade or destroy goshawk habitat, as noted by the Assessment: Silvicultural treatments that cause forest fragmentation, create even--aged and monotypic stands, increase younger age classes, and decrease tree species diversity have been recognized as potential threats to goshawks. GMUG Goshawk Assessment, 2005, at 6. Treatments in spruce--fir would reduce canopy cover, degrading foraging habitat. BE--BA--MIS at 49 (104)--50 (105). Reduced canopy cover and subsequent fuel treatments might also reduce habitat for goshawk prey. Treatments in aspen would involve clearcutting, which would destroy nesting habitat. The same treatment would be done in mixed spruce--aspen stands, since the treatment objective in these stands "is to regenerate or maintain aspen." DEIS at 54; see also BE--BA--MIS at 55 (110). A proposed design feature, WFRP--6, DEIS at B--21, would protect nests with a buffer of up to a half mile in which all activities would be prohibited from March 1 to August 31. Disturbing activities [33-6]

(like use of chainsaws and heavy equipment) would be prohibited in a 30--acre area around the nest. These measures do not go far enough to prevent loss of nesting sites. According to Reynolds et al, 199212, it is recommended to retain three nest sites and three replacement nest sites of 30 acres each. Also, the design features would not prevent the loss of habitat. It would not be good for goshawks if their nest sites were protected but habitat adjacent to them was degraded or destroyed. Reynolds recommended a 420--acre post--fledging family area ("PFA"), in which canopy cover in the older structural stages in spruce--fir is maintained at 70 percent. He also recommended a 5400--acre foraging area, which has requirements similar to those of the PFA.13 It will be a challenge to maintain habitat for goshawk and other species needing forest cover in spruce--fir in the face of SBB mortality. Some habitat has been degraded or even eliminated already with SBB mortality. The Forest Service must ensure that any remaining habitat is retained. Such areas may get attacked by SBB, but there is no sense in damaging or destroying habitat in advance of a possible SBB attack. [33-7]

Concern: [Seq#159]
Response: [Seq#159]
Boreal toad have been addressed in the project BE, and the FEIS action alternatives now include Design Features WFRP-25 and WFRP-26 to specifically address boreal toad. See Appendix B.

Associated Comments: [Seq#159]
Boreal toad would be adversely affected by creation of sizable openings. Toads would find it harder to disperse across these areas because the warmer temperatures could cause them to overheat. [22-51]

Concern: [Seq#162]
Response: [Seq#162]
While the project is designed to adhere to requirements of SRLA, the Forest Service has an obligation to use best available science. In 2000 the first edition of the Lynx Conservation Assessment and Strategy (LCAS) was published (Ruggiero et al 2000). The purpose of the LCAS was to provide a consistent and effective approach to conserve Canada lynx, and to assist with Section 7 consultation under the Endangered Species Act (ESA) on federal lands in the contiguous United States. The LCAS has gone through numerous revisions since 2000 with a full revision occurring in 2013 (Interagency Lynx Biology Team, 2013). The 2013 assessment contains the latest information regarding lynx conservation and management and addressed conflicting information. While the SRLA did amend the GMUG Forest Plan in 2008, the updated information in the LCAS is "useful for project planning and implementation". In addition, the 2013 LCAS further clarified Standard VEG S1 in the SRLA to maintain the amount a distribution of lynx foraging habitat over time. VEG S1 limits activities in LAUs when more than 30 percent of the lynx habitat in an LAU is in a stand initiation structure stage (SISS) and does not yet provide winter snowshoe hare habitat. The 2013 LCAS states: "To maintain the amount and distribution of lynx foraging habitat over time, manage so that no more than 30% of the lynx habitat in the LAU is in

an SISS or has been silviculturally treated to remove horizontal cover (ie does not provide winter snowshoe hare habitat)....If more than 30% of the lynx habitat in an LAU is in early SISS or has been silviculturally treated to remove horizontal cover (e.g clearcuts, seed tree harvest, precommercial thinning, or understory removal), no further increase as a result of vegetation management projects can occur on federal lands." Therefore, citing of the 2013 assessment does not constitute use of more restrictive requirements of the SRLA, but rather is a clarification of existing standards.

Associated Comments: [Seq#162]
Lynx We are very concerned that the SBEADMR project goes beyond the requirements of the 2008 Southern Rockies Lynx Amendment, especially considering that the USFWS described lynx habitat in Colorado as "marginal, naturally, fragmented and disjunct", historically incapable of supporting natural resident lynx populations, without the physical and biological features essential to lynx in adequate quantity and spatial arrangement to support lynx populations over the long term, and "not essential to the conservation of the [lynx] DPS" (Fed Reg, September 12, 2014, page 54795). We strongly recommend that you not include restrictions that are more restrictive than the SRLA. We also recommend that you analyze and discuss VEG 01 and VEG 02 in the FEIS and incorporate the findings into project design. Finally, we recommend that you reconsider WFRP Design Features 5, 6, 8, 10, 12, 13, 15, and 16 as discussed in the IFA comments. [25-7]

Page 330, last paragraph – we recommend that you delete all restrictions on forest management based on the 2013 updated Conservation Assessment for Canada Lynx. The GMUG NFs forest plan was amended to incorporate lynx direction, and there has been no documented need to go beyond the requirements of the SRLA. [27-16]

Page 333, 1st paragraph – The SRLA was incorporated into the GMUG NFs forest plan; the conservation measures in the Interagency Lynx Biology Team (2013) were not. We recommend deleting the conservation measure and replacing it with VEG S1 from the SRLA. [27-17]

Concern: [Seq#163]
Response: [Seq#163]
See response to comments: 8-3.8-5, 8-8, 13-35, 13-39, 13-40, 13-41, 22-4, 22-17, 22-28, 22-29, 22-31, 22-32, 22-33, 22-35, 22-36, 22-38, 22-39, 22-40, 22-43, 22-44, 22-46, 22-48, 22-49, 22-50, 22-51.

Associated Comments: [Seq#163]
Finally, the deleterious effects on wildlife - especially Canada Lynx (and their prey Snowshoe Hare) - are not sufficiently addressed in the DEIS. The vast acreage of overlap between potential treatment areas and lynx habitat is concerning as is the possible negative impact on numerous other species that require forest ecosystems including but not limited to Boreal Owls, Goshawks, Western Purple Martin and Boreal Toads. [26-6]

Concern: [Seq#164]
Response: [Seq#164]
In 2008, the Rocky Mountain Regional Forester signed the Record of Decision for the SRLA which amended all Forest Plans in the State of Colorado including the GMUG NF. Therefore management direction in the SRLA is a Forest Plan requirement and will be followed. Forest staff have worked closely with Fish and Wildlife Service to use the management framework provided by the SRLA to build a tiered consultation approach with annual reporting as a center piece of the SBEADMR project. This approach ensures full compliance with SRLA. See also response to comment 26-6.

Associated Comments: [Seq#164]
Having carefully followed the listing of Canada Lynx as Threatened and the Forest Service's response to that listing, we are very concerned about your approach on Canada lynx in the SBEADMR planning documents. The 2008 Southern Rockies Lynx Amendment (SRLA) amended the GMUG NFs forest plan to "add consistent management direction that will conserve the Canada lynx (Lynx canadensis)". In our view, the SRLA was overly restrictive, and generally punitive toward forest management, considering the low quality lynx habitat in southern Wyoming and Colorado national forests. The USFWS has repeatedly discussed the low quality of habitat in the Southern Rockies Geographic Area, including Colorado, for lynx. For example, following is a quote from the September 12, 2014 Federal Register, page 54795: "… we conclude that habitat in Colorado and other parts of the Southern Rockies is marginal, naturally fragmented, and disjunct; that it has not been historically capable of supporting natural resident lynx populations; that it has not been demonstrated to contain all of the physical and biological features essential to lynx in adequate quantity and spatial arrangement to support lynx populations over the long term (i.e., it does not contain the PCE [Primary Constituent Element]); and that it is not essential to the conservation of the DPS [Distinct Population Segment]." Nevertheless, we understand that the SBEADMR project is required to conform to the SRLA direction as amended into the GMUG NFs forest plan. However, as a general matter we do not support incorporation of other, more restrictive, direction into the SBEADMR without a specific comparison to the SRLA and inclusion of supporting rationale. In particular, that includes the 2013 Interagency Lynx Biology Team recommendations, which are not part of the GMUG NFS forest plan, and for which there has been no opportunity for public review and comment or analysis of effects on lynx habitat or other forest plan goals and objectives [27-2]

Concern: [Seq#165]
Response: [Seq#165]
The FEIS has been revised to provide additional discussion and analysis of Objectives VEG O1 and VEG O2.

Associated Comments: [Seq#165]
The DEIS contains virtually no discussion regarding SRLA Objectives VEG O1 and VEG 02, as follows: -VEG 01 - Manage vegetation to mimic or approximate natural succession and disturbance processes while maintaining habitat components necessary for the conservation of lynx. -VEG O2 - Provide a mosaic of habitat conditions through time that support dense horizontal cover, and high densities of snowshoe

hare. Provide winter snowshoe hare habitat in both the stand initiation structural stage and in mature, multi-story conifer vegetation. We recommend that the FEIS include a discussion of how the Desired Conditions in Table 57 reflect VEG 01 and VEG 02, and an analysis of how the SBEADMR alternatives will contribute to accomplishment of VEG 01 and VEG 02. [27-3]

Concern: [Seq#166]
Response: [Seq#166]
See response to comments 25-7 and 26-6.

Associated Comments: [Seq#166]
Page 299, 3rd paragraph – Lynx range outside the GMUG NFs is irrelevant to this analysis, and we recommend that you delete that discussion.... Further, that paragraph discusses the Lynx Biology Team Report, the Southern Rockies Lynx Amendment (SRLA), the SRLA Biological Assessment, and the SRLA Biological Opinion. Of those, the only one that the Forest Service is required to incorporate into the SBEADMR Project is the SRLA. We recommend that you delete all references to, and requirements based on, the Interagency Team Report 2013. [27-5]

Concern: [Seq#167]
Response: [Seq#167]
The Forest Service has clarified this statement in the FEIS.

Associated Comments: [Seq#167]
Page 300, 1st paragraph – This paragraph identifies "timber … management activities" as a risk factor "that threaten[s] the continued existence of lynx population". However, that statement is not supported for Colorado by either the USFWS or the Interagency Biology Team. Specifically, in its listing decision (Fed Reg, March 24, 2000, p 16073), the USFWS discussed the large proportion of lynx forest types managed in nondevelopmental status and concluded that levels of timber harvest and thinning are not likely threatening the Southern Rockies lynx population. Further, the USFWS noted documented lynx presence and reproduction in a variety of managed landscapes. Similarly, in the 2013 LCAS, the section titled "Human activities and developments specific to the Southern Rockies" (page 55-56) does not mention timber management activities as a risk factor. [27-7]

Concern: [Seq#168]
Response: [Seq#168]
The Forest Service acknowledges the mistake and it has been corrected.

Associated Comments: [Seq#168]
Pages 302 and 306 – The acres of Total Lynx Habitat by LAU are not the same, and should be edited to display the same number of acres in the various LAUs. [27-9]

Concern: [Seq#169]
Response: [Seq#169]
Linkage areas were mapped and described in the EIS in support of the 2008 ROD authorizing the SRLA (USDA Forest Service Rocky Mountain Region, 2008). Development of the SRLA took 8 years in which numerous public meetings were held and coordination with numerous Local, County, State and Federal agencies . Affected parties, including the timber industry, were actively involved in development of SRLA.

Associated Comments: [Seq#169]
Page 309, last paragraph and page 310, Table 73 – we question the identification/designation of 223,000 acres of the GMUG NFs as Lynx Linkage Areas with no public involvement, no forest plan amendment, no discussion of how those would be managed, and no discussion of how those would affect overall management of, and outputs from, the GMUG NFs. It's hard to tell from the DEIS exactly how the LLAs will be managed, or not managed, under the SBEADMR, and why only 18,937 acres are proposed for management. The SRLA direction is very vague; the definition of "Habitat connectivity" is "Cover (vegetation) in sufficient quantity and arrangement to allow for the movement of lynx". Considering a) that the SRLA contains very little specific direction about managing for connectivity, b) that the USFWS's concern about habitat connectivity appears to be primarily "high volume, high speed highways" and suburban developments (see Fed Reg, March 24, 2000, p 16080), c) that the USFWS has "no information demonstrating that forest roads negatively impact resident lynx populations" (see Fed Reg, March 24, 2000, p 16080), and d) documented travels of Canada lynx from Colorado to Alberta, Kansas, Utah, Wyoming, New Mexico, Montana, Idaho, Arizona, Nebraska, and Nevada including many miles of "unsuitable habitats", we recommend that ALL 01 or ALL S1 should be treated an non-applicable to periodic forest management projects accessed by forest roads. We further recommend that you remove any identification of 223,000 acres of the GMUG NFs as Lynx Linkage Areas [27-10]

Concern: [Seq#170]
Response: [Seq#170]
The FEIS has been updated to better address the no action alternative.

Associated Comments: [Seq#170]
Page 311, Lynx – We disagree with the premise that the No Action alternative means there will be no effects on lynx. Achievement of VEG 01 and VEG 02 will be affected by any of the alternatives, including the No Action Alternative, for example, as acknowledged in the discussion in paragraph 3 about taking longer to regenerate stands if there is no tree planting. We recommend you rewrite this section to acknowledge the potential effects on lynx under the No Action alternative. [27-11]

Concern: [Seq#171]
Response: [Seq#171]
See response to comment 25-7. This paragraph has been re-written to provide additional clarity.

Associated Comments: [Seq#171]
Page 320, 2nd paragraph - We recommend that you not incorporate “additional limitations” for lynx habitat beyond those required by the SRLA. [27-13]

Concern: [Seq#172]
Response: [Seq#172]
Timber harvest can have a positive and a negative effect on lynx habitat. The SRLA overall is considered a conservation measure for the long-term persistence and management of lynx in the Southern Rockies. However, timber harvest can have at least short-term negative effects and in accordance with Section 7(a)1 of ESA, federal agencies are required to disclose those effects and where appropriate consult with FWS. The SBEADMR project "May affect, and is likely to adversely affect" Canada lynx and its habitats. This determination requires formal consultation with FWS and issuance of a Biological Opinion for the project.

Associated Comments: [Seq#172]
Page 321, 2nd and 3rd paragraph – We disagree with the presumption that lynx habitat elements “will decrease” compared to existing conditions and that treatment activities would “reduce the quality and quantity of winter foraging habitat for hares”. According to the USFWS, “Timber harvesting can be beneficial, benign, or detrimental to lynx depending on harvest methods, spatial and temporal specifications, and the inherent vegetation potential of the site” (Fed Reg, July 3, 2003, page 40083). We recommend that you carefully analyze the potential effects of the proposed alternatives on lynx habitat and that you document whether those effects are beneficial, benign, or detrimental in the FEIS. [27-14]

Concern: [Seq#173]
Response: [Seq#173]
The Forest Service has revised the roads section in the FEIS. Priority treatment areas (PTAs) have been identified. These PTAs are a subset of what was analyzed in the DEIS, and enabled us to developed a proposed road system for each of the alternatives for the FEIS. The FEIS has been revised to address these specific road locations include miles (acres) or proposed routes in lynx habitat.

Associated Comments: [Seq#173]
Page 329, 2nd and 3rd paragraphs – the fourth sentence in the second paragraph assumes, incorrectly, that all road construction would be in lynx habitat and therefore would reduce lynx habitat. The second sentence in the third paragraph does the same. Both should be re-written to clarify that roads constructed outside of lynx habitat will not reduce lynx habitat.... We also recommend that you give some context to the potential loss of lynx habitat. With approximately 1.5 million acres of lynx habitat on the GMUG NFs, 145.5 acres of lost habitat equals .009% of total lynx habitat on the GMUG NFs. [27-15]

Concern: [Seq#174]

Response: [Seq#174]
The FEIS has been revised to include more specifics on where and how management actions will be conducted, including a more thorough and quantitative analysis of impacts to lynx and Gunnison sage-grouse.

Associated Comments: [Seq#174]
Alternatives 2 and 4 each contain proposals of merit to forest health but also allow for implementing big machine operations which will have adverse effects despite best practices. I would suggest that for either alternative to have greater merit than no action, the specifics must be clearly spelled out, area by area and evaluated. The question of whether habitat for endangered Gunnison sagegrouse and Canada lynx will be improved by actions is not well addressed and problematic. Salvage logging of spruce is reasonable to the degree it can be accomplished without soil disturbance but simply not worth building roads and logging infrastructure. [29-6]

Concern: [Seq#175]
Response: [Seq#175]
Effects to wildlife and plants were addressed in the FEIS as required by Forest Service policy and/or legal requirements (Endangered Species Act). We included procedures to avoid impacts to wildlife during layout of treatments or through use of design features. In many cases, treatment will be designed to benefit wildlife by managing vegetation toward habitat conditions that are limited on the landscape. Note that all new roads constructed to implement a SBEADMR commercial treatment would be decommissioned within 5 years of the close of the associated timber sale.

