

**DECISION NOTICE
AND
FINDING OF NO SIGNIFICANT IMPACT**

**Vegetation Management and Travel Management
in Box Creek Watershed**

USDA Forest Service
Rocky Mountain Region
Pike and San Isabel National Forests
Leadville Ranger District
Lake County, Colorado

INTRODUCTION

The Box Creek Project was initiated approximately 5 years ago by the United States Forest Service -Leadville Ranger District (Forest Service (FS)) and the Royal Gorge Field Office - Bureau of Land Management (BLM) to address concerns regarding vegetation conditions in the Lodgepole Flats area. After studying this area, the agencies decided to expand the project area and emphasis to include the entire Box Creek Watershed, and to consider vegetation health and wildlife habitat across this larger area. This project involves an interagency partnership between the US Forest Service (FS) and Bureau of Land Management (BLM). On August 15, 2003, the Field Manager of the Royal Gorge Field Office signed a Decision Notice to implement the BLM travel management portion of the Box Creek Vegetation and Travel Management Plan and amended the Royal Gorge Resource Management Plan.

The USDA Forest Service prepared an Environmental Assessment (EA) for the Vegetation Management and Travel Management in the Box Creek Watershed; released for public review in May 2004. The EA describes the proposed action and the potential environmental effects. The EA also describes the alternatives to the proposed action and the effects those alternatives may have on the environment.

DECISION

It is my decision to implement Alternative B with modifications to road management described below, best management practices and design criteria in Appendix B of the EA. This decision was made following through review of the EA and the PSICC Forest Plan, supporting materials referenced by the EA, and reviewing comments from the public ([Appendix A](#) of this document).

Modifications to Alternative B for road management:

1. Seasonally open (June 1 through December 1) the road running from the pipeline road in northeast quarter of Section 32 (T. 10 S, R. 80 W.), through Section 33 and ending in the southeast quarter of Section 28, located in the eastern portion of the Box Creek Watershed. This road is approximately 1.5 miles in length, 1.1 miles on BLM, and 0.4 miles on Forest Service. (NOTE: see BLM Decision Record for BLM portion of the road)
2. Seasonally open (June 1 through December 1), the following road segments, if partnerships can be established to reconstruct and maintain these segments. Because of possibility of a partnership, these segments will be in the last group of roads to be restored.
 - a. Segment A - Road segment running roughly north and south in the northeast quarter of Section 32 (T. 10 S, R. 80 W.), in the central part of the Box Creek watershed. This would provide access to a scenic overlook. This segment of road is approximately 0.4 miles in length.
 - b. Segment B - Road segment going west off the end of the road listed above (Segment A) in the southwest quarter of the northeast quarter of Section 32. This segment of road is approximately 0.1 of a mile in length.
 - c. Segment C - Road segment from the intersection of Segments A and B running in an easterly direction in the eastern half of Section 32. Part of this road is on or near the section line between Section 32 and 33. This would provide access to a scenic overlook. This segment of road is approximately 0.5 miles in length.

The result of these changes for the Forest Service road system is there will be approximately 6 miles of road open all year, 6.8 miles seasonally closed, 7.4 miles closed, except for administrative use, and 12.8 miles of road to close and restore. Of those 12.8 miles, 1 mile may be opened seasonally, pending partnerships described above. See the BLM Decision Record for the BLM portion of the travel system decision.

REASONS FOR MY DECISION

I reached this decision after careful consideration of all the alternatives analyzed and documented in the Environmental Assessment, and in response to issues and comments from the general public and environmental groups.

Alternative B as modified does the best job of balancing public concerns while meeting the purpose and need of this project. Alternative B, as modified, will help achieve Forest Plan and National Fire Plan goals for fire condition classes, reduce dwarf mistletoe infestations; improve habitat effectiveness and capability for selected wildlife

species; maintain or improve water quality; and manage the transportation system for increased cost-effectiveness, efficiency and utility (EA, pg. 2).

Alternative B as modified meets the purpose of the project which is to move the project area toward the desired conditions as described in the Forest Plan and National Fire Plan for fire condition classes, dwarf mistletoe, road management; and wildlife habitat (EA, pg. 2). Alternative B as modified, will also meet the need for this project which is to work towards improving fire risk condition classes; reduce dwarf mistletoe infestations; decommission (obliterate) unneeded roads and those causing erosion, water degradation and/or habitat degradation; and improve habitat effectiveness and capability for selected wildlife species; improve big-game forage and security habitat (EA, pg.2). This Alternative also provides cohesiveness in the management of public lands in the area. The Alternative also complements the BLM decision of August 15, 2003, implementing travel management on BLM lands in the Box Creek Watershed. The numerous design criteria, Forest Plan standard and guidelines and Best Management Practices, combined with monitoring and adaptive management will ensure the protection of soils, watershed conditions, and wildlife habitat during this project.