Associated Comments: [Seq#175]
The effect on wildlife will be profound. Many species require forest cover such as lynx \and snowshoe hare [31-12]

8) I am concerned that proposed treatments will affect wildlife. The effect on lynx habitat may be negligible because the introductions seem to be in wilderness and roadless areas, but impacts to most other wildlife can be serious due to the excessive amount of proposed roads that would have an effect on the connectivity of corridors, disturbance of cover and nesting needs and general habitat disturbance to many species of wildlife. [39-8]

Concern: [Seq#176]
Response: [Seq#176]
See response to comments: 8-8, 8-13, 9-6, 22-4, 22-17, 22-28, 22-29, 22-31, 22-32, 22-33, 22-35, 22-36, 22-38, 22-39, 22-40, 22-43, 22-44, 22-46, 22-48, 22-49, 22-50, 22-51, 27-2, 27-3, 27-6, 27-6, 27-8, 27-10, 27-11, 27-12, 27-13.

Associated Comments: [Seq#176]
Compliance with requirements for protecting lynx, a threatened species under the Endangered Species Act, cannot be determined with just the programmatic analysis. Due to "the lack of specificity of when and where treatments may occur, and the current lack of field reconnaissance," analysis of impacts to lynx is qualitative rather than quantitative. Draft Biological Assessment, Biological Evaluation, and Management Indicator Species Report (BE--BA--MIS) at 8 (63)1. This makes it impossible to determine how much land in each lynx analysis unit (LAU) and how much suitable lynx habitat would be affected by proposed activities. Id. at 9 (64). It also makes it impossible to determine how much acreage might apply toward the exceptions and exemptions in the Southern Rockies Lynx Amendment (SRLA). Id. at 20 (75) and 35--36 (90--91). Thus compliance with the SRLA cannot be determined at this time, and further site--specific analysis will be needed, if SBEADMR is approved, before implementation can begin. [33-3]

Concern: [Seq#177]
Response: [Seq#177]
The Forest Service is following conservation recommendations provided in the listing for buffer distances around leks in the final listing rule (79 FR 69192). These recommendations use a 0.6 mile buffer. This buffer is used throughout the range of Gunnison sage grouse.

Associated Comments: [Seq#177]
Gunnison sage--grouse could be adversely affected by haul routes. Table 74, WFRP--14, p. 314 says: "Where use of haul routes have the potential to impact Gunnison sage--grouse as determined by the effects analysis, timing restrictions should be applied that prohibit the use of haul routes that occur within 0.6 mi of active leks (breeding sites) from March 15 - May 15." This figure should be changed to "within 1.86 mi of active leks…" (it should also be changed on p. 342) The 1.86--mile figure is based on the following information from Halloran 2005: * Adult versus Yearling Nest.----Nesting yearling females showed avoidance of road related disturbances compared to adults. Yearling females nested significantly farther from main haul roads compared to adult females (t48 = 2.4, p = 0.02) and nested in areas with significantly less total length of main haul road within 1480 m (.9 mile) compared to adult females (t75 = 3.5, p < 0.01). * Overall declines in male lek attendance approached 100% (i.e., lek inactivity) when distances from leks to drilling rigs, producing wells, and main haul roads decreased, and as the number of quadrats containing wells within 5 km and the total length of main haul road within 3 km (1.86 miles) of leks increased. * I categorized leks as having vehicle influence during the strutting period if =1 vehicle was recorded on roads within 1.3 km (.8 mile) during =1 lek counts. * Comparing mean Annual_Change between leks at which vehicles used or did not use main haul road within 1.3 km (.8 mile) during the daily strutting time period (i.e., vehicle activity... during the early morning) indicated that average Annual_Change on leks with traffic (mean change --34.8%; n = 16) declined significantly more than leks without traffic (mean change -- 11.0%; n = 11, t24 = 2.22, p = 0.036). * Main haul roads within 3 km (1.86 miles) of leks, and a length of >5 km of main haul road within 3 km of leks negatively influenced greater sage--grouse male lek attendance. Similar issues with haul routes should be investigated for other T & E, MIS and sensitive species before roads are planned or installed [33-8]

Concern: [Seq#179]
Response: [Seq#179]
Snags will be retained in accordance with Forest Plan standards and guidelines. See design feature WFRP-2.

Associated Comments: [Seq#179]
First row, column on right says, "Remove all dead--dying spruce--fir…" We'd request that the Forest Service leaves some standing dead as snags for wildlife. [33-24]

Concern: [Seq#180]
Response: [Seq#180]
Forest Service has addressed all sensitive species that could be affected by SBEADMR as required by Forest Service Policy. In relation to purple martin see response to comment 22-48.

Associated Comments: [Seq#180]
Besides the attention given to lynx and American marten, all of the affected Region 2 Sensitive Species should be given high priority. Western Purple Martin and Flammulated Owl should be protected during any aspen cutting. Martins are easy to find and GMUG knows where most of them are, so there is no excuse not to leave areas where they currently nest. My experience has been that Purple Martins will nest as far as 100 meters in from the edge of the aspens. Martins and Flam Owls are long distance migrants, so they can only be found when they return in the spring. Boreal owls and Northern Goshawks may only move around or migrate downhill, but they too must be search for at appropriate times of the year. [34-4]

Concern: [Seq#181]
Response: [Seq#181]
The revised BA and FEIS includes an analysis of connectivity in and between LAU by comparing current vegetative conditions to Potential Natural Community. PNV has been modeled for the major vegetative communities on the GMUG. The analysis examined seral stage and habitat structural stages for spruce-fir and spruce-fir-aspen (lynx habitat) in affected LAU and linkage zones. The SRLA and updated assessment completed in 2013 (Interagency Lynx Biology Team, 2013) identifies conservation objectives to provide for a mosaic of habitat conditions through time that support dense horizontal cover and multi-storied mature stands at the LAU (landscape-scale). By comparing current vegetative conditions to PNV and ensuring management is moving vegetation toward PNV, connectivity and desired habitat conditions are being maintained.

Associated Comments: [Seq#181]
IX. PROPOSED TREATMENT WOULD ADVERSELY AFFECT CANADA LYNX, A THREATENED SPECIES WCC agrees that protection of Canada lynx habitat and connective habitat corridors are a critical component in this project. Reference HCCA et al., Section XI, pages 27-35 for detailed concerns. [40-11]

Concern: [Seq#183]
Response: [Seq#183]
Both Flammulated owls and purple martins are currently on the GMUG sensitive species list. Forest Service policy requires completion of surveys when sensitive species habitat is suspected in a treatment area. Special management considerations are then applied to the treatment to maintain or enhance their habitat. See design features WFRP 9, 14, and 22.

Associated Comments: [Seq#183]
Flammulated owl is a species that primarily nest in aspen stands on the Western Slope of Colorado. 28% of the Flammulated owls in Colorado were found in aspen stands in 1995, and that trend is reiterated in the 2015 maps of Flammulated owls as shown on the Colorado Bird Breeding Atlas website4. As such, all aspen treatments near edges should be surveyed for both Purple martins and Flammulated owls. These need to be thorough surveys that take place during the short mating period between late winter and spring (Kingery, 1998, at 210).... Boreal owl is also a FS Region 2 sensitive species, and similar to the Flammulated owl, a difficult bird to survey for due to its very nocturnal nature. Similar survey care should be taken when surveying a treatment area for Boreal owls as for Flammulated owls, especially in the spring mating... season. According to the Birds of Western Colorado Plateau and Mesa County, "Studies indicate that when logging opens up the forest to too much sunlight, the moss dries out and (red-backed) vole populations decline; subsequently Boreal owl populations also decline" (Righter et al. 2004 at 90). Open areas are not suitable for the principal prey, red-backed vole, and could impact Boreal owl habitat [40-17]

Concern: [Seq#187]
Response: [Seq#187]
The SRLA amended the GMUG Forest Plan in 2008. The SBEADMR project is designed to adhere to this plan direction. Incorporation of new science like the Interagency Lynx Biology Team Report fulfills the requirement in the Forest Service to use best available science when planning and executing projects. The Interagency Report simply clarifies previously reported science and provides findings from recent research conducted in the Southern Rockies.

Associated Comments: [Seq#187]
The 2008 Southern Rockies Lynx Amendment amended the GMUG NFs forest plan to "add consistent management direction that will conserve the Canada lynx (Lynx canadensis)". In our view, the SRLA was overly restrictive, and in some cases punitive, toward forest management considering the low quality lynx habitat in southern Wyoming and Colorado national forests. (See Fed Reg, September 12, 2014,page 54795, etc. for USFWS discussion of lynx habitat in Colorado, ie, "habitat in Colorado ... is marginal, naturally fragmented, and disjunct; it has not been historically capable of supporting natural resident lynx populations; it has not been demonstrated to contain all of the physical and biological features essential to lynx in adequate quantity and spatial arrangement to support lynx populations over the long term ... and it is not essential to the conservation of the [lynx] DPS".) Nevertheless, we understand that the SBEADMR project is required to incorporate that direction as amended into the GMUG NFs forest plan. However, as a general matter we do not support carte blanche incorporation of

other, especially more restrictive, direction into the SBEADMR without a specific comparison to the SRLA and inclusion of supporting rationale. In particular, that includes recommendations from the 2013 interagency Lynx Biology Team which are not part of the GMUG NFS forest plan, and for which there has been no opportunity for public review and comment or analysis of effects on lynx habitat or other forest plan goals and objectives. [97-51]

Page 330, last paragraph - we recommend that you delete all restrictions on forest management based on the 2013 updated Conservation Assessment for Canada Lynx. The GMUG NFs forest plan was amended to incorporate lynx direction, and there has been no documented need to go beyond the requirements of the SRLA. [97-76]

Page 333, 1st paragraph - The SRLA was incorporated into the GMUG NFs forest plan; the conservation measures in the lnteragency Lynx Biology Team (2013) were not. We recommend deleting the conservation measure and replacing it with VEG S1 from the SRLA. [97-77]

Concern: [Seq#188]
Response: [Seq#188]
The FEIS includes analysis describing how the project meets Objective Veg O1 and Veg O2.

Associated Comments: [Seq#188]
Finally, we don't see any discussion regarding SRLA Objectives VEG 01 and VEG 02 as follows: -VEG 01 - Manage vegetation to mimic or approximate natural succession and disturbance processes while maintaining habitat components necessary for the conservation of lynx. -VEG 02 - Provide a mosaic of habitat conditions through time that support dense horizontal cover 19,and high densities of snowshoe hare. Provide winter snowshoe hare... habitat in both the stand initiation structural stage and in mature, multi-story conifer vegetation.... We recommend that the FEIS include a discussion of how the Desired Conditions in Table 57 reflect VEG 01 and VEG 02, and an analysis of how the SBEADMR alternatives will contribute to accomplishment of VEG 01 and VEG 02. [97-52]

Concern: [Seq#190]
Response: [Seq#190]
This has been corrected in the FEIS.

Associated Comments: [Seq#190]
Page 293 - Table 66 VEG SS is not a Management Objective related to, and should be deleted from discussion of VEG 01, 02, 03, and 04. [97-54]

Concern: [Seq#191]
Response: [Seq#191]
The Forest Service is required to establish an environmental baseline when addressing a listed

species. This baseline should include a description of the range of the potentially affected species within the project area and in many instances at a broader scale. The broader scale discussion provides context of the importance of a particular sub-population or habitat to support the species across its entire range. It is appropriate to reference all supporting documents that support the analysis being completed. When the Fish and Wildlife Service issues a Biological Opinion, it becomes the actual legal instrument by which the Forest Service must comply to be in compliance with the Endangered Species Act. The Biological Opinion for the SRLA is consistent with the SRLA.

Associated Comments: [Seq#191]
Page 299, 3rd paragraph - Lynx range outside the GMUG NFs is irrelevant to this analysis, and we recommend that you delete that discussion.... Further, that paragraph discusses the Lynx Biology Team Report, the Southern Rockies Lynx Amendment (SRLA), the SRLA Biological Assessment, and the SRLA Biological Opinion. Of those, the only one that the Forest Service is required to incorporate into the SBEADMR Project is the SRLA. We recommend that you delete all references to, and requirements based on, the Interagency Team Report 2013. [97-56]

Concern: [Seq#192]
Response: [Seq#192]
The GMUG is required to assume all suitable habitat is occupied by lynx and therefore must manage said habitat to maintain or improve it. The exact number of lynx on the GMUG is not known but recent monitoring have detected several individuals at various locations.

Associated Comments: [Seq#192]
Page 299, 4th paragraph - We request that you clarify how many of the 121 lynx confirmed to be present on the GMUG NFs were resident lynx and how many were transient. [97-57]

Concern: [Seq#193]
Response: [Seq#193]
This section of the FEIS has been revised to better reflect risk factors affecting long-term viability of lynx.

Associated Comments: [Seq#193]
Page 300, 1st paragraph - This paragraph identifies "timber ...management activities" as a risk factor "that threaten[s] the continued existence of lynx population". However, that statement is not supported for Colorado by either the USFWS or the Interagency Biology Team.... Specifically, in its listing decision (Fed Reg,March 24,2000,p 16073), the USFWS discussed the large proportion of lynx forest types managed in nondevelopmental status and concluded that levels of timber harvest and thinning are not likely threatening the Southern Rockies lynx population. Further, the USFWS noted documented lynx presence and reproduction in a variety of managed landscapes. Similarly, in the 2013 LCAS, the section titled "Human activities and developments specific to the Southern Rockies" (page 55-56) does not

mention timber management activities as a risk factor. [97-58]

Concern: [Seq#194]
Response: [Seq#194]
Critical habitat has not been designated for lynx in the Southern Rockies, only the Northern Rockies. While snow compaction resulting in increased competition has not been identified as a significant risk factor to lynx, it has been recognized as a risk factor that should be considered when planning actions that could affect lynx. The FEIS includes such an analysis.

Associated Comments: [Seq#194]
Page 300 - 2nd and 3rd paragraphs - Both paragraphs discuss the potential for snow compaction to result in increased competition or predation by mountain lions or coyotes. According to the USFWS (Federal Register, September 12, 2014,p 54829) -- "Snowmobiling occurs throughout the areas designated as lynx critical habitat, and understanding of the potential effects of snowmobiling on lynx continues to evolve. Concerns about potential negative impacts of snowmobiling are based primarily on the hypothesis that compacted over-the-snow trails could result in increased competition between lynx and other snowshoe hare predators, such as coyotes, in areas where deep snow would otherwise preclude or minimize such competition (Buskirk et al. 2000a, pp. 86-95).Research on the relationship between coyotes, lynx, and lynx habitat has provided mixed results regarding this hypothesis, with several studies showing that coyotes use compacted snow trails, but none indicating increased competition or substantial dietary overlap between lynx and coyotes (Interagency Lynx Biology Team 2013, pp. 80-82). In response to this uncertainty, the 2013 revisions to the LCAS provided more flexibility with respect to the management of recreational activities in lynx habitat". We recommend that you delete paragraphs 2 and 3, or, alternatively, rewrite them to clarify that there has been no research that found competition or dietary overlap between lynx and coyotes. [97-59]

Concern: [Seq#195]
Response: [Seq#195]
This has been corrected in the FEIS.

Associated Comments: [Seq#195]
Pages 302 and 306 -The acres of Total Lynx Habitat by LAU are not the same, and should be edited to display the same number of acres in the various LAUs. [97-61]

Concern: [Seq#196]

Response: [Seq#196]
The SRLA requires management of linkage zones to maintain connectivity. Major highways with high speed traffic can pose a significant barrier to lynx movement but maintaining a mosaic of habitat structural stages provides for optimal habitat for lynx movement and use of the landscape. The FEIS

includes an analysis for all affected LAU that examines how current vegetation conditions compare to potential natural communities that take into account natural disturbances, soils, aspect and elevational zones. One of the goals of the SBEADMR project is to move vegetation toward PNV through active management. This is being done in a context of large-scale natural influences that are already occurring - including spruce beetle-induced mortality and the influence of climate change.

Associated Comments: [Seq#196]
It's hard to tell from the DEIS exactly how the LLAs will be managed, or not managed, under the SBEADMR, and why only 18,937 acres are proposed for management. The SRLA direction is very vague; the definition of "Habitat connectivity" is "Cover (vegetation) in sufficient quantity... and arrangement to allow for the movement of lynx". Considering a) that the SRLA contains very little specific direction about managing for connectivity, b) that the USFWS's concern about habitat connectivity appears to be primarily "high volume, high speed highways" and suburban developments (see Fed Reg,March 24, 2000,p 16080), c) that the USFWS has "no information demonstrating that forest roads negatively impact resident lynx populations" (see Fed Reg, March 24, 2000,p 16080), and d) documented travels of Canada lynx from Colorado to Alberta, Kansas, Utah, Wyoming, New Mexico, Montana, Idaho, Arizona, Nebraska, and Nevada including many miles of "unsuitable habitats", we recommend that ALL 01 or ALL 51 should be treated an non-applicable to periodic forest management projects accessed by low standard forest roads and we further recommend no special management of Lynx Linkage Areas. [97-62]

Concern: [Seq#197]
Response: [Seq#197]
See response to comment 20-59.

Associated Comments: [Seq#197]
Page 310,1st paragraph - as previously discussed, there is no research to support the statements in this paragraph that roads or snow compaction allows other predators to compete for prey with lynx. See comments above regarding page 300. We recommend you rewrite this paragraph to delete those statements. [97-63]

Concern: [Seq#198]
Response: [Seq#198]
The FEIS has been updated to better address the no action alternative.

Associated Comments: [Seq#198]
Page 311, ynx - We disagree with the premise that the No Action alternative means there will be no effects on lynx. Achievement of VEG 01 and VEG 02 will be affected any of the alternatives, including the No Action Alternative, for example, as acknowledged in the discussion in paragraph 3 about taking longer to regenerate stands if there is no tree planting. We recommend you rewrite this section to acknowledge the potential effects on lynx under the No Action alternative. [97-64]

Concern: [Seq#199]
Response: [Seq#199]
The GMUG Forest Plan contains specific direction related to management of MIS. While MIS are intended to be used to track influences of management on species viability, they still must be addressed during project planning. The influence of a particular project on habitat or populations must then be discussed in context of how the projects' effects could influence population trends at a forest-wide scale. This is a requirement of the National Forest Management Act. The SRLA contains a requirement to maintain and protect the understory, especially when it supports hares in multi-story stands. Identification and protection of clumps of high quality habitat (greater than 35% dense horizontal cover) in blocks of .3 acres or larger is a practical way to accomplish this objective. Retention of a matrix of high quality habitat areas within a sale area will also help the Forest Service maintain connectivity which is also a requirement of the SRLA. Yet the pertinent design feature in the FEIS, WFRP-12, has been revised to provide for limited operational flexibility. With respect to the 25% residual impact assumption, the SRLA Implementation Guide provides guidance on how to address incidental impact to the understory resulting from logging activities. It estimates impact at 15-20 % as it relates to group selections or single tree prescriptions. Generally speaking, salvage logging has a greater influence on under-story vegetation since cutting units are typically much larger (>2 acres) and usually all larger trees are removed under the prescription. For these reasons the Forest chose to use an incidental impact level of 25% associated with salvage. See FEIS design features WFRP-12 and -17 for revisions to the Draft WFRP-15.

Associated Comments: [Seq#199]
Table 74 - we recommend the following: * -MIS should be deleted from the table. The concept of MIS is related to monitoring, not to project design. * -WFRP-1 -Design Criteria Function should be based on "requirements of the Southern Rockies Lynx Amendment" instead of "a Biological Opinion issues (sic) by Fish and Wildlife Service in 2008". * -WFRP-10 - As written, WFRP-10 would require exclusion of all areas greater than .3 acre with advanced regeneration. Not only is that totally impractical, but that requirement goes far beyond any requirement in the SRLA. We recommend including contract provisions that provide for protecting desired regeneration. * -WFRP-16 - the 30% threshold for acres in stand initiation structural stage is a requirement of the SRLA, and should be referenced as such, not the 2013 Conservation Assessment. We do not believe the 25% residual impact assumption is valid and we find no basis for that in the SRLA; we recommend that you assume a positive impact for the FEIS. * -WFRP-15 - there is no basis in the SRLA for this requirement. WRFP-15 goes far beyond the discussion of connectivity in the March 24, 2000 Federal Register Notice and... the requirements of SRLA ALL 01,ALL Sl, and LINK Sl. We recommend you delete WFRP-15. [97-65]

Page B-22, Design Feature WFRP-16 "Cumulative impacts include all roads (assessed at 100% impact to the understory) and past management activity affecting the understory (harvest, prescribed fire, thinning, etc.) going back 25 years. It is assumed a 25% residual impact to the understory due to past vegetation management activities." Comment: Nearly all vegetative treatments such as overstory removal, salvage logging followed by natural regeneration or planting, clearcutting of aspen, lodgepole, or spruce followed by natural or artificial regeneration, pre-commercial or commercial thinning, etc., will

increase (well within the 25 year threshold) or perpetuate existing horizontal cover in the understory to the benefit of snowshoe hare, lynx and other species. Such beneficial and cumulative effects often occur much faster than 25 years. Assessing a 25-year negative residual impact is bogus. If anything, it should be considered a positive cumulative effect and lead to more such vegetative treatments . Less stand density post- harvest will reduce self-pruning and new young trees in the stand increase the horizontal cover. [97-103]

Concern: [Seq#200]
Response: [Seq#200]
WFRP-5 is intended to help achieve connectivity goals under the SRLA at the LAU scale. The design feature (DF) was used on the LaGarita Timber Sale with good success. The DF has been re-worded to better articulate its purpose.

Associated Comments: [Seq#200]
WFRP-5 - there is no basis in the SRLA or the forest plan for this requirement. As written, it would require 200' leave strips between cutting units, and between cutting units and most roads and meadow openings. We recommend you delete WFRP-5. [97-66]

Concern: [Seq#201]
Response: [Seq#201]
The sentence has been added to the design feature.

Associated Comments: [Seq#201]
WFRP-6 - we recommend you add "On roads open to other traffic, log hauling will be allowed, even if during the fledgling period and within Yi mile of an active nest". [97-67]

Concern: [Seq#203]
Response: [Seq#203]
The sentence has been added to the design feature.

Associated Comments: [Seq#203]
WFRP-12 - this Design Feature is vague and should be replaced with a Design Feature along the lines of "Results of surveys for threatened, endangered, and sensitive species will be incorporated into project design and/or implementation". [97-69]

Concern: [Seq#204]
Response: [Seq#204]
This section of the FEIS has been revised to better reflect the role and use of new science in the SBEADMR project.

Associated Comments: [Seq#204]
Page 320,2nd paragraph - We recommend that you not incorporate "additional limitations" for lynx habitat beyond those required by the SRLA. [97-71]

Concern: [Seq#205]
Response: [Seq#205]
Silvicultural prescriptions do have positive and negative effects on lynx habitat. The impacts have been discussed in the BA and FEIS.

Associated Comments: [Seq#205]
Page 321,2nd and 3rd paragraph - We disagree with the presumption that lynx habitat elements "will decrease" compared to existing conditions and that treatment activities would "reduce the quality and quantity of winter foraging habitat for hares". According to the USFWS, "Timber harvesting can be beneficial, benign, or detrimental to lynx depending on harvest methods, spatial and temporal specifications, and the inherent vegetation potential of the site" (Fed Reg, July 3, 2003, page 40083). We recommend that you carefully analyze the potential effects of the proposed alternatives on lynx habitat and that you document whether those effects are beneficial, benign, or detrimental in the FEIS. [97-72]

Concern: [Seq#206]
Response: [Seq#206]
The FEIS has been revised to include proposed locations of a road system to complete management actions. Miles and acres of road within lynx habitat have been quantified accordingly.

Associated Comments: [Seq#206]
Page 329, 2nd and 3rd paragraphs - the fourth sentence in the second paragraph assumes, incorrectly, that all road construction would be in lynx habitat and therefore would reduce lynx... habitat. The second sentence in the third paragraph does the same. Both should be re-written to clarify that roads constructed outside of lynx habitat will not reduce lynx habitat. We also recommend that you give some context to the potential loss of lynx habitat. With approximately 1.5 million acres of lynx habitat on the GMUG NFs, 145.5 acres of lost habitat equals .009% of total lynx habitat on the GMUG NFs. [97-73]

Concern: [Seq#207]
Response: [Seq#207]
Please see response to comment 20-59.

Associated Comments: [Seq#207]
Page 329, 4th and 5th paragraphs - As we have previously discussed in these comments, the case for snow compaction contributing to adverse competitive effects on lynx is nothing more than speculation, and should be deleted from the FEIS. [97-74]

Concern: [Seq#208]
Response: [Seq#208]
Please see response to comment 20-59.

Associated Comments: [Seq#208]
The last sentence in the 4th paragraph unacceptably includes someone's speculative opinion into the discussion of scientific findings from a research paper. The actual discussion and conclusion from Kolbe et al. 2007 includes the following statements - "Therefore, we found no evidence that snowmobile trails were associated with coyote foraging sites on our study area." "It is unlikely t hat limiting compacted snowmobile trails on our study area would significantly reduce exploitation competition between coyotes and lynx during winter." Nowhere does the phrase "but the possibility still exists" appear in Kolbe et al, 2007. The results of Kolbe et al. 2007 should be accurately summarized, and the speculative phrase regarding "possibility" should not be included in the FEIS. [97-75]

Concern: [Seq#209]
Response: [Seq#209]
SV-5 has been updated to match the contract language and now states “October 31 of the year following felling”.

Associated Comments: [Seq#209]
Page B-11, Design Feature SV-5 "In order to reduce the risk of spruce beetles being drawn to uninfected trees, in stands with a component of live spruce which are no beetle-infected, felled spruce shall be removed from the sale area by no later than October 31 of the year felling occurs....." Comment: Please see Timber Sale Contract 2400-6,,Provision C6.46 Conduct of Logging (Spruce Beetle Trap Areas) and C6.47 Conduct of Logging (In Other Than Engelmann Spruce Beetle Trap Areas) which provides that felled spruce trees "shall be removed from the Sale Area by no later than October 31 of the year following felling, unless otherwise agreed to in writing. (Trees felled in one calendar year must be removed by October 31 of the following year." Spruce beetles have a 2 year life cycle - not 1 year . There is no need to remove trees by October 31 of the year felling occurs in order to control populations. This requirement is onerous, ill conceived, and requires timber fell on October 31st to be removed on the same date it is cut. The language in the existing timber sale contract which requires removal by October 31st of the next calendar after felling should be used. [97-87]

Concern: [Seq#210]
Response: [Seq#210]
The standard, based on referenced science, is to implement regeneration harvest in aspen stands at least 20 acres in size; however, our intention is to create units 40 acres or larger.

Associated Comments: [Seq#210]
Page B-12, Design Feature SV-8,it states that treatment units >20 acres is preferred, but page 54 says >40. [97-89]

Concern: [Seq#211]
Response: [Seq#211]
The most appropriate structure for a particular stream crossing should be the ultimate goal. The design feature simply states "favor" these type of structures, particularly when they will be placed in fish-bearing perennial streams. Implementation of a SBEADMR treatment my take 3-7 years and maintaining up-stream and down-stream movement of fish and amphibians during this time period is an important conservation goal in many cases.

Associated Comments: [Seq#211]
Page B-17, Design Feature WQSP-3A "Favor bridges, bottomless arches or buried pipe-arches for those streams with identifiable flood plains and elevated road prisms, instead of pipe culverts." Comment: Round pipe culverts have been successfully used for decades to channel water under road crossings without detriment to the environment. A round pipe has the same cross section as a "squash pipe" and passes the same volume of water. Bridges are expensive, bottomless arches are sometimes difficult to source, and the only benefit to "arch pipes" are that they allow fish to pass through easier until the bottom of the pipe naturally accumulates gravel and silt. This provision is an unnecessary and expensive burden. It should be eliminated [97-93]

Concern: [Seq#212]
Response: [Seq#212]
Please see response to comment 97-66.

Associated Comments: [Seq#212]
Page B-21, Design Feature WFRP-5 "This screening cover should be comprised of tree retention strips a minimum of 200 feet wide unless topographic breaks occur between cutting units, roads or meadow openings." Comment: There is no basis in the SRLA or the forest plan for this requirement. As written, it would require 200' leave strips between cutting units, and between cutting units and most roads and meadow openings. We recommend you delete WFRP-5. [97-96]

Concern: [Seq#213]
Response: [Seq#213]
The recommended clarification to DEIS WFRP-6 (FEIS WFRP-7) has been added.

Associated Comments: [Seq#213]
Page B-21,Design Feature WFRP -6 "Northern goshawk - No activities will be allowed within X mile of active nests from March 1 to August 31 or until fledgling has occurred ." Comment: We recommend you add "On roads open to other traffic, log hauling will be allowed, even if during the fledgling period and within Yi mile of an active nest". [97-97]

Concern: [Seq#214]
Response: [Seq#214]
The IDT has reviewed and refined design features several times for increased clarity. The language is retained.

Associated Comments: [Seq#214]
Page B-21, Design Feature WFRP-12 "Surveys for threatened, endangered, and sensitive (TES) species will occur prior to design of a treatment ."... Comment: This Design Feature is vague and should be replaced with a Design Feature along the lines of "Results of surveys for threatened, endangered, and sensitive species will be incorporated into project design and/or implementation". [97-100]\

Concern: [Seq#215]
Response: [Seq#215]
Design and implementation of DEIS WFRP-13 (FEIS WFRP-15) will determined by the District Biologist in cooperation with other District staffs and Parks and Wildlife. Flexibility to implement this design feature to meet the needs of industry and protection of wildlife has and will continue to be a priority.

Associated Comments: [Seq#215]
Page B-21, Design Feature WFRP-13 "When possible, avoid treatment activities in areas where big game (elk, pronghorn, and moose) are known to occur ." Comment: This statement is much too broad. It encompasses and potentially precludes activities on the entire GMUG National Forest. Absolutely essential big game winter range should be identified in the EIS and instead of avoiding these areas, mitigation measures should be prescribed. Winter is the best time to log much of the spruce timber type and industry relies upon operations every month of the year except during spring breakup. [97-101]

Concern: [Seq#216]

Response: [Seq#216]
This design feature has been clarified to better reflect its intent and how it will be implemented at the treatment level. See FEIS WFRP-17.

Associated Comments: [Seq#216]
Page B-22, Design Feature WFRP-15 Habitat connectivity within harvest units will be maintained through the use of variable regeneration harvest methods, including 1 50-300 foot tree retention blocks in length across the width of harvest units. Comment :There is no basis in the SRLA for this requirement. WRFP-15 goes far beyond the discussion of connectivity in the March 24, 2000 Federal Register Notice and the requirements of SRLA ALL 01,ALL Sl, and LINK Sl. We recommend you delete WFRP-15 [97-102]

Concern: [Seq#240]
Response: [Seq#240]

The FEIS has been revised to provide additional information regarding the effects of treatment in PTA on linkage zones. Design feature WFRP-17 has been revised to clarify what is needed at the stand level to provide for connectivity.

As stated in the SRLA and Canada Lynx Conservation Assessment and Strategy (Interagency Lynx Biology Team, 2013), natural processes play an important role in maintaining a mosaic of forest successional stages in lynx habitat. Within affected Geographic Areas (GA) spruce-fir and spruce-fir-aspen cover types are currently dominated (45-56%) by late-mid and late seral stages (Habitat Structural Stages 4B and 4C). Based upon Vegetation Dynamics Development Tool (VDDT) which used knowledge of disturbance intervals and successional pathways to describe Potential Natural Vegetation types (PNV) and structural stages of those types in each of the G. The modeling indicates late-mid seral and late seral (habitat structural stage 4A, 4B and 4C) should range from 12-13% for late-mid and 31-40% for late seral stages (USDA Forest Service 2006e). Spruce beetle induced mortality tends to affect these older stands the most reducing live 4A, 4B and 4C. Movement of spruce-fir toward a range of seral conditions and maintaining natural disturbance patterns helps maintain connectivity for lynx.

The FEIS provides additional rationale how connectivity will be maintained in LA and within LAU as required by the SRLA. The SRLA also requires that management induce change of lynx habitat on federal lands that create early stand initiation structural stage not exceed 15% in the LAU over a 10-year period. Tables in the lynx analysis section of the Wildlife section, Chapter 3, provide a summary of how commercial treatment would affect these caps given current levels of overstory mortality within a PTA, as well as the amount if all mature trees were to die. The amount and type of harvest will be tracked and reported annually to ensure compliance to this standard.

Associated Comments: [Seq#240]

the DEIS lacks specificity with regards to its analysis of effects to lynx linkage areas. The DEIS does disclose that eight linkage areas exist within the project area, and that 18,937 acres of linkage areas are proposed for treatment. Id. at 309-310. The DEIS does not, however, describe or show where these linkage areas are, what portions of them are proposed for treatment, whether or not any linkage areas have been subject to treatment in the past, where specifically the treatments will occur and what type of treatment will occur, and also does not disclose what the concentration of treatments will be as a result of SBEADMR implementation. Absent this information, neither the decisionmaker nor the public can adequately assess the impacts of the proposal on lynx linkage areas. The 2014 final rule designating critical habitat for Canada lynx explained the important of connectivity for lynx: The overall quality of the boreal forest landscape and the juxtaposition of stands of high-quality habitat within the landscape are important for both lynx and snowshoe hares in that both can influence connectivity or movements between habitat patches, availability of food and cover, and spatial structuring of populations or subpopulations (Hodges 2000, pp. 184-195; McKelvey et al. 2000c, pp. 431-432; Walker 2005, p. 79). For example, lynx foraging habitat must be near denning habitat to allow females to adequately provision dependent kittens, especially when the kittens are relatively immobile (Moen et al. 2008a, p. 1507; Vashon et al. 2012, p. 16). In north-central Washington, hare densities are higher in landscapes with an abundance of dense boreal forest interspersed with small patches of open habitat, in contrast to

landscapes composed primarily of open forest interspersed with few patches containing dense vegetation (Walker 2005, p. 79; Lewis et al. 2011, p. 565). Similarly, in northwest Montana, connectivity of dense patches within the forest matrix benefits snowshoe hares (Ausband and Baty 2005, p. 209). 79 Fed. Reg. 54782, 54806 (Sept. 12, 2014) (Final Lynx Critical Habitat Rule). The Forest Service has previously recognized the high importance of maintaining connectivity: Because of the patchy, discontinuous distribution of lynx habitat in the Southern Rockies Ecosystem, maintaining landscape-level habitat connectivity may be paramount to maintaining a viable population. Final Environmental Impact Statement, Village at Wolf Creek Access Project, at 3-70 (emphasis added). The Forest Service must include site-specific analysis of lynx connectivity and linkage areas in the project area, and the impacts of SBEADMR on them. [22-36]

Concern: [Seq#241]
Response: [Seq#241]
The corresponding table in the FEIS has been revised to clarify Management Objectives, Standards and Guidelines in the SRLA.