Other Alternatives Considered

Four alternatives were considered in detail including: No Action, Proposed Action, Mechanical Treatment Emphasis and Prescribed Fire Emphasis. All the alternatives considered in detail are discussed in Chapter 2 of the EA (pgs.9-15).

- **Alternative A**, present management activities would continue to occur including: (1) noncommercial sale of fire wood, post and poles. (2) Slash Treatment (3) Dwarf Mistletoe Treatment of approximately 5 to 50 acres annually (4) on going seasonal road closures would continue. No additional road closures would occur. Soil erosion and moving towards a reduction in fire condition classes would not be sufficiently addressed.
- **Alternative B** is the proposed action. This alternative treats timber stands using a mix of timber management and prescribed fire. Timber management activities would occur on approximately 3,096 acres with fire management on approximately 2,351 acres. Approximately 6.43 miles of roads would be seasonally closed, 7.41 miles of roads would closed except for administrative use; and 14.57 miles of road would be closed and obliterated. Alternative B represents a good balance between management tools, addresses natural resource concerns and best meets the purpose and need for the project.
- **Alternative C** primarily treats stands mechanically, although some units are also proposed to have prescribed fire. Timber management would occur on approximately 3,689 acres and with fire management on approximately 1,758 acres. Approximately 6.43 miles of roads would be seasonally closed, 7.41 miles of roads would closed except for administrative use; and 14.57 miles of road would be closed and obliterated. Alternative C represents a different

balance between management tools, addresses natural resource concerns and would meet the purpose and need for the project.

- **Alternative D** primarily treats stands with prescribed fire, although some units would still be mechanically treated. Timber management activities would occur on approximately 1,042 acres and fire management would be applied to approximately 4,405 acres for this alternative. Approximately 6.43 miles of roads would be seasonally closed, 7.41 miles of roads would be closed except for administrative use; and 14.57 miles of road would be closed and obliterated. Alternative D represents a different balance between management tools, addresses natural resource concerns and would meet the purpose and need for the project.

PUBLIC INVOLVEMENT

Scoping for this analysis was initiated in February 14, 2000, with a letter mailed to 75 individuals and organizations. A second public mailing of 748 letters occurred on October 30, 2000. The list was expanded to include adjacent landowners (compiled from Court House records). Public notices describing the project were placed in local newspapers including The Herald Democrat (November 16, 2000), Leadville; The Leadville Chronicle (November 16 and 30, 2000), Leadville; and in the Pueblo Chieftain (November 9, 2000), Pueblo. Thirteen responses were received from both mailings. Presentations have been made internally to FS and BLM leadership and employees, and to Lake County Commissioners, Lake County Soil Conservation District (LCSCD), and Environmental Protection Agency (EPA). The project has been listed in the Schedule of Proposed Actions (SOPA), a Pike and San Isabel National Forests, Comanche and Cimarron National Grasslands (PSICC), publication distributed four times a year to over 260 parties. An environmental assessment was completed in April 2003. A decision notice and FONSI was prepared and signed in August 2003. That decision was appealed in November 2003. A new, revised environmental assessment was prepared and published in May 2004. This decision is based on that assessment.

Eight comments were received during the May 2004 EA review comment period. These letters are in the project file and the agencies responses to comments are found in [Appendix A](#). All comments have been considered in making this decision.

ENVIRONMENTAL JUSTICE

Executive Order 12898 requires federal agencies to address disproportionately high and adverse human health or environmental effects on minorities and low-income populations and communities. This decision would not be expected to cause significant changes in the socioeconomic environment of the project area and thus would not affect low income or minority populations or communities.

FINDING OF NO SIGNIFICANT IMPACT

Based on the interdisciplinary environmental analysis, review of the National Environmental Policy Act (NEPA) criteria for significant effects, and my knowledge of the expected effects, I have determined that this action does not pose a significant effect upon the quality of the human environment considering the context and intensity of impacts (40 CFR 1508.27). Thus, an environmental impact statement will not be prepared. I base my finding on the following:

CONTEXT

This project is local and would affect only a portion of the Box Creek watershed. Timber and fire management activities would comprise less than 1% of the forested lands of the San Isabel National Forest and 30 percent of the Project Area. Project duration is expected to be 3-5 years. Although the project has regional interest, the people most affected by the project would be primarily local residents near the Leadville area, and recreationists, primarily from the Front Range metropolitan area, that frequent the area.