Associated Comments: [Seq#241]
Page 293 - Table 66 VEG S5 is not a Management Objective related to, and should be deleted from discussion of VEG 01, 02, 03, and 04 [27-4]

Concern: [Seq#244]
Response: [Seq#244]
The commenter requests these aspects be considered in the Pre-Treatment Design Checklist. Design features pertinent to promoting natural regeneration are identified in Appendix B and would be considered during the design of each treatment implemented in SBEADMR.

Regarding meeting Forest Plan standards for habitat effectiveness and habitat capability for MIS species, the wildlife section of the FEIS analyzed these components and determined that SBEADMR implementation would be consistent with these Forest Plan standards.

Associated Comments: [Seq#244]
Monitoring – Range, Wildlife, Timber • Is there sufficient desirable tree regeneration present in the treatment area? • What needs to be done to promote and protect natural tree regeneration? • Are we meeting Forest Plan standards for habitat effectiveness and/or habitat capability for Management Indicator Species (MIS)? • Are we maintaining or improving habitat to support viable populations of MIS? [13-37]

Concern: [Seq#266]
Response: [Seq#266]
The GMUG NF Forest Plan Management Areas (MA) include management direction for MIS. Habitats must be managed to maintain habitat effectiveness (HE) at least at the 40% level and in some cases

even higher. While HE is determined at a watershed scale, use of design features at a treatment scale helps achieve overall habitat objectives. Regarding DEIS WFRP 1 - While the SRLA amended the Forest Plan, the Biological Opinion and associated terms and conditions is also a legally binding document in regards to ESA requirements. DEIS WFRP 12 (WFRP-10 in the DEIS)- VEG S6 applies to vegetation management practices within multi-story mature or late successional conifer forests. Under the standard, vegetation management projects that reduce winter snowshoe hare habitat are limited to 4 exceptions: 1) within 200 feet of administrative sites; 2) for research studies; 3) for incidental removal during salvage operations (through location of skid trails) and 4) where uneven-aged management (single tree and group selections) are employed to maintain or encourage multi-story attributes. The focus of WFRP-12 is on multi-story stands supporting high quality hare habitat which is defined as having a dense horizontal cover over 35%. During informal consultation with Fish and Wildlife Service both agencies agreed to focus on avoidance where possible of these high quality sites that were at least 0.3 acres in size. This should be a primary goal as opposed to all areas supporting advanced regeneration.

Regarding DEIS WFRP 16 (18 in the FEIS), the Conservation Assessment helps support and clarify implementation of the SRLA, so we have cited this as it is the best available science; the standard is still founded in the SRLA.

Regarding DEIS WFRP 15 (now 17), this has been modified to better reflect intent for managing connectivity in lynx habitat.

Regarding DEIS WFRP 5, this has been removed from the FEIS; WFRP 17 captures the approach for managing connectivity.

Associated Comments: [Seq#266]

Table 74 – we recommend the following: • -MIS should be deleted from the table. The concept of MIS is related to monitoring, not to project design. • -WFRP-1 –Design Criteria Function should be based on "requirements of the Southern Rockies Lynx Amendment" instead of "a Biological Opinion issues (sic) by Fish and Wildlife Service in 2008". • -WFRP-10 – As written, WFRP-10 would require exclusion of all areas greater than .3 acre with advanced regeneration. Not only is that totally impractical, but that requirement goes far beyond any requirement in the SRLA. We recommend including contract provisions that provide for protecting desired regeneration. • -WFRP-16 – the 30% threshold for acres in stand initiation structural stage is a requirement of the SRLA, and should be referenced as such, instead of the 2013 Conservation Assessment. We do not believe the 25% residual impact assumption is valid; we find no basis for that in the SRLA and recommend that you assume a positive impact from past management in the FEIS. • -WFRP-15 – there is no basis in the SRLA for this requirement. WRFP-15 goes far beyond the discussion of connectivity in the March 24, 2000 Federal Register Notice and the requirements of SRLA ALL O1, ALL S1, and LINK S1. We recommend you delete WFRP-15. • -WFRP-5 – there is no basis in the SRLA or the forest plan for this requirement. As written, it would require 200' leave strips between cutting units, and between cutting units and most roads and meadow openings. We recommend you delete WFRP-5. [27-12]

Concern: [Seq#268]

Response: [Seq#268]
SBEADMR is designed and will be implemented consist with the SRLA. The updated analysis in the FEIS provides projections of potential impact by LAU and LA for each action alternative. Due to the adaptive nature of the SBEADMR project, the Forest Service provides an analysis of potential effects to lynx based upon current stand conditions in PTA and effects to lynx if all spruce (especially older age classes) were to die as a result of spruce beetle activity. Effects are clearly summarized by alternative and by LAU and LA in the FEIS. Tables summarizing how these effects relate back to the SRLA are also provided. The SBEADMR is designed to be adaptive including changes in best available science, changes in policy or changes in plan direction. While the SRLA was initiated in 2008 and is intended to last for 15 years, the amendment allows for potential updates through Forest Plan Revision. The Record of Decision for the SRLA states "The direction given in this decision to promote and facilitate lynx conservation will be reviewed and reconsidered when each Plan is revised, and Plan direction updated as needed to respond to new information and remain consistent with law, regulation and policy."

Associated Comments: [Seq#268]
The Southern Rockies Lynx Amendment (SRLA) includes objectives, standards, and guidelines designed to conserve lynx and lynx habitat in the Southern Rockies region. As described in the DEIS, the SBEADMR project fails to ensure compliance with the SRLA and therefore violates NFMA, because all projects and activities must follow the respective forest plan. See 16 U.S.C. 1604(i). The DEIS is full of conclusory statements without any explanation as to why those conclusions were reached, what science those conclusions are based upon, what assumptions those conclusions are based upon, and what information was lacking in reaching those conclusions. NEPA, and NFMA, require more. In spite of the assurances that the SRLA will be followed closely throughout this project, the result of the effects determination is that the action alternatives "'may affect, and are likely to adversely affect' the Canada lynx or its primary habitat." DEIS at 342. This determination seems to be in conflict with SRLA compliance. The rationale explains, "The project is consistent with the SRLA... which made a similar adverse effects determination while acknowledging the selected alternative was likely to have overall beneficial effects to lynx by addressing the primary therates [sic] identified during the time of listing." DEIS at 342. The analysis in the DEIS has failed to explain how the benefits to the lynx will outweigh the detriments. The Forest Service cannot simply rely on an alternative in the SRLA to justify an action alternative for SBEADMR that is likely to adversely affect the lynx without describing that alternative and comparing it to those being considered in the SBEADMR project. The Forest Service also cannot neglect its obligations with regards to SRLA guidelines merely because they are guidelines. The SRLA Biological Opinion (July 25, 2008) anticipated that "[g]uidelines would be implemented in most cases," and further anticipated that "[e]ffects would be based on site specific conditions and would require subsequent project level . . . consultation with the [U.S. Fish and Wildlife] Service." SRLA BiOp at 69. As such, the Forest Service must explain how and if it is implementing SRLA guidelines, and if not, provide an explanation for why it is not implementing each specific guideline. The Incidental Take Statement for the SRLA includes two non-discretionary terms and conditions that implement the Reasonable and Prudent Measure. First, timber harvest conducted under exemptions and exceptions to standards VEG S1, S2, S5, or S6 do not occur in greater than 4.5% of lynx habitat on any national forest for the 15 year life of the SRLA. SRLA BiOp at 77. Second, "pre- commercial thinning and vegetation management projects allowed per the exceptions

listed under VEG S5 and S6 shall not occur in any LAU in which VEG S1 is exceeded . . . except for protection of structures." Id. The Forest Service should explicitly address its compliance with the SRLA Incidental Take Statement, and specifically the two terms and conditions. In this analysis, which is not currently contained in the DEIS, the Forest Service must disclose whether VEG S1 is exceeded in any LAU within the project area. The Forest Service should also disclose what percentage of each LAU is currently in stand initiation structural state that does not yet provide winter snowshoe hare habitat, and whether SBEADMR implementation would cause VEG S1 to be exceeded as a result of project implementation. Additionally, because the SRLA has a 15-year life that began in 2008, it will expire before SBEADMR is fully implemented. The Forest Service should address this issue in the environmental analysis. Further, because the SRLA and associated Incidental Take Statement will expire before SBEADMR is fully implemented, the Forest Service must consult with the US Fish and Wildlife Service regarding this proposal. The SRLA BiOp also imposes reporting requirements on the Forest Service, including a requirement that it document deviations from any SRLA guidelines. BiOp at 78.The SBEADMR environmental analysis should discuss this reporting requirement and plans to track deviations from SRLA guidelines. The DEIS lists applicable SRLA objectives, standards, and guidelines. See DEIS at 292-3. However, the DEIS fails to provide specifics as to how this project will meet these objectives, standards, and guidelines. For example, Objective ALL O1 relates to maintenance and restoration of lynx habitat connectivity in and between Lynx Analysis Units (LAU) and linkage areas. In Table 66, in connection with this objective, the comments state, "Attainment occurs at the project-level through project layout and implementation of Design Features." DEIS at 293. There is no assurance that the objective will be met without a detailed explanation of how the project layout and design features will maintain lynx habitat connectivity. Indeed, a review of the DEIS finds on only a few brief mentions of Objective ALL01, and none provide the level of specificity, either globally or on the site- specific level, as to how SBEADMR will meet this objective. Specifics must be included for the public to understand what exactly will be implemented on the ground in this project. The DEIS does not describe what project layout or Design Features will specifically lead to meeting this objective beyond Table 67's brief mention that permanent roads should not be built on ridge tops, saddles, or areas identified as important for lynx connectivity. But even this brief mention fails to meet NEPA's requirements for disclosure and analysis. What areas are identified as important for lynx connectivity? Does this refer only to linkage areas? Does this refer to other areas outside of linkage areas that are important for lynx connectivity? The DEIS should disclose what areas are important for lynx connectivity, including a map showing these locations and their relation to anticipated treatment units. Ultimately, the DEIS simply fails to demonstrate how the SBEADMR project will maintain or restore lynx habitat connectivity (including what areas would be maintained and what areas would be restored) both in and between LAUs, as well as in and between lynx linkage areas. [22-35]

Concern: [Seq#269]
Response: [Seq#269]
The Region 2 SRLA Implementation Guide (USDA Forest Service Rocky Mountain Region, 2009), provides guidance for delineating LAU and mapping of lynx habitat in those LAU. The LAU must contain the

amount of primary vegetation (spruce-fir cover types) to support a reproductive female lynx. Since successful reproduction is one of the primary limiting factors for lynx, addressing cumulative effects at the LAU-scale is appropriate. While the exact amount of primary vegetation to support a female lynx has not clearly been established, the Implementation Guide does provide a range of 45.7-235.7 square km (12,000-60,000 acres). The GMUG used this criteria in 2010 when re-mapping lynx habitat. Acres of suitable lynx habitat potentially affected under SBEADMR range from 18,000 to 39,000 acres. Further, adherance to conservation measures outlined in the SRLA and and the Canada Lynx Conservation Assessment and Strategy (Interagency Lynx Biology Team, 2013) provides an appropriate framework for long-term conservation of the species. The cumulative effects analysis for lynx has also been updated to include other reasonably foreseeable activities within the analyzed LAUs, including minerals activities.

Associated Comments: [Seq#269]

The DEIS' description of cumulative effects on lynx is inadequate. The DEIS provides a table listing acres that have been disturbed through past management activity, and then provides additional detail at the LAU level, but fails to support its description of the cumulative effects area. The Forest Service limited the cumulative effects area to the specific LAUs that would be impacted by the implementation of SBEADMR. But this is not the correct area to look at. Given that lynx travel great distances for dispersal, exploration, and foraging, the cumulative effects area should be greater than just those LAUs that will be directly impacted by SBEADMR. It is directly relevant to the NEPA analysis that cumulative effects of vegetation management, road construction, and other activities beyond the LAUs directly impacted by SBEADMR be considered. Given the importance of lynx linkage areas, and their importance to connect to lynx populations beyond the project area, a proper cumulative effects area is necessary. The Forest Service should analyze the cumulative effects of vegetation management and road construction beyond the immediate LAUs directly affected by SBEADMR. Additionally, the lynx cumulative effects section neglects to analyze the cumulative effects of other activities that have the potential to impact lynx and lynx habitat, including oil and gas exploration/development, coal mine exploration/development, as well as activities associated with such exploration and development. These activities should be added to the cumulative effects analysis for lynx. Further, the table on page 332 of the DEIS should also include quantification of the anticipated reasonably foreseeable future activities that may have a cumulative effect on lynx. Squires et al. (2006) (Exhibit 11) and other papers on lynx management discuss the importance of managing lynx and analyzing impacts at the larger "landscape scale." The Forest Service should have analyzed impacts, including direct, indirect, and cumulative impacts, at this larger scale, in addition to the local scale. The analysis should not have been limited to LAUs in the immediate area of the project. Specifically, the EA should have discussed and analyzed how winter recreation, human development (ski area and private land), transportation plans on public lands, highways and roads, other federal (BLM and Forest Service) logging, oil/gas/coal development projects, climate change and the anticipated loss of habitat, individual mortality from predation and starvation, in combination with the project affect the survival and recovery of lynx in the immediate area, region, and Southern Rockies. [22-42]

Concern: [Seq#270]
Response: [Seq#270]
The SRLA Record of Decision requires affected National Forests to apply standards that have the potential to affect snowshoe hare habitat and thus may impact lynx at the population level (ROD pg 5). The Forest Service assumes that suitable habitat is occupied by hares and therefore also utilized by lynx. In addition lynx have been observed and trapped and collared on GMUG NF administered lands. Therefore, the Forest does not make a distinction between resident versus non-resident lynx.

Associated Comments: [Seq#270]
age 299, 4th paragraph – We request that you clarify how many of the 121 lynx confirmed to be present on the GMUG NFs were resident lynx and how many were transient. [27-6]

Concern: [Seq#271]
Response: [Seq#271]
SRLA Objective HU O1 requires the Forest Service to "maintain the lynx's natural competitive advantage over other predators in deep snow by discouraging the expansion of snow-compacting activites in lynx habitat". While this objective does not apply to vegetation management projects directly, it is a potential effect to lynx and therefore is addressed in the Biological Assessment and FEIS. In the case of timber management projects, plowing of roads to conduct winter logging is considered a short-term effect, even though recent studies indicate the effects may be less than previously thought.

Associated Comments: [Seq#271]
Page 300 – 2nd and 3rd paragraphs – Both paragraphs discuss the potential for snow compaction to result in increased competition or predation by mountain lions or coyotes. According to the USFWS (Federal Register, September 12, 2014, p 54829) -- “Snowmobiling occurs throughout the areas designated as lynx critical habitat, and understanding of the potential effects of snowmobiling on lynx continues to evolve. Concerns about potential negative impacts of snowmobiling are based primarily on the hypothesis that compacted over-the- snow trails could result in increased competition between lynx and other snowshoe hare predators, such as coyotes, in areas where deep snow would otherwise preclude or minimize such competition (Buskirk et al. 2000a, pp. 86– 95). Research on the relationship between coyotes, lynx, and lynx habitat has provided mixed results regarding this hypothesis, with several studies showing that coyotes use compacted snow trails, but none indicating increased competition or substantial dietary overlap between lynx and coyotes (Interagency Lynx Biology Team 2013, pp. 80–82). In response to this uncertainty, the 2013 revisions to the LCAS provided more flexibility with respect to the management of recreational activities in lynx habitat”. We recommend that you delete paragraphs 2 and 3, or, alternatively, rewrite them to clarify that there has been no research that found competition or dietary overlap between lynx and coyotes.... Page 310, 1st paragraph – as previously discussed, there is no research to support the statements in this paragraph that roads or snow compaction allows other predators to compete for prey with lynx. See comments above regarding page 300. We recommend you rewrite this paragraph to delete those statements.... Page 329, 4th and 5th paragraphs – As previously discussed in these comments, the case for snow

compaction contributing to adverse competitive effects on lynx is speculative, and does not warrant discussion in the FEIS.... The last sentence in the 4th paragraph unacceptably includes someone's speculative opinion into the discussion of scientific findings from a research paper. The actual discussion and conclusion from Kolbe et al. 2007 includes the following statements – -"Therefore, we found no evidence that snowmobile trails were associated with coyote foraging sites on our study area." -"It is unlikely that limiting compacted snowmobile trails on our study area would significantly reduce exploitation competition between coyotes and lynx during winter." Nowhere does the phrase "but the possibility still exists" appear in Kolbe et al, 2007. The results of Kolbe et al. 2007 should be accurately summarized, and the speculative phrase regarding "possibility" should not be included in the FEIS. [27-8]

H-1.9: Economic Concerns

Concern: [Seq#5] - Costs of WUI treatment
Response: [Seq#5] - Costs of WUI treatment
The direct costs of WUI treatment are incorporated into the costs table used for the economic impacts analysis.

Associated Comments: [Seq#5] - Costs of WUI treatment
Alternative 3 documents the need for treatments focused on public safety but is not clear and accurate about the added costs, nor the realities of protecting firefighters outside of the WUI. * Due to the complexity of working within a WUI, treatments costs are likely to be higher (page 288) and therefore overall fewer acres may be treated, reducing the effectiveness. Merchantable sawlog volume per acre is generally less in WUI and other areas of public concern vs acreage in the roaded suitable timber base, which are proposed for treatment under Alternatives 2 and 4. Many acres eligible for treatment under Alternative 3 will be on steeper slopes. Costs to treat may often exceed the value of the sawlogs and other wood products. Treatment of similar areas in Region 2 under on-going stewardship contracts resulted in a net cost to the government of up to... $2,000 per acre. Alternatives 2 and 4 allow for more efficient use of the Forest Service budget. * Higher costs equates to fewer acres treated. * Alternative 3 only protects infrastructure, not actual watersheds. * As discussed on page 287, "the primary difference is that direct effects would be restricted to the WUI and not contribute to the desired conditions at the landscape scale." * The number of road maintenance miles for Alternative 3 is considerably higher than Alternative 2 and 4 (444 v 646). Given the potential for lower volumes and more maintenance within the WUI, Alternative 3 will be more expensive to implement. The Forest Service road maintenance budget has historically been insufficient. Use of more roads under Alternative 3 will increase point and non-point sources of sedimentation compared with Alternatives 2 and 4. * WUI treatments may be too restrictive to provide a robust wildfire risk reduction benefit if climate does indeed increase fire severity and frequency per the fire and fuels discussion. [97-11]

Concern: [Seq#13] - Costs of No Action alternative
Response: [Seq#13] – Costs of No Action alternative
The analysis of costs of the no action alternative are qualitative in nature, as the commenter's implied costs of the "no action" are exceedingly difficult and speculative to quantify, such as those costs that could potentially be accrued from greater wildfire damage to infrastructure. However, these potential costs are not quantified for any action alternative; the comparison of direct, indirect, and cumulative effects remains consistent between the alternatives for reasoned, informed decision-making.

Associated Comments: [Seq#13] – Costs of No Action alternative
C. The No Action Alternative analysis is exceedingly limited - almost non-existent. It should be noted that in the unprecedented insect epidemic we are experiencing, the "No Action Alternative" will have costs to the Agency and to the multiple users of the forests. This document should more fully quantify those effects and costs. [21-4]

Alternative 1 will actually cost both the GMUG and the GMUG counties. Very little analysis mentioned many unintended consequences of no action. Examples include: * costs associated with falling trees and grazing fencelines. * costs associated with wildfire management when natural fires must be extinguished due to lack of redundant fuel treatments across the landscape. * costs associated with loss of jobs if the GMUG timber supply falls to the low levels of the 1990s. * costs associated with road maintenance for activities other than forest management (i.e. recreation) [97-10]

Concern: [Seq#93]
Response: [Seq#93]
The Timber Market section of the socioeconomics section of the FEIS is revised to include, "In addition to the economic impacts from the commercial harvest, additional economic impacts could accrue from non-commercial SBEADMR projects that are not accounted for in the quantitative analysis. For example, a 12.5 megawatt biomass processing facility in the Eagle Valley can use by-products from the non-merchantable, non-commercial as well as the commercial projects to sustain jobs in the area."

Associated Comments: [Seq#93]
Table 87 does not begin to address the synergies available within Colorado forest products companies. Stewardship and Timber Contracts can identify optional removal of piles and fuels, which can be utilized by biomass companies and biomass power plants. Note both Eagle Valley Clean Energy and Pagosa Land Company will be operational in the first year of SBEADMR project implementation. [97-9]

Concern: [Seq#114]

Response: [Seq#114]
The action alternatives are anticipated to stimulate local economies by providing forest products from

the treatments and from sustained healthy forests. While it is recognized that timber supply is essential for the successful operation of local mills that produce jobs and income for the communities, future timber harvest beyond the scope of SBEADMR proposed activities is uncertain. See the socioeconomic analysis for more information about the economic issues surrounding timber markets.

Associated Comments: [Seq#114]

Montrose is home to the largest saw mill in Colorado. The mill is here today because of substantial community investment in both dollars and physical effort that sought to save the mill out of receivership in 2010. A nearly three year collaborative effort was made by businesses, government and community members. What was at risk was not only the ability to process the diseased timber, but the jobs associated with the mill along with the contractors hired to harvest the timber and deliver it to the mill. At the time, over 200 jobs were at stake. In addition was the economic impact of not only the payroll but the overall mill operations. Our economic impact analysis of the mill operations showed a total economic impact of over $32M annually to our community. This crisis came at a time when Montrose County was at 11% unemployment, one of the highest unemployment rates in the State. Year 2008 2009 2010 2011 2012 2013 2014 Average Labor Force 20,878 21,197 20,591 19,967 19,734 18,904 19,682 20,266 Employed 19,839 19,289 18,270 17,726 17,658 17,303 18,319 18,697 Unemployed 1,039 1,908 2,321 2,241 2,076 1,601 1,360 1,569 Rate 5.0 9.0 11.3 11.2 10.5 8.5 6.9 7.8 A major factor that added to the difficulty of finding a viable buyer for the mill was a lack of a substantial timber supply. At that time, an adequate timber supply could not be documented on the GMUG. Fortunately for Montrose and for the State of Colorado, the efforts of our community brought positive results despite the lack of a guaranteed supply. The Jim Neiman family, owners of Neiman Enterprises headquartered in Hulett WY purchased the mill in the fall of 2012. Since the purchase of the mill, the Neimans have invested over $10M into upgrading the facility and purchasing equipment that will handle the dead timber plaguing the GMUG and surrounding forest lands. Montrose Forest Products, our Neiman owned mill, is currently running one shift however they are at a point where they need to run a second shift in order to make the mill profitable. An increase in timber sales is essential. Once again, a sustainable supply of timber comes into play in creating a business environment that will help maintain our mill.... Forest Health is a vital element to the economic sustainability of our community and region. Food & Agriculture and Tourism & Recreation are ranked as the top two key industries in our region. It is through tourism activities that 90% of our primary employers have located to our area creating over 2,000 jobs. Our Food and Agriculture industry requires quality water. Our water quality is threatened by the current beetle epidemic occurring in our forests. These two industries are instrumental in maintaining our open space. It is the open space combined with the beauty of the Rocky Mountains that make this area a desirable place to relocate businesses to. The insects and diseases affecting our forests pose a major threat to our economic future threatening the future of these industries [10-1]

Concern: [Seq#115]

Response: [Seq#115]

Commercial and non-commercial treatment activities are addressed in the action alternatives and the socioeconomic analysis.

Associated Comments: [Seq#115]
In the last few decades, the forests have changed and we believe that the management of our forests must attune to the times. Even though this project treatment area is only 4% (maximum 120,000 acres) of the GMUG, it is still a good beginning to the process of bringing our forests back to health. The fact that we have a local market for recently dead and affected spruce/fir provides a rare opportunity to perform necessary treatments at a greatly reduced cost. We urge the Forest Service to move quickly to utilize commercial salvage treatments while timber is still merchantable. Addressing this forest-wide issue will require a full suite of treatment options including commercial and non-commercial methods. [17-2]

Concern: [Seq#116] – Economic Analysis Area
Response: [Seq#116] – Economic Analysis Area
Over the life of the SBEADMR project, timber processors and contractors could be located in the broader area, but it is also important to detail the effects of timber processing on the smaller GMUG area. In response to public comments, economic analyses were performed for the FEIS using the broader 22-county analysis area, the targeted 10-county GMUG analysis area and a multi-regional approach. The results were marginally different (less than 2 percent difference), likely due to variations in output per worker, industry presence, and relative size of impacts between the two analysis areas. Therefore, the majority of the economic impacts outlined in this report for the broader analysis area will likely occur in the 10-county GMUG area, with the exception of a minimal amount of additional induced and indirect effects outside of the 10 GMUG counties. The map on page 400 of the economic analysis area reflects the broader analysis approach, which is supplemented by the targeted approach described above. The broader 22-county analysis area was determined by the location of timber processing and linkages in the region for expected economic impacts.

Associated Comments: [Seq#116] – Economic Analysis Area
A. Regionalizing the socio-economic impacts to 22 Counties through the use of IMPLAN and the Bureau of Business and Economic Research diminishes its usefulness to stakeholders and policy makers. It also skews the reader's perspective on the timber industry. An equivalent analysis should be provided for the 10 counties within the GMUG only. B. Related to comment A above, the map shown on page 400 of the DEIS should encompass the State of Colorado, since data is being compared on a statewide basis. [21-5]

It is important to capture the economics of the forest products companies within the immediate 10 county GMUG working circle. Montrose, Mancos and Delta have been the long- term home to the largest (but small by national standards) timber processors in Colorado. Keep in mind that this equates to important jobs in these communities. [25-8]

Delta County would encourage that the socio-economic portion be further delineated to pull out the 10 counties within the GMUG. To rely on IMPLAN for 22 Counties does not accurately reflect the smaller operators and jobs. Socio economic goals for Delta County include: * to protect the existing jobs and the

companies that provide them; * to help increase economically-sustainably capacity in service work; [42-6]

Economics are critical in determining not only the ability of the GMUG to respond to the spruce beetle epidemic, but also the social and economic costs and benefits of each proposed alternative. This section and the regional analysis (IMPLAN 7) approach used in the DEIS may be missing the bigger socio-economic reality in rural Colorado. We suggest that this section needs more analysis to include some real issues concerning local economies. Importantly, Colorado has a designation of Enhanced Rural Enterprise Zones (EREZ) to designate economically depressed counties. EREZ counties meet two or more of the following five criteria: County unemployment rate greater than 50% above state average.... County per capita income less than 75% of state average. County population growth rate less than 25% of state average. Total non-residential assessed value ranks in lower half of all counties. County population less than 5,000. Six of the 10 GMUG counties and 11of the 22 regional counties meet this criterion. Sprinkled through both geographic areas are counties with ski areas economies, which are generally much stronger economically. Demographically, the importance of this project is critical to specific GMUG counties and less so for other counties in the region. It is important to capture the economics of the forest products companies within the immediate 10 county GMUG working circle. Montrose, Mancos and Delta have been the long term home to the largest (but small by national standards) timber processors in Colorado. Keep in mind that this equates to important jobs in these communities. [97-78]

Concern: [Seq#117]
Response: [Seq#117]
Page 402 of the DEIS states, "Specialization is examined using the ratio of the percent employment in each industry in the region of interest (22-county analysis area) to the percent of employment in that industry for a larger reference region (the state of Colorado)." This methodology is how the referenced portions of jobs in the analysis area compare to the state and uses the latest data available at the time of DEIS publication (IMPLAN 2012). The referenced quote from page 396 of the DEIS will be revised as such for clarification, "Demand for goods and services provided by the GMUG National Forests can contribute to employment and income in the analysis area. At the local level, these jobs and income can have greater impacts on the smaller communities than at the larger regional scale. However, if demand exists for the commercial products, employment and income would likely still exist even if these goods and services were not provided by the GMUG. For example, the demand for paper made from timber harvest would likely be met by other suppliers at a larger regional scale if the commercial products were not produced from the SBEADMR project. The discussion of potential jobs and income impacts should occur alongside consideration of non-market values and financial efficiency for a more complete understanding of the economic impacts."

Associated Comments: [Seq#117]
D. The DEIS states that "In other words , 46 percent of logging jobs in the state are in the 22 county

analysis area, 17 percent of the wood manufacturing jobs in the state are located in the analysis area and 16 percent of the electric power jobs in the state are in the analysis area." (Page 403, DEIS) This is inconsistent with local tallies, and counter-intuitive to this reader. The socio-economic section of the DEIS, and the separate consultants' report, do not make it clear how these numbers were derived. In the spirit of greater transparency, the GMUG should disclose which mechanism or methods were used to monitor wood products material flows within and outside the region of analysis. D. The following statement is counterintuitive, confusing and perhaps fundamentally inaccurate. "Changes in final demand for goods and services provided by the National Forest can contribute to employment and income in the area. However if demand exists for these products, employment and income would likely be supported in other areas if these goods and services are provided by other means." (Pg. 396, DEIS) While most stakeholders understand the concept of supply and demand, it doesn't seem viable in a situation where over 70% of the landscape is publically managed. Much of the remaining private land is developed or not available for active management. (Retzlaff, 2002) It is suggested this assumption be reviewed for accuracy in the GMUG area. [21-6]

Concern: [Seq#118]
Response: [Seq#118]
The importance of considering qualitative (non-market) values in addition to the quantitative measures is mentioned throughout the socioeconomic analysis of the DEIS on pages 394, 412-413, 417, 419, and 422.

Associated Comments: [Seq#118]
H. It is useful that the DEIS acknowledges that present net value is underestimated because non-market values can't be quantified. (pg. 396, DEIS) This positive attribute needs to be mentioned in multiple places in the document. [21-8]

Concern: [Seq#119]
Response: [Seq#119]
The Timber Market section of the socioeconomics section of the FEIS is revised to include, "In addition to the economic impacts from the commercial harvest, additional economic impacts could accrue from non-commercial SBEADMR projects that are not accounted for in the quantitative analysis. For example, a 12.5 megawatt biomass processing facility in the Eagle Valley can use by-products from the non-merchantable, non-commercial as well as the commercial projects to sustain jobs in the area."

Associated Comments: [Seq#119]
Thank you for the opportunity to comment on your good work to address both the spruce bark beetle epidemic and the aspen decline on the GMUG. I have invested in a 12.5 megawatt power plant that can provide energy for about 10,000 homes in the Eagle Valley. This clean energy plant is participating in a long term stewardship project on the neighboring White River National Forest since we expect to burn about 10 semi-truck loads or 300 tons of wood daily. As a full time operation, we are supporting

approximately 41 long term above average family wage jobs. We very much support the SBEADMR project and the adaptive management approach described in the EIS. Projects like mine will provide an important market for the Forest Service (FS) to harvest those trees and the by-products that are otherwise of no value to sawmills. Note: Table 87, page 397-398, and Markets on page 412. We can use by-products from both the non-merchantable, non-commercial projects and importantly, if designed correctly by the FS, we can possibly remove additional fuels from timber sales after the sawtimber component has been completed. We see great potential in working with the traditional sawtimber companies to remove the biomass to the levels that best meet the desired conditions on the GMUG. We need to seek alternative ways to obtain a supply both for sawmills and clean energy since there is a large gap between needs of timber dependent companies and the supplies currently prepared under traditional FS timber programs. Please proceed expeditiously on this well thought- out and scientifically sound project. I support your proposed action alternative. I would also support increasing the acres of salvage where possible. [43-1]

I appreciate the opportunity to offer comments on the Draft EIS for the SBEADMR. I share many expressed concerns, particularly about the scale, wildlife habitat protection, and recovery of the forests. I would add the need for consideration of how local in-basin production of biochar and biofuel could be achieved from the wood removed from the designated areas. This might be addressed under Issue 3 - Expand Treatments to Provide Socioeconomic Benefits (p.34) and Regional Economic Impact Analysis (p. 395). Production of biochar and biofuel might of-set some of the costs for land treatment. If done locally, the products could add economic value and create additional jobs. The products are also carbon negative and very beneficial. As a soil amendment, biochar can assist recovery of disturbed land in the forests. Recently there has been much research and publications about the benefits of biochar, technologies for its production, and how to commercialize its production. Below are some references, searchable by title and source, that can be downloaded for study. Agro-Ecosystem Approach To Sustainable Biofuels Production Via The Pyrolysis - Biochar Platform (AFRI-CAP), (2015), Iowa State University. Has extensive citations. Biochar for Environmental Management: Science, Technology and Implementation (2015) Oxford University Press. Latest results of conferences and over 800 pages. There are earlier editions. Page 2 Biochar: one way to deal with more fire-prone forests (2009) Jessica Leber, The New York Times. Focus is upon Colorado. Biochar: Prospects of Commercialization, (2014),eXtension and CenUSA supported by Agriculture and Food Research Initiative. Northwest Biochar Commercialization Strategy Paper, (2015),prepared for the Oregon Department of Forestry and USDA Forest Service, Pacific Northwest Region. Review of the pyrolysis platform for coproducing bio-oil and biochar, (2009), David A. Laird and others, Wiley InterScience. The SS uses of biochar (2014) The Biochar Journal, prepared by Hans-Peter Schmidt and Kelpie Wilson. USDA Grant Aims to Convert Beetle-Killed Trees into Biofue4 (2013) Colorado State University. [44-2]

Concern: [Seq#120]
Response: [Seq#120]
The cost estimates in Table 87 were developed by the specialists working on the GMUG National Forests, which are based on previous projects and are the best information available.

Associated Comments: [Seq#120]
Table 87 contains some questionable cost assumptions per our discussion in socio economics. [97-12]

Concern: [Seq#121]
Response: [Seq#121]
The timber harvest estimates are broken out into commercial resiliency and salvage harvest. All of the commercial harvest is considered merchantable. These volumes are estimated based on merchantability and sawtimber specifications and do not track volumes of non-merchantable material.