INTENSITY

Environmental Effects

I find that the modified proposed action can be carried out without significant effects on natural resources as documented by the EA. Overall, this project will have a long-term beneficial effect on the environment. The closing and obliteration of roads will help reduce erosion and stream sediment loading and will result in a long-term beneficial effect to water quality (EA, pgs. 72- 74). Rehabilitation activities associated with reconstructing, relocating and decommissioning classified and unclassified roads, particularly in and near riparian areas and stream channels, would cause temporary short-term increases in stream sediment loading. Carrying out Best Management Practices (EA, Appendix B) will help minimize the amount of sediment entering streams (EA, pg 75).

Public Health or Safety

The actions will comply with all state and federal regulations. I find there will be a positive effect on public health and safety because the closure and/or obliteration of unclassified roads, will improve the safety of some recreationists (EA, pg. 52) and reduce the risk of crown fires, providing more safety for firefighters (EA, pg. 47).

Unique Characteristics of the Area

I find there are no significant effects on unique characteristics such as historic or cultural resources, park lands, prime farmlands, wetlands, or wild and scenic rivers. Historic or cultural resources will not be affected because sites will be avoided or protected during project implementation. Park lands and prime farmlands will not be

affected because they do not occur in the project area. Wetlands will be avoided. There are no potential or eligible wild and scenic rivers in the project area.

Controversy

I recognize there is some level of public controversy associated with this project. The benefits of the project are many and so are the ecological effects on the watershed. Not all comments received were in full support of this project. After reviewing the project record and EA, I am confident the Interdisciplinary Team reviewed these comments and incorporated them into alternatives or addressed them in the appropriate resource section. It is my judgment, while portions of the public disagree with various components of the project, there does not exist an unusual or high degree of controversy related to this project.

Uncertainty

The analysis shows the effects are not uncertain and do not involve unique or unknown risk. All of the effects of the selected alternative are similar to those taken into consideration in the Forest Plan. Best management practices, design criteria and monitoring and adaptive management techniques will ensure effects are within the expected parameters.

Precedent

The selected alternative does not represent a precedent for future actions with significant effects or represent a decision in principle about a future consideration. The assessment is site-specific and its actions incorporate those practices envisioned in the PSICC Forest Plan and are within the Standards and Guidelines included in the Forest Plan. Future similar projects would have to be evaluated under NEPA for the significance on the effects of those specific actions.

Cumulative Impact

There are no known significant cumulative effects between this project and other projects implemented or planned in the area affected by this project. The EA describes the anticipated cumulative effects (EA, Chapter 4). I am satisfied, after reviewing the EA, that none of the cumulative effects of the proposed action are significant.

Properties On or Eligible for the National Register of Historic Places; Significant Resources

There are no known cultural resources that would be significantly affected by this project. If cultural resources are found during operations, the work will be stopped and Forest Service archaeologists consulted.

Endangered or Threatened Species

I find the action will not jeopardize the continued existence of any federally listed or proposed endangered or threatened species or US Forest Service listed sensitive species or their critical habitat. The Biological Evaluation and Biological Assessment support this conclusion (EA, pg. 69). The action will not jeopardize the continued existence of the Pawnee montane skipper, Mexican spotted owl, Preble's meadow jumping mouse, or the bald eagle. The USDI Fish and Wildlife Service concurred that the proposed action may affect but not likely to adversely affect some species, but the effects would not or likely would not be adverse (FWS concurrence letter in project file). Therefore, I find that the action can be carried out with no significant adverse effect to federally listed species.

Legal Requirements for Environmental Protection

I find the action is consistent with federal, state, and local laws and requirements for the protection of the environment. Applicable laws and regulations were considered in the EA (EA pg. 7, 9). The action is fully consistent with the Forest Plan (EA, pg. 9). In arriving at this conclusion, I have considered the potential effects in terms of Context and Intensity as described in 40 CFR 1508.27.

Findings Required by Other Laws and Regulations

This project was designed in conformance with the PSICC Forest Plan standards and guidelines. As such, my decision to proceed with the Proposed Action is consistent with the Forest Plan and the National Forest Management Act.