Associated Comments: [Seq#121]
Table 87 contains volumes of timber per alternative that does NOT break out merchantable sawtimber, which is a primary factor in cost effectiveness. Much WUI volume cannot be processed into construction grade lumber in a sawmill. [97-13]

Concern: [Seq#122]
Response: [Seq#122]
The socioeconomic analysis details the costs of the No Action alternative on page 410 such as "Greater non-prescribed wildland fire-related costs could result if fuels are left untreated under the No Action Alternative," "any potential revenue from the sale of timber would not be realized under the No Action," and "Potential threats and costs to human life, property and fire-fighter safety under the No Action Alternative would be greater than under the Proposed Action and Alternative 3." Precise values of these costs and future allocations for NEPA analysis are not possible to predict given the uncertainty of fire behavior, federal budgets, and timber harvest.

Associated Comments: [Seq#122]
The No Action alternative is clear that : "If hazard tree removal needs to be authorized under separate decisions, there would be delay in such treatments, such that risks to the public and firefighter safety would remain elevated for a longer period of time." What isn't clear are the NEPA costs to those multiple decisions, the firefighting costs as dead trees add to surface fuels and rate of spread, the loss of public and private revenues as standing dead trees lose commercial value during treatment delays. Further, what is the reality that the GMUG will receive additional funding for more NEPA? [97-39]

Concern: [Seq#123]
Response: [Seq#123]
See similar response to comment 21-6: The referenced quote from page 396 of the DEIS will be revised as such for clarification, "Demand for goods and services provided by the GMUG National Forests can contribute to employment and income in the analysis area. At the local level, these jobs and income can have greater impacts on the smaller communities than at the larger regional scale. However, if demand exists for the commercial products, employment and income would likely still exist even if these goods

and services were not provided by the GMUG. For example, the demand for paper made from timber harvest would likely be met by other suppliers at a larger regional scale if the commercial products were not produced from the SBEADMR project. The discussion of potential jobs and income impacts should occur alongside consideration of non-market values and financial efficiency for a more complete understanding of the economic impacts." Also see response to comment 10-1: The action alternatives are anticipated to stimulate local economies by providing forest products from the treatments and from sustained healthy forests. While it is recognized that timber supply is essential for the successful operation of local mills that produce jobs and income for the communities, future timber harvest beyond the scope of SBEADMR proposed activities is uncertain.

Associated Comments: [Seq#123]

In order to maintain companies and jobs in the timber sector it is essential to have adequate supply. The following quote on page 396 seems to understate this relationship: "However, if demand exists for these products, employment and income would likely still be provided, even if these goods and services were not provided by the GMUG." Juxtapose this quote with the assessment from the report in 2005: "Some implications of these industry characteristics are notable. First, the average sawmill, sawmill with houselog capability, and post-pole operation are running at less than half of their facility design. This indicates that firms are probably not able to cover all operating costs, and therefore cannot be profitable in the long run. Further shrinkage of the industry can be expected if current supply and other market conditions persist." (Page 3) Supply has been a long-term problem in all of Colorado and within the Region 2 timber program in general. A recent study showed a region 2 shortage of 228,275 ccf annually needed to supply the existing companies to just a 40 hour work week capacity. Regional Vegetation Management Strategy for Sustainability---2015 The supply issue in Region 2 is partially due to the fact that the 68% of the 22.6 million acres of forestland in Colorado is under federal management. The majority of forestland with sawtimber is under the management of the USFS making GMUG supply uniquely important in the viability of a sustainable industry. There are few acres of forest management available from the BLM acreage, which is typically lower elevation with little to no sawtimber. Additionally, there are little or no railroad, tribal, or state forested lands to provide supply. Unlike in states like Oregon, where 40% of the forestland is in the hands of timber companies, the companies in Colorado control zero acres. Clearly the assumption on page 396 is far from accurate for the GMUG while perhaps accurate in the more typical USFS timber management experiences. Again the SOPI attachment Appendix 3 clearly indicates that this knowledge is clear within Region 2 and at the Washington office of the USFS.... Supply is further constrained on two neighboring national forests. A large percentage of the timber program on the White River National Forest is devoted to a long-term stewardship contract awarded in 2012. Another long-term stewardship contract was awarded within the... San Juan National Forest, which committed nearly 90% of the timber program. The industry on the GMUG can no longer rely on substantial supply from these forests and now must operate on the GMUG and the Rio Grande National Forests, and occasionally even as far as the Pike and San Isabel National Forest. [97-79]

Concern: [Seq#124]
Response: [Seq#124]
The cost of mastication is based on actual service contracts that have been awarded over the last few years. Contracts treating oak brush have ranged from $100-200 per acre and contracts that treat fuels and small trees have ranged from $900-1,100 per acre. On average, the contracts for mastication have been about $400 per acre. The estimated WUI cost per acre ($600 per acre) is based on the assumption that there are increased contract requirements when working around infrastructure.

Associated Comments: [Seq#124]
The largest service contractor in Colorado recently faced financial difficulties completing the Colorado Front Range Long-Term Stewardship contract due to low price for by-products. Locally on the GMUG, many local contractors cannot perform service contract work as economically as the USFS cost estimates project. The assumptions on costs for WUI service work is difficult to discern in the DEIS, but the annual treatment costs on Table 87 show an unrealistically low estimate of $600 per acre for mastication on WUI and $500 per acre on non-WUI. Page 397 narrative does outline the higher sale preparation costs associated with WUI treatments. We suggest reviewing service work costs for accuracy.... Other cost considerations in balancing WUI treatments (service contracting) with the salvage and resiliency treatments include: * The added length of time to perform work near infrastructure due to public safety concerns (increases costs and reduces acres), and the temporary road closure issues often slows treatments since operators face downtime to allow traffic movement. * The existing industry capacity is available to perform salvage and resilience work, but is there adequate capacity for a largely WUI alternative? The 4FRI situation is a cautionary tale about expectations on assuming that capacity can be generated to treat low value by-products without a high value sawtimber component. [97-81]

Concern: [Seq#264]
Response: [Seq#264]
The referenced section has been revised in response to this comment. The text for the FEIS includes, “In general, since the 2008 recession, the market for timber in the Western U.S. has experienced a prolonged decline which has caused wood product prices and production to drop. “Capacity utilization at sawmills and other timber-using facilities in the West fell from over 80 percent in 2005 to just over 50 percent in 2009 and 2010” (Keegan 2011). However, since 2010, timber production and value has slightly increased in the GMUG Forests...(Headwaters Economics 2015).” More detail was added to the FEIS regarding historic cut and sold production and values and the capacity of the region to process by-products for energy, which provides a better picture of the timber market in GMUG counties.

Associated Comments: [Seq#264]
The second big factor for industry sustainability is the markets. The industry position is that the timber market today is solid, and therefore the Timber Market section on page 412, which speaks to 'depressed markets' for 'merchantable timber' is erroneous. Both in the 2005 GMUG timber demand report and in the post-recession period, there have been strong timber markets for existing industry outputs as well as for the anticipated demand if companies added work hour to super shifts or second shifts. As a point

of fact, the sawmills and energy producers in Colorado wish to increase their capacities and resultant lumber and energy production and have markets to do so. The housing and credit crisis of 2008-2010 created issues throughout the country for wood processing and construction companies, but economists today agree the 'great recession' is over. The recession should no longer be considered a factor in a 2015 NEPA document. What is not found in the EIS is an assessment of the market for by-products. Without an adequate market to reduce the costs of treatment, the acres of treatment will likely be reduced due to lack of affordability. [97-80]

H-1.10: Recreation/Scenic Quality/Visual Resources Concerns

Recreation

Concern: [Seq#132]
Response: [Seq#132]
During treatment planning, the District Biologist will coordinate project design and other considerations including potential effects to hunters during hunting seasons (see WFRP-13).

Associated Comments: [Seq#132]
Big game hunting season begins in late August (archery season) and continues until the middle of November (rifle season); rural county roads and FS roads may see an increase in traffic due to hunters being in the field. We recommend that Forest Service incorporate a design feature to help schedule a minimal amount of activities for peak hunting weekends during this time of the year to avoid potential user conflicts and provide hunters with a positive experience. [8-7]

Concern: [Seq#282]
Response: [Seq#282]
The discussion about proposed treatments in the vicinity of the CDNST has been expanded in the FEIS and is found at the end of the Recreation section, Chapter 3 of the FEIS. Also see response to comments 14-2 and 14-3.

Associated Comments: [Seq#282]
We express no opinion regarding the overall purpose and need for the Project. Our concern arises from the lack of information that would enable us to evaluate how the Project, as actually implemented, will affect the use and enjoyment of the Continental Divide National Scenic Trail (CDNST}. The only pertinent guidance that we have found is set out in Table 92 (Design Features for Scenic Quality and Visual Resources), at pp. 444-445. The design features, which are applicable to all action alternatives, are SVR-4 (Retention and Partial Retention to be applied to a national scenic trail), SVR-5 (revegetate and till disturbed and compacted soils and block access to decommissioned roads with naturalistic barriers), and SVR-6 (remove heavy slash within a national scenic trail's immediate foreground). We

have no objection to any of these design features. The two shortcomings that we have noted, and discuss below, relate to: (1) GEOGRAPHIC. The failure to identify the lands that will be considered as the CDNST and will be subject to the stated design features. (2) NATURE AND PURPOSE. The failure to assure that implementation of the Project will conform to the nature and purpose of the CDNST. [14-1]

Concern: [Seq#283]
Response: [Seq#283]
The current trail location and the FS proposed relocations that were considered in the LuJan to LaGarita trail relocation draft environmental document previously released for this area and the Los Creek relocation proposal are discussed and displayed in the FEIS (Chapter 3, Recreation section, and Appendix G- Maps). The existing and potential relocations are afforded the appropriate design features to protect the existing corridor and will not preclude establishment of the trail in the potential relocation corridors. See the response in 14-3 that addresses the nature and purposes of the CDNST related to the treatments proposed in this document.

Trail relocations are possible along other segments of the trail. No definitive locations have been brought to this process. Since no permanent roads are proposed and the treatments are aimed at improving the condition of the forest (removal of dead trees and enhancing the stand characteristics of the residual stands), potential relocations should not be adversely affected.

Associated Comments: [Seq#283]
GEOGRAPHIC A well-defined route for the CDNST between Windy Peak and Spring Creek Pass appears on Forest Service maps as well as in the Guide to the Continental Divide Trail (vol. 5: Southern Colorado) published by our Society. We understand that this route will be regarded as a national scenic trail in this Project unless and until there has been a relocation following appropriate administrative action. However, the environmental impact statement should include consideration of "reasonably foreseeable future actions" as well. 42 CFR § 1508.7. As the Project may extend over several years, all locations that may reasonably be selected as the CDNST during that time should be identified and defined as a national scenic trail for present purposes. (These may be considered "high potential route segments," meriting protection. 16 USC 1244(f)(3).) Otherwise, a desirable long-term location may be degraded without recognition of imprudent treatments that may have been authorized and carried out in the meantime. LUJAN PASS TO LA GARITA WILDERNESS. One of these foreseeable future actions is a relocation from Lujan Pass on the east to the LaGarita Wilderness on the west (nepa project 31283). Several prospective alternative routes have been identified in the environmental assessment for that project and the comments submitted by members of the public, including our Society. Pending further review and decision regarding this relocation, the FEIS should recognize each of these alternatives as reasonably foreseeable and treated within the meaning of a "national scenic trail." WINDY PEAK TO LUJAN PASS. The Forest's solicitation of comments regarding relocation of the CDNST included the segment between Windy Peak and Lujan Pass as well as its southern extension to the La Garita Wilderness (scoping notice from District Ranger Andrew S. Archuleta File Code: 1950/2350, dated August 13, 2010). Although action on this segment has been deferred, reasonably foreseeable relocations for the CDNST here are

described in our letter of September 3, 2010 to Mary L. Nelson, Team Leader, Saguache Ranger District. Most of the suggested changes would fall in the Rio Grande National Forest and need not be addressed in connection with the Project. However, in order to avoid roaded lands in Cameron Park and on Sargents Mesa, one desirable relocation would follow the Continental Divide for about three or four miles in T47, R6E, Sections 20, 29, 31, and 32. The FEIS should recognize this alignment as reasonably foreseeable and accordingly treated within the meaning of a "national scenic trail." RECOMMENDATION * Include in the Glossary a definition of "national scenic trail," as follows: A national scenic trail is a trail that has been so designated by the National Trails System Act, including the current route of such trail and, for purposes of this project, any reasonably foreseeable relocation of that route. * Include in the DEIS a map of the Continental Divide National Scenic Trail that depicts the current route and any reasonably foreseeable relocation of that route in GMUG. (Reasonably foreseeable relocations have been described above.) [14-2]

Concern: [Seq#284] – Continental Divide National Scenic Trail
Response: [Seq#284] – Continental Divide National Scenic Trail
The history of the current trail location is relevant to ongoing and future management surrounding the trail, including the SBEADMR proposed action. The CDNST is on motorized routes and is located in a number of areas that have been actively managed for timber in the past and under the current Forest Plan. The 1993 EIS recognized that the trail location was in an area of active timber management and clearly stated that timber management would continue in these areas.

Regarding the impact to the nature and purposes of the CDNST by vegetation management activities, the project is not expected to impact hiking or horseback riding along the trail. A design feature, not to skid or haul on the trail and to minimize crossings of the trail, is identified to protect the trail from management activities. The purpose of the trail for these transportation modes is not affected.

The project will change the existing scenery, but would not affect the nature and purposes of the CDNST.

The removal of dead trees is generally regarded as an improvement, even if a large open space is created. The removal of dead trees is a response to an epidemic and will create a better scene in the long run, compared to jack-strawed deadfall along the trail.

Resiliency treatments will create visual variety, as they are designed to introduce age class diversity to single-aged stands. Using our standards and guidelines, considering the CDNST as a sensitivity level 1 viewing point, and using retention as the VQO for the corridor, treatments in sight of the CDNST will be designed to fit into the landscape and should not be highly noticeable or objectionable to most people. There will be the appearance of disturbance during implementation and for a period afterwards. In the long-term, the forest should be more scenic for the visitor. See also the discussion in the response to comment 22-65 for a description of scenic values related to the proposed treatments.

In keeping with the nature and purposes of the CDNST, management of the landscape to enhance the scenery while providing the recreational experiences that are the intent of the CDNST are possible.

It is important to note that none of the areas along the existing trail or the potential re-routes are considered primitive. There may be areas of land that are far enough from motorized routes that could be considered for classification as semi-primitive non-motorized, however they do not appear to meet the size requirements to be classified as such. The treatments proposed in the area of LuJan to LaGarita and in the Windy Peak area are generally in areas that are already roaded. Some temporary road construction followed by removal is proposed in the FEIS. Following removal, the areas would have similar character as prior to treatment.

The portion of this comment regarding the location of the trail is not relevant for the existing trail location, but is pertinent to potential relocations of the CDNST in this area. The decision for the current location was made in the 1993 EIS for the CDNST. This document is not making a decision about trail location, so the location criteria comments are not relevant. For a discussion of treatment impacts to potential relocations of the trail, see the response to comment 14-2.

The last part of the comment confuses the findings requirements of a CE with those of an EIS; an EIS should disclose impacts, including those that are significant. An EIS does not document that there are no extraordinary circumstances; it is the very existence of extraordinary circumstances that triggers evaluation of those circumstances with additional NEPA – either an EA or EIS.

Associated Comments: [Seq#284] – Continental Divide National Scenic Trail
NATURE AND PURPOSE BACKGROUND NATIONAL TRAILS SYSTEM ACT[16 USC 1241ff) National scenic trails are defined by the National Trails System Act as "extended trails so located as to provide for maximum outdoor recreation potential and for the conservation and enjoyment of the nationally significant scenic, historic, natural, or cultural qualities of the areas through which such trails may pass …". 16 USC 1242(a)(2). The specific objectives and practices to be observed in the management of a particular national scenic trail are to be set out in a comprehensive plan for the management and use of the trail. 16 USC 1244(f). The Comprehensive Plan for the Continental Divide National Scenic Trail (revised 2009) reviews the origins and legislative history of the Trail and describes the nature and purposes of the CDNST: "The nature and purposes of the CDNST are to provide for high-quality scenic, primitive hiking and horseback riding opportunities and to conserve natural, historic, and cultural resources along the CDNST corridor." (II.A., p.4) The Comprehensive Plan details the background, policy, and management direction to be observed with respect to several aspects of the Trail. * With respect to its location, it calls for location of the Trail, where possible, in primitive or semi-primitive non-motorized classes, with location on a road only where it is primitive and offers recreational opportunities comparable to those provided by a trail with a Designed Use of Pack and Saddle Stock. (IV.B.1.b., p.8) * With respect to visual resource management (using the Landscape Aesthetics - Scenery Management System) - the CDNST is a concern level 1 travel route [Handbook 701, pp. 4-8), and the scenic integrity objective is to be high or very high (Handbook 701, pp. 2-4) depending on the segment. (Plan, IV.B.4.c.,p.13. See also FSM 2353.44b, para. 7, relating to scenery management.) * With respect to recreation resource management (using the ROS system), the CDNST is to be located, where possible, in

primitive or semi-primitive non-motorized ROS classes. (Plan,IV.B.5.c., p.16) EXECUTIVE ORDER 13195 - Trails for America in the 21st Century Federal agencies will, to the extent permitted by law and where practicable ... protect, connect, promote, and assist trails of all types throughout the United States. This will be accomplished by: ... (b) Protecting the trail corridors associated with National Scenic Trails...to the degrees necessary to ensure that the values for which each trail was established remain intact...." CONCERNS Our overall concern is that the actions that would be undertaken under any of the alternatives do not consider the elements of the Comprehensive Plan referenced above and may not adequately protect the trail corridors associated with the CDNST to ensure that their values remain intact. . To begin with, activities might be undertaken in conflict with the objective of locating the CDNST in a primitive or semi-primitive non-motorized class -- for example, by establishing roads to be used in carrying out Project activities. This may be especially significant in the case of segments that have been identified as reasonably foreseeable relocations: the primitive character of such locations (e.g. between Cochetopa Pass and the La Garita Wilderness) could be severely damaged. The Forest Service should avoid, or at least mitigate, the impacts that roads and associated activities might have. Another problem is that it is not clear how the scenic qualities of the CDNST will be conserved. We do not have a clear understanding of the extent to which timber thinning activities may affect the user's enjoyment of the scenery, both near and far (within the CDNST viewshed). Once again, this could prove to be of especial significance with respect to segments that are not currently in use, but that are reasonably foreseeable locations for authorization at some time during the course of the Project. All segments (existing and relocated) should maintain their current ROS classifications, and not be reduced to a lower classification as a result of Project activities. We cannot determine at this time whether implementation of the Project might have that result. RECOMMENDATION We understand that it may not be possible to delineate particular activities that will be undertaken as part of the Project from time to time. We are therefore unable to conclude that those activities will conform to the requirements of the National Scenic Trails Act. As provided in section 7(c) [16 USC 1246(c)], the uses along the trail [including those under consideration] must "not substantially interfere with the nature and purposes of the trail" and "to the extent practicable, efforts be made to avoid activities incompatible with the purposes for which such trails were established." As provided in 36 CFR § 220.6(a), a proposed action may be categorically excluded from further analysis and documentation in an EIS or EA only if there are no extraordinary circumstances related to the proposed action. Resource conditions that should be considered in determining whether extraordinary circumstances related to a proposed action warrant further analysis and documentation in an EA or an EIS are:… (iii) Congressionally designated areas, such as wilderness, wilderness study areas, or national recreation areas. [The CDNST is a Congressionally designated area, under the National Trails System Act, 16 USC 1244(a)(5).] The mere presence of one of these resource conditions does not preclude use of a categorical exclusion (CE). It is the existence of a cause-effect relationship between a proposed action and the potential effect on these resource conditions, and if such a relationship exists, the degree of the potential effect of a proposed action on these resource conditions that determines whether extraordinary circumstances exist. 36 CFR 220.6(b)(2). For the reasons outlined above, the information in the DEIS is inadequate to determine at this time whether implementation of the Project will have a potential effect that is sufficient to call for further evaluation. This evaluation might be accomplished with the preparation of an environmental assessment. (A CE may

suffice if, after opportunity for public comment and subject to a commenter's right to object, the Forest determines that the degree of any cause-effect relationship is not significant, taking into account the concerns we have listed above.) "Simply stating that there are no extraordinary circumstances or that there are no effects [sic: "due" apparently omitted] to extraordinary circumstances is not sufficient to support a determination of no extraordinary circumstances. The project file must contain documented evidence of data gathering and evaluation on which the determination is based." CONTINENTAL DIVIDE TRAIL SOCIETY (Appeal #14-03-10-0001-A215), Santa Fe National Forest (2014). Accordingly, the Forest should evaluate whether any planned activities conducted as part of the Project may impact the CDNST and determine, after opportunity for public comment, the degree of any cause-effect relationship and the existence or non-existence of "extraordinary circumstances." The final EIS should provide explicitly for such a reasoned evaluation and determination, and for the filing and review of an objection to a finding that no extraordinary circumstances exist. [14-3]

Concern: [Seq#285]
Response: [Seq#285]
The Forest Plan standards and guidelines, along with the design features included in this document for any action alternative, will maintain the scenic quality along the CDNST. There may be short-term impacts to the scenery and to the visitor's experience due to the treatment activities. In the long-term, the scenery should be improved as a result of the treatments. No additional motorized use is expected to result from these treatments, as temporary roads would be decommissioned and closed following treatment. The only use that would be allowed on the roads is associated with treatment activity.

Associated Comments: [Seq#285]
I support Alternative 3 with modifications. Alternative 3 (and other action alternatives) needs to be modified to recognize the Continental Divide National Scenic Trail (CDNST) corridor as a Congressionally Designated Area. In addition, the EIS needs to disclose that constructing and reconstructing roads (and potentially other vegetation management actions) within the CDNST corridor would have a potential substantial negative effect on providing for the nature and purposes of the CDNST. Furthermore, recreational use experiences along the CDNST and The Colorado Trail need to be safeguarded from the effects of motor vehicle use that would result from a SBEADMR management action. The CDNST high potential route segment corridor is depicted on the SBEADMR Treatment Areas and the CDNST Corridor Map that is found on page 3 of this document. [20-1]

Concern: [Seq#286]
Response: [Seq#286]
See response to comment 20-3, the comment group **"Continental Divide National Scenic Trail".**

Associated Comments: [Seq#286]
In general, I support the need to address the spruce beetle epidemic and aspen decline. I also support the basic guidance in Table 92 – Design Features for Scenic Quality and Visual Resources (SVR-3, 4, and

6); and guidance on page III-82 of the 1991 amended Forest Plan Travel Systems Management direction. However, I believe that the management of the CDNST corridor needs to be addressed through the CDNST Comprehensive Plan, FSM 2353, and FSH 1909.12 24.43 policy direction. [20-2]

Concern: [Seq#287]
Response: [Seq#287]
While the GMUG Forest Plan is due for Revision, forest management activities that are consistent with the existing Plan as well as contemporary law and policy are legal and appropriate. The GMUG LRMP does include guidance for what is now the CDNST viewing corridor. Combined with existing law and policy for the CDNST, these provide the Forest Service with sufficient direction to coordinate management activities that may affect the CDNST in such a way as to not compromise the nature and purpose of the Trail. The Comprehensive Plan for the CDNST provides further specific detail regarding the recreation and scenery objectives that should be safeguarded in the context of Forest management. The analysis in the Final EIS addresses in further detail the extent of overlap of the CDNST with the proposed activity, thereby associating the pertinent design features to that particular piece of ground. These design features are identified in order to mitigate potential impacts to scenery and recreation from the proposed activity. Finally, the final EIS discloses with greater detail the potential direct, indirect, and cumulative impacts from the proposed activity--including the pertinent design features/mitigation measures --- on the CDNST.

Associated Comments: [Seq#287]
The CDNST desired conditions should be familiar to forest staff for the 2007 Proposed Forest Plan describes a desired condition for the CDNST that is compatible with the nature and purposes of this National Scenic Trail. This 2007 CDNST desired condition statement is consistent with the CDNST Comprehensive Plan and with the National Scenic Trail considerations summarized in Appendix A of this document. The Forest has failed to act on the requirements of the National Forest Management Act, since the initial Forest Plan has not been revised. The GMUG continues without any revision scheduled although the required revision date was 1998. This has resulted in resource management programs that do not address changed conditions and new information for all resources. This concern is supported by the GMUG website: "Forest management is guided by direction from a forest plan. The current plan was developed in the early 1980s. By law, forest plans must be revised every 15 years. The GMUG has begun the process of updating or revising the forest plan. Some direction in the current plan may still be valid; some may not…". The SBEADMR project reliance on the 1991 Plan guidance is legally flawed, since the SBEADMR proposed action and alternatives provide management direction that are derived outside of the revision and amendment processes that are found in the Planning Directives. Prior to addressing forest resiliency and recovery concerns, the Forest Plan needs to be revised providing for integrated resource management for all resources as guided by direction in the CDNST Comprehensive Plan, Planning Rule, and Planning and Recreation Directives. [20-3]

Concern: [Seq#288]
Response: [Seq#288]
See response to comment group "Continental Divide National Scenic Trail" (comment 14-3).

Associated Comments: [Seq#288]
Forest health is not a new issue on the Forest. For example, in 1979, there were vegetation management projects that addressed Aspen regeneration concerns. Public safety issues are now acute so some immediate management action is warranted. However, vegetation management actions must not substantially interfere with the natures and purposes of the CDNST. [20-4]

Scenic Quality and Visual Resources

Concern: [Seq#289]
Response: [Seq#289]
The Forest Service has considered and disclosed impacts to scenery in the analysis. Visual quality will be protected based on the requirements in the forest plan and as described in this document.

Treatment design will ensure that, in the foreground of roads and trails where there is high sensitivity for visual quality, adequate clean-up of management activities will reduce the visual impact.

With respect to salvage operations, note that the spruce beetle epidemic has already changed the visual character. Salvage treatment activities are considered an improvement of the visual scene compared to being untreated. Some residual material in the immediate foreground and the general foreground is considered an improvement over the jack-strawed nature of dead trees blowing over; however, some prefer an "unmanaged" appearance.

Treatments of stands that have a green tree component, referred to as resiliency treatments, will follow the VQO requirements. The visual management systems are designed for activities of this nature. One objective of these treatments is to create a more diverse age class distribution of forests. In the long run, this distribution of age classes will more closely mimic a natural mosaic. Acknowledging that timber harvesting or other mechanical treatments do not look the same during the treatment time period as the natural events (such as fire, insect and disease epidemics), in the long-term, the visual character of the stands are similar.

It is our intent to have a forest that appears healthy and diverse following treatment, within the parameters of the Visual Quality Objectives set in the Forest Plan. The VQOs vary by location, and in large part, the treatments are not occurring in Management Areas that are most sensitive to visual quality. The visibility of treatments and residual effects are given higher priority in the foreground of roads, trails or areas with higher sensitivity to visual impacts.

We have assessed the visual impact of the proposed treatments. In consideration of the benefits of the proposed treatments and the impacts to visual quality as mitigated by the requirements of the Forest

Plan and the design features in this document, SBEADMT treatments would meet the Forest Plan requirements and will leave a visual environment that is in keeping with the overall values of society.

Associated Comments: [Seq#289]
THE FOREST SERVICE MUST TAKE A HARD LOOK AT SBEAMDR'S IMPACTS TO SCENERY. Many visitors to the GMUG NF admire the scenic beauty of the landscape. The large amount of treatment proposed has the potential to lower the scenic quality in many areas. Large openings, greater than 40 acres in size, would be allowed for mechanical treatments. See DEIS at 46. Such treatment would especially cause an adverse impact to visual quality. Dead trees may not be the preferred scenery, but for the large majority of people, such a landscape is preferable to one with large open areas, slash piles, landings, and other evidence of human manipulation. As noted at DEIS at 446, treatments would expose green tree stands to high winds, resulting in blowdown, which would likely reduce visual quality. As discussed above in section IV., allowing 40 percent of stands to be removed is likely to result in blowdown and additional SBB breeding. This would further reduce visual quality. The Scenic Quality and Visual Resources section of the DEIS states that visual quality objectives (VQOs) would be met under the action alternatives. Id. at 447. Yet, the same paragraph states: Trail sections with a large amount of cut trees left on the ground and visible when viewed from nearby trails would appear as Modification or Maximum Modification VQO instead of Retention or Partial Retention VQO. Sections of road corridors where heavy felling and removal of dead and dying trees would occur would appear as Modification VQO instead of Partial Retention VQO. Id. This plain language indicates that the VQOs would not be met in some areas. Although the proposed design features for scenic quality and visual resources (see DEIS at B-10) might reduce impacts, it would not ensure compliance with VQOs. The EIS must demonstrate how the proposed treatments would comply with the VQOs. A mere conclusory statement to this effect is not sufficient under NEPA. See Methow Valley, 490 U.S. at 350; Citizens' Committee to Save Our Canyons, 513 F.3d at 1179; Nat. Resources Def. Council, 865 F.2d at 299 (D.C. Cir. 1988) (hard look premised on providing "analysis useful to a decisionmaker in deciding whether, or how, to alter [a project] to lessen cumulative environmental impacts'). [22-65]

Concern: [Seq#290]
Response: [Seq#290]
See also response to comment 42-5. The comment indicates relative subjectivity regarding impacts to scenery from forest management activities; some prefer natural vistas, even if standing dead are visible; some prefer removal of such.

Associated Comments: [Seq#290]
Mechanical treatment (p-46) exclusions seem to include "visually sensitive areas". We think that standing dead trees are more offensive to the viewshed than treated areas where regeneration is being allowed to occur. It is anecdotally noted that, in areas where severe timbering was done decades ago, there are healthy trees today. Removal of the standing dead trees will allow for advanced regeneration and a forest that will be more resilient and healthy. For this reason, we request that the Forest Service not limit mechanical treatment in "visually sensitive areas". In Hinsdale County, timbering has begun on

Slumgullion Pass. This hazard tree removal not only protects the only escape route from the population center of the county (Lake City), it has also enhanced the viewshed. We are no longer driving through a tunnel of dead trees; instead, we are seeing the living trees that are left and also the vistas that were blocked by DEAD TREES. [17-5]

Concern: [Seq#291]
Response: [Seq#291]
See response to comment 22-65.

Associated Comments: [Seq#291]
Ouray County has a population of approximately 4,500. The County relies heavily on tourism as a key economic industry. View sheds, as well as environmental health of the watersheds, streams and reservoirs, are important assets. Dead and diseased trees, regardless of land ownership, detract from the scenic vistas enjoyed by residents and visitors alike. Our visitors come to hike, fish, horseback ride, jeep, and ski in the mountains, including the GUMG. We support efforts to remove as many dead and dying trees as possible, to find creative solutions to removing additional trees through private permits and trained volunteer efforts, and to proactively treat and protect against further loss of trees, as well as actions that will foster regrowth and rejuvenation of forest lands. [12-5]

Concern: [Seq#292]
Response: [Seq#292]
See response to comment 22-65.

Associated Comments: [Seq#292]
Many visitors to the GMUG NF admire the scenic beauty of the landscape. The large amount of treatment proposed has the potential to lower the scenic quality in many areas. Large openings, greater than 40 acres in size, would be allowed for mechanical treatments. See DEIS at 46. Such treatment would especially cause an adverse impact to visual quality. Dead trees may not be the preferred scenery, but for the large majority of people, such a landscape is preferable to one with large open areas, slash piles, landings, and other evidence of human manipulation. As noted at DEIS p. 446, treatments would expose green tree stands to high winds, resulting in blowdown, which would likely reduce visual quality. As discussed above in section IV, allowing 40 percent of stands to be removed is likely to result in blowdown and additional SBB breeding. This would further reduce visual quality [33-21]

Concern: [Seq#293]
Response: [Seq#293]
SBEADMR Priority Treatment Areas were not excluded based on established visual resource objectives.

Rather, forest plan standards and guidelines and design features will be used to avoid, mitigate, and minimize potential impacts to visual resources. A key component of treatment design is the use of Visual Quality Objectives as established in the Forest Plan. The sensitivity for viewing scenery from various viewing points will constrain the degree to which treatments can modify the visual environment.

Associated Comments: [Seq#293]
Visually sensitive areas are also ever changing and we encourage the GMUG to not automatically remove them from mechanical treatment consideration. This is especially true for aspen areas where treated areas have been proven to be more resilient to aspen decline. Visually sensitive areas should be considered during the adaptive management and monitoring process and not taken of the table from the onset. Forest management is a focused way of achieving age class diversity even in beetle infested environments and should clearly be a goal in the aspen response due to the importance of aspen habitat. Age diversity management is the long term solution to maintaining certain visually sensitive areas. [42-5]

H-1.11: Public Safety/Wildland Urban Interface Concerns

Concern: [Seq#16]
Response: [Seq#16]
The 600 foot buffer for consideration of hazard tree removal in the DEIS was a 300-foot buffer on either side of the road, and was designed to take into account the same area in which dispersed roadside camping is permitted on NFS lands. However, in response to public comments, the FEIS limits this buffer to 150 feet on either side of the road (300 foot total), unless located on a slope >40%, in which case the original 300 foot (600 foot total) buffer would be applied to take into account rolling hazard trees.

Associated Comments: [Seq#16]
I am very much opposed to the six hundred foot clear cut proposal for the roads. This is excessive and not needed since most spruce trees are less than one hundred feet tall. [30-3]

Concern: [Seq#21]
Response: [Seq#21]
The commenter makes the point that integrated land use planning in the Wildland Urban Interface should be part of any proposal to address public safety from wildland fires and forest health issues on the National Forests. While we agree, land use planning on private lands is beyond the authority of the Forest Service, and therefore beyond the scope of this NEPA proposal. The Forest Service acknowledges that not all infrastructure can safely be protected from wildland fire. However, strategic treatments increase the likelihood that wildland firefighters may safely manage wildfire away from such infrastructure, enabling more flexibility in the use of wildfire for resource benefit despite the proximity of infrastructure in the WUI. This is one of the objectives of the SBEADMR effort, broadly couched under

"public safety". Public safety also encompasses the removal of hazard trees (dead trees that could fall) proximal to infrastructure.