ADMINISTRATIVE REVIEW OR APPEAL OPPORTUNITIES AND IMPLEMENTATION DATE

This decision is subject to administrative review pursuant to Federal Regulations at 36 CFR 215.11. Appeals (including attachments) must be in writing and filed (regular mail, fax, e-mail, hand-delivery, express delivery, or messenger service) with the Appeal Deciding Officer (CFR 215.8) within 45 days following the date of publication of this notice. The publication date of the legal notice in the newspaper of record is the exclusive means for calculating the time to file an appeal (CFR 215.15(a)). Those wishing to appeal should not rely upon dates or timeframe information provided by any other source. Pursuant to 36 CFR 215.13(b) only those individuals or organizations who submitted substantive comments during the comment period may file an appeal.

Where to file an appeal:

USPS	UPS, FED EX	FAX	EMAIL
Appeals Deciding Officer USDA, Forest Service Rocky Mountain Region POB 25127 Lakewood, Colorado 80225-25127	Appeals Deciding Officer USDA, Forest Service Rocky Mountain Region 740 Simms Golden, Colorado 80401 303 275-5296	303-275-5134	appeals-rocky-mountain- regional-office@fs.fed.us

Appeal Content Requirements:

It is an appellant's responsibility to provide sufficient activity-specific evidence and rationale, focusing on the decision, to show why the Responsible Official's decision should be reversed. At a minimum, an appeal must include the following (CFR 215.14):

1. Appellant's name and address (CFR 215.1), with telephone number, if available;
2. Signature or other verification of authorship upon request (a scanned signature for electronic mail may be filed with the appeal);
3. When multiple names are listed on an appeal, identification of the lead appellant (215.2) and verification of the identity of the lead appellant upon request;
4. The name of the project or activity for which the decision was made, the name and title of the Responsible Official, and the date of the decision;
5. The regulation under which the appeal is being filed, when there is an option to appeal under either this part or part 251, subpart C (CFR215.11(d));
6. Any specific change(s) in the decision that the appellant seeks and rationale for those changes;
7. Any portion(s) of the decision with which the appellant disagrees, and explanation for the disagreement;
8. Why the appellant believes the Responsible Official's decision failed to consider the substantive comments; and
9. How the appellant believes the decision specifically violates law, regulation, or policy.

Notices of Appeal that do not meet the requirements of 36 CFR 215.14 will be dismissed.

Pursuant to 36 CFR 215.9(a), if no appeal is filed, implementation of this decision may occur on, but not before, the fifth day from the close of the appeal filing period.

For additional information concerning this decision or the Forest Service appeal process, contact Jim Zornes, District Ranger, Leadville Ranger District, at (719) 486-0749.

SIGNATURE AND DATE

/s/ James E. Zornes

James E. Zornes, District Ranger
Responsible Official
Leadville Ranger District
Pike and San Isabel National Forests
Responsible Official

8/26/2004

Date

APPENDIX A – RESPONSE TO COMMENTS

INTRODUCTION

The Forest Service received 8 public comment letters on the Environmental Assessment (EA). These comments have been documented, analyzed for content, and responses have been prepared. These responses are considered a part of the Environmental Assessment. This section presents all of the substantive comments received on the EA and the agency's response to those comments. Comments that simply favor or oppose specific alternatives or those that only agree or disagree with Agency policy were not considered substantive comments.

Comments are in bold and were grouped by key topics and sample excerpts are used to briefly describe the main points that are made in the comment letters. The comments are not presented here in their entirety, and are available for public review in the Project Record. Comment numbers included in the comment references refer to numbering used in the content analysis process and can be found below:

Commenter Number	Name/Organization
1	Colorado Wild
2	The Wilderness Society
3	American Lands Alliance
4	Gregory Aplet/Wilderness Society
5	Dennis Zandra
6	Patrick Lucero
7	Dick Scar
8	Carolyn Abbott

DATA AND SCIENCE

COMMENT: **UNWARRANTED CONCLUSIONS REGARDING THE PRE-EUROPEAN SETTLEMENT CONDITION OF THE PROJECT AREA.**

The Forest Service continues to make unwarranted conclusions regarding the Pre-European settlement condition of the project area. (1, 2, 3)

The premise for this project is that the history of the watershed since settlement has left it in an unhealthy condition. (4)

The EA fails to demonstrate that there is anything about the current condition of the Box Creek watershed that warrants intervention. (4)

There is no information presented in the EA, nor was there any evidence from our field tour, that the lodgepole forests of Box Creek depart from this model in any way. Instead, the structure of these forests is consistent with the establishment of dense even-aged forests following infrequent crown fire (>100 years between fires). (4)

RESPONSE:

Based on the above concerns, we re-evaluated our purpose and need (Final EA, pg. 1) and have clarified the existing condition. The historical conditions in the EA were based on interviews with local people and photos of the era. The historical conditions lend support in providing a baseline for the development of the Fire Regime Condition Classes (FRCC).