Regarding the comment that treatments should therefore be limited to areas immediately adjacent to infrastructure, see response to comment 22-74.

Regarding the fact that dead trees can remain standing for decades, provided there is no root rot, 1) spruce trees are predisposed to rot in the bole, or trunk, at the snowline; they often crack and fall from this point, rather than from the roots; 2) absent any rot, they are shallow-rooted, and predisposed to blowdown. Though it is possible they could remain standing, the Forest Service would treat such a tree as a hazard - whether imminent or eventual, it is nonetheless a potential hazard.

Associated Comments: [Seq#21]
SAFETY. Safety of falling trees is mainly an issue near infrastructure, i.e., roads, campgrounds, trailheads, picnic grounds, etc. Much of the opportunity area for Alternatives 2 and 4 is in the backcountry, away from this infrastructure. Also, spruce trees that are sound (i. e., free of rot) when attacked can remain standing for decades, as has been shown with trees in the Flattops area of northwest Colorado, where an outbreak of spruce bark beetle killed many trees between 1939 and 1952. See also DEIS at 206. [22-11]

The alternative that cites public safety make no mention of collaborating with local land use plam1ers to stop the incursions into and up against public lands. Nor does it recommend for the safety of firefighters that some man made structures will not be protected in the future. Firefighters should not be put at risk. Private enterprises and homeowners have a responsibility for protecting their investments, it is not up to the Forest Service to send crews into circumstances where they are in peril. To use "safety" as a rationale for an extensive timber cut is wrong. [46-2]

Page 22,under the Public Safety goal it states "provide safer locations from which firefighters can initiate fire management actions." This section needs further clarification since this objective can't necessarily be achieved utilizing just the Public Safety Focus (Alternative 3). According to Larry Floyd, Acting Forest Fire Management Officer on the Rio Grande National Forest, "less than 1% of the West Fork Fire burned within designated WUI." Therefore, a lot of the firefighting effort was focused outside of the WUI, and given the values at risk, land managers are not necessarily going to wait until it reaches a WUI boundary to initiate fire management actions. [97-7]

Concern: [Seq#22] - Relationship of roadside buffer to fire risk
Response: [Seq#22] -Relationship of roadside buffer to fire risk
The intent of the 300' buffers relates to the section copied below. It was not the intent of the 300' buffers to be fuel treatment areas nor fuel breaks, but rather to reduce the potential for dead trees to fall on visitors, vehicles, camps, etc., by removing hazard trees near roads and dispersed campsites. The

public safety aspects are limited exclusively to creation of fuel breaks on the landscape. From the DEIS: "Public Safety (objectives include): 1. Remove hazard trees proximal to roads, utility corridors, communication sites, dispersed recreation sites, developed campgrounds and other recreation sites, and within ski areas both within and outside the wildland urban interface (WUI)." Additionally, hazard tree removal would not remove all trees from this corridor but only those dead and dying trees that pose a threat to public safety by falling across a travel corridor or other infrastructure; the remaining trees, both live and dead, as well as the fuel on the surface, would not be treated in many locations.

Associated Comments: [Seq#22]- Relationship of roadside buffer to fire risk
The 300' buffers (600 feet total) might not be potentially large enough in some areas based on the fire behavior that was observed in the South Fork Complex Fires. While we understand that this buffer was chosen to coincide with travel management plans on the GMUG, we would ask that you utilize your expertise to determine if indeed these buffers are sufficient to be useful based on the unprecedented fire behavior exhibited on the GMUG in recent years. [5-13]

Protection of the health, safety and welfare of our people, protection of vital infrastructure, and firefighter safety and ability to safely fight a fire are paramount in reviewing this process. In the Treatment section (p-45), these issues are discussed. We agree with these priorities, however, fire experts at the Papoose Fire (part of the WFCF), indicated that due to the extreme and unpredictable fire behavior we are seeing in beetle affected forests, a 300 YARD distance is a more realistic fire break than 300 feet. With the flame lengths seen in that fire, and with the safety of firefighters in mind, it would be worth considering expanding that distance. Therefore, we request that the Forest Service expand the area of hazard tree removal and fuels reduction around infrastructure to a minimum of 300 yards. The same applies to fire breaks. [17-3]

Concern: [Seq#23]
Response: [Seq#23]
The main focus of this EIS is not simply to create fuel breaks on the landscape, but rather "to actively manage spruce-fir and aspen vegetation to reduce hazards to the public and infrastructure, salvage dead and dying timber, reestablish forest cover and increase resiliency in green stands. " Though some of the EIS objectives are developed to improve safety to the public, a significant portion of the proposal is to salvage, maintain, and restore spruce/fir and aspen on the larger landscape. Alternatives 2 and 3 both have a very strong WUI emphasis with many treatments planned to protect subdivisions, powerlines, communication sites, and developed recreation area. The prioritization process used in the revision of the DEIS also emphasizes placing treatments in high priority WUI areas. Hazard tree removal for the protection of the public and firefighters from falling trees continues to be an emphasis in all alternatives. The consensus among most wildland fire managers is that fuels treatments need to occur within, and up to a minimum of 1 mile away, from WUI to provide multiple opportunities for firefighters to control a wildfire under severe wind, temperature, and moisture conditions.

Associated Comments: [Seq#23]
Treating acreage outside the WUI, which should be limited to a 1/4 rather than a full mile, is probably not going to be effective in reducing risk of fire as it has been shown that drought and not beetle kill is the major factor in its frequency and severity. Treatments should be limited to safety concerns and protection of inhabited space as well as the safety of fire fighters. [9-3]

Concern: [Seq#24]
Response: [Seq#24]
We appreciate your comment, however the focus of this EIS is on the spruce beetle, not the fir engraver and this request is outside the scope of the EIS. The needs of the fir engraver could be addressed in other projects. Given the 1-mile WUI buffer, Ouray and and Ridgeway are already included in the project area. Additionally, only areas with spruce/fir and aspen stands located outside of roadless areas and wilderness areas are considered in this EIS. Most of the areas within 1 mile of Ouray and Ridgway were precluded due to the fact that they may be roadless, wilderness, or do not have spruce/subalpine fir or aspen stands.

Associated Comments: [Seq#24]
In addition to the focus on tourism and recreation, Ouray County also is concerned with the potential for wildfire. While the County collaborates with its local partners to prepare for wildfire emergencies, and to mitigate wildfire conditions, Alternative 3 provides the needed support from the USFS for prioritizing areas of greatest potential human impact. Wildfires are expensive and potentially deadly, and a wildfire in Ouray County would be extremely debilitating to the local economy, as well as an immediate threat to human safety. For this reason, the County supports the direction of Alternative 3, but requests that the areas of treatment include more lands in the proximity of the City of Ouray and the Town of Ridgway, and requests that the proposed treatments be expanded to include white fir/fir engraver beetle management, given the similarities with the spruce beetle. Studies have concluded that thinning/decreasing density is the only clearly effective method for long-term survival of stands affected by fir engraver beetles. See: J.M. Egan, Jacobi et al. in "Forest thinning and subsequent bark beetle-caused mortality in Northeastern California", USFS and CSU, Forest Ecology and Management 260 (2010) 1832-1842. [12-6]

Concern: [Seq#25]
Response: [Seq#25]
Thank you for your comment; this clarification is included in the FEIS.

Associated Comments: [Seq#25]
F. The DEIS would be an improved document if it mentioned a number of times that the WUI is embedded in all the Alternatives, not just the WUI Alternative 3. [21-3]

Concern: [Seq#30]
Response: [Seq#30]
This project does include the maximum number of acres the GMUG can feasibly accomplish. The 300-foot buffer along roads is reduced in the FEIS to 150 feet on either side when slopes are less than 40%.

Associated Comments: [Seq#30]
The rate of spruce beetle mortality and standing dead will clearly outpace this project and therefore the additional evidence that adding additional salvage to the preferred alternative is the right science on the ground for the safety of our county residents and visiting tourists. The priority for the first five years should be to remove the trees that are marketable and not delay sales in the name of process. Delta County cannot stress enough our support of additional treatment acres as this also assists the GMUG in ensuring the safety of firefighters as these forests will burn and the professional should not be put at risk because of aesthetics. Therefore we request revisions to Hazard Tree Removal as outline on page 45. Revised language should specify that mechanical and non-mechanical fuels management activities shall be conducted within a half mile buffer of roads open to the public and other identified infrastructure. This is necessary for firefighter and public safety. [42-3]

Concern: [Seq#32]
Response: [Seq#32]
The effects analysis and comparison of effects from alternatives makes note of these trade-offs: more concentrated treatments in a small geographic area (WUI, Alternative 3) vs. more distributed treatments in a larger geographic area (WUI and non-WUI, Alternative 2).

Associated Comments: [Seq#32]
Page 45, "All action alternatives would include treatments to increase the protection of people, communities, and infrastructure by: providing safer locations from which firefighters can initiate fire management actions." This statement, while partly true, is not a fair representation. As stated on pages 181-182,fire suppression activities in beetle-killed stands is more difficult and puts personnel into more risk due to hazard trees, spotting potential, length of burn time, etc. Thus, by only treating the WUI, hazard trees and infrastructure as part of Alternative 3,and not treating areas outside of these (such as Alt 2 and 4),firefighters will not have as many potential areas within the back country to make a stand against fires (as explained on page 183). [97-14]

H-1.12 Comments Considered, but Do Not Require Detailed or Further Response

Concern: [Seq#294] – No response required
Response: [Seq#294] -— No response required
The following comments were considered by the SBEADMR ID Team. They are position statements,

general statements of support or opposition, are outside the scope of this decision, or otherwise do not require detailed response under USFS NEPA direction. Nonetheless, the Forest Service appreciates the comments and the interest the commenters showed in providing these comments to the DEIS.

Associated Comments: [Seq#294] -– No response required

Gunnison County appreciates the opportunity to provide formal comments and feedback on the Draft-EIS for the Spruce Beetle Epidemic and Aspen Decline Management Response (SBEADMR) Gunnison County has been actively involved in the Public Land Partnership (PLP) working group and thanks you for the opportunity and forum that has allowed county government, conservation groups and industry along with the forest service and other interested parties the opportunity to delve deeper into the complexities and the challenges in responding to these major events occurring across our treasured landscapes. Based on our participation with the PLP working group and our review of the draft EIS please consider our comments and input in your decision making. Gunnison County has consistently looked for balance in the decisions and input we give to land use and public land management issues. We believe that natural resource development and resource protection can be balanced, especially when a wide variety of input is sought and included in final decisions. From there we can move forward with decisions that have strong buy in built upon consensus and forged through compromise. [5-8]

Time is of the essence. We believe that due to the lifespan of dead/dying trees, the commercial treatment opportunities need to be developed and deployed as quickly as possible. We expect that all the necessary regulations be met, but know that the resource as a product does have a timeframe to its value. [5-10]

Socio-economic Impacts We are encouraged that there is currently a commercial facility with interest in logging spruce beetle kill on the Grand Mesa Uncompahgre Gunnison National Forest. Implementation of vegetation treatment should begin as soon as feasible to ensure the local industry is able to access the trees needed for their market. Since the project is envisioned to occur over an 8-12 year period, it will be important to have an adequate supply of timber sales ready for the market to utilize. The flexibility built into SBEADMR should allow the market to harvest available trees in an expedited manner. [6-13]

GIS Data Thank you for providing Forest Service Geographic Information System (GIS) data sets for the maps in the DEIS. We would appreciate receiving the final GIS data for the project when FEIS is released and the ROD signed. Our GIS data is also available to the USFS. Please contact our GIS staff at 970-244-1880 for details. [6-17]

Time is of the essence in approving a final draft and implementing SBEADMR on the ground. We urge you to proceed with all haste. The beetles aren’t waiting. [10-4]

After studying the DEIS, I am convinced that with some modifications, Alternative Three is the best approach for the Forest Service. Before giving my reasoning, I would like to emphasize the need for management response. Scott Ferrenburg PhD Entomologist of the USGS Bioscience Division, states that

with earlier and warmer springs (global warming) the spruce beetle is completing two reproductive cycles over one or two years instead of one. Also, he states that the spruce trees are more susceptible to attack because of weakened status of the trees caused by drought. Natural predators like birds are not present in sufficient numbers to prevent epidemics of the beetles. He states that with aging, the resin ducts of the trees decline and the resin is not present as a defense to trap the beetles. [11-1]

2. In the WUI areas, provide instruction to and collaboration with land owners on how they can successfully treat and prevent beetle attack on their spruce. [11-7]

FS treatment to 500 ft seems reasonable but the need to prevent the damage in the WUI still exists. [11-8]

Ouray County also supports aspects of Alternatives 2 and 4, and believes that adaptive management and flexibility are critical to successful efforts at limiting the rapidly increasing acreage affected by beetles and other diseases. Focusing on the treatment of coniferous species may be more productive and cost effective than efforts directed toward aging aspen stands. As a result, Ouray County supports incorporating flexibility into a final action plan to allow USFS personnel to adapt quickly to changing circumstances and needs. [12-7]

Water should be at the forefront of most communities, farmers, and municipalities thoughts. The Lower Basin of the Colorado River is being given special consideration which could and may affect our responsibilities with the Colorado River Compact. If the water level in Lake Powell dips below the intakes for the generators, even though it is above the ten year average, funds will not be available for salinity control and adequate mitigation for endangered species in the Colorado River - and the price of electricity for the Western Grid will increase significantly. The water has to come from the upper basin. The Colorado Front Range will do everything in its power not to give water to the Colorado River even though theirs' are junior water rights. Right now on both sides of the Continental Divide our reservoirs are impaired by silting-in; consequently we cannot use the water we have rights to. Because of our legal sytem and government processes, it takes more than 10 years and $1,000,000 - with no guarantees of success - to dredge or increase the capacity of the reservoirs, ponds, catchments, etc. Because of the arduous process, it is IMPERATIVE the USFS and communities work to keep our reservoirs as clean as possible especially with the advent of fires. The spruce beetle epidemic has left our forest much more vulnerable to catastrophic fires than believed possible before the West Fork Fire. As the USFS is doing hydrology studies in water basins it is usually apparent what drainages would be in peril because of the fire and geology. When the information is documented, plans should be made for where and what type of catchment structures would be most effective along with the permitting process. The time lag between fire and construction of the catchment should be as short as possible. No one knows what and when the weather event will be that could incapacitate the reservoirs from keeping then from reaching the previous capacity. For many communities' farmers and municipalities, this could be devastating with long range negative effects. [15-1]

Appendix B – Design Features There are a number of items in Appendix B that will unnecessarily hinder normal logging operations and should be tweaked in order to facilitate treating more acres in a cost-effective manner. Specifically, we recommend that you reconsider TSHR-7, IW-2, SV-5, SP-4, and WQSP-3A, 5B, and 7B as discussed in the Montrose Forest Products comments. [25-9]

We are 40 year residents/recreationists in the GMUG. The health, natural beauty and sustainability of the forests matter greatly to us, as they will to future generations. Very careful attention to and treatment of such happenings as beetle epidemics and tree declines must be the role of users and the forest service. [31-13]

10).In conclusion, I think that many concerns about the SBEADMR project still remain and are unanswered. I ask that you consider the in depth comments put forth by HCCA et al, WCC and other organizations and individuals such as myself, that have put forth a good deal of effort to produce meaningful comments. I think that the overall concern of all is a healthy forest. I want to thank the forest service staff for the time that has been spent not only in planning this program but for the time spent in meetings and presentations to stakeholder forums so that we can better understand this proposal. [39-15]

Thank you for the opportunity to comment on the Draft Environmental Impact Statement (DEIS) for the Spruce Beetle Epidemic and Aspen Decline Management Response (SBEADMR). We appreciate the added time the Forest Service (FS) has given us to review and discuss this project with our members and within the Public Lands Partnership (PLP) working group. It has allowed us and other stakeholders to produce robust comments that can be used to help move this project forward and create a final product that is a result of these collective efforts. Western Colorado Congress (WCC) has a 30 year history with the Grand Mesa, Uncompahgre, and Gunnison (GMUG) National Forest, including our continued involvement with the Uncompahgre Plateau (UP) Restoration project. In the spirit of our ten years of collaboration on the Plateau, we submit the following comments on behalf of the members of Western Colorado Congress. WCC is an alliance for community action empowering people to protect and enhance their quality of life in Western Colorado. We have been working for land conservation and the responsible use and development of our natural resources for 35 years. Our work is based in the local knowledge and experience of our members who live, work and play in western slope communities surrounded by public lands. WCC is here to empower their voices and concerns in regards to public land management. WCC has over 1,500 members across Western Colorado. The Black Canyon Audubon Society is endorsing these comments. The Black Canyon Audubon Society has 390 members, many who live in or next to the various regions of the GMUG National forest. [40-1]

The incursion into the designated lynx analysis units is, to me, one of the most egregious parts of the proposal. Having worked with Tanya Shenk, Division of Wildlife, substantiating first sighting of tracts and scat in 2005, there is a personal connection. The analysis of the lynx habitat and the cutting of the snowshoe hare's range, again, does not make sense. It ignores all previous compliance with this reintroduction. Time and effort and money has been put into this reintroduction. Granted their survival

is precarious, but we are rooting for them and they are a great addition edition to the diversity of the forest. [46-5]