COMMENT: FIRE

The Forest Service continues to believe that “the prolonged absence of low-intensity burning has created fuel build-up and an over-accumulation of small diameter trees.” EA at pg. 27. However, the EA also states “It is the intense logging disturbance of the area during the mining boom, which is most responsible for the ecological condition in Lodgepole Flats area EA at pg. 4. Again, it is unlikely the project area ever experienced frequent fires because of its elevation. (1,2,3)

RESPONSE:

Since the logging of the late 1800’s, the absence of low-intensity burning has created a disproportionate amount of crowded, small diameter trees. Lodgepole pine is mainly seral species dependent on fire for regeneration and the absence of fire is has reduced the proportion of young (<80 year old) stands. Current ground based evidence still supports low intensity (less than stand replacing) fire events over time.

COMMENT: VDDT MODEL

We are very displeased to see the continued use of the discredited Vegetation Dynamics Development Tool (VDDT) (1,2,3).

RESPONSE:

We feel this is a viable tool because it is has been used for many assessments by fire ecology and vegetation experts. The model has been used and published for development of Historical Range of Variability (HRV) and Natural Range of Variability (NRV) for the Columbia Basin, Sierra Nevada, Bitterroot National Forest ([Merzenich, et al.](#)), Yosemite National Park ([Arbaugh, et al.](#)), Interagency FRCC guidebook and many other research and management assessments. The Forest Service feels this model is applicable for this project for the development of FRCC. FRCC using the GTR-87 definition and Interagency FRCC guidebook methods is required for assessment, monitoring, and reporting of HFRA, NFP projects, and any vegetation or forest health projects with targets of improved condition (FRCC). Agencies and organizations working with FRCC include The Nature Conservancy, Department of Interior (DOI) – Bureau of Land Management (BLM), Bureau of Indian Affairs, US Fish and Wildlife and National Park Service, USGS and private organizations.

COMMENT: FIRE CONDITION CLASS

The westernmost portion of the area shown to be in condition classes 2 and 3 is well over 10,000 ft which is demonstrably false. (Map 2) (1,2,3)

RESPONSE:

The identification and delineation of FRCC is done by trained and certified specialists and is mapped on a national map. If the area was incorrectly mapped, it will be addressed at such time the national map is corrected. No action will be taken at this time to correct the map.

Nevertheless, the EA continues to assert that the vast majority of the watershed has departed from the natural range of variability. This conclusion appears to rely on a "Fire Regime Condition Class" analysis conducted by McNicoll and Hann and presented in a paper published in the Proceedings of the 22nd Tall Timbers Fire Ecology Conference. McNicoll and Hann conducted "field reconnaissance" during which they found fire scars in lodgepole and ponderosa pine and reached the conclusion that historical forest burned frequently at low intensities, producing open stand conditions. They then used this "evidence" in a model of vegetation dynamics to reach the conclusion that today's forests have departed significantly from historical conditions, placing the lower elevations at "high risk of the loss of key ecosystem components" and the upper elevations at "moderate risk" (though they do not explain which ecosystem components are at risk or why). This condition class assessment appears to be driving decision-making in the Box Creek area, as the purpose and need statement refers to the need "to shift trends to natural patterns, reduce fire risk condition classes 3 and 2 to 1, into compliance with the National Fire Plan." (4)

RESPONSE:

The reduction of fire regime condition classes is just one part of the purpose and need for this project. The McNicoll and Hann paper is separate from this project. We did incorporate parts of the 24 treatment prescriptions the paper developed into portions of the developed alternatives (ie. mixture of tools). The process developed in the paper for FRCC has now become part of the protocol for determining FRCC in the Interagency Guidebook FRCC. This is an accepted standard procedure.

The methods for determining fire regime condition class at Box Creek are rife with problems. The presence of fire scars on the landscape is not sufficient evidence of frequent historical fire. Documentation of low intensity surface fire required cross-dating of multiple fire scars on multiple trees separated by live trees predating the fires. McNicoll and Hann present no such evidence; in fact, they present no discussion of the methods they used to reach their conclusion, other than photographs of fire-scarred stumps. Fire scars on lodgepole pine is not evidence of frequent, low-severity fire, as lodgepole is well understood to scar easily on the edges of large crown fires. McNicoll and Hann's evidence cannot be relied upon to reject the standard model of lodgepole pine fire ecology. Such a rejection demands a high burden of proof, which has not been made in the EA (4).

The District's recon methods for determination of the potential vegetation type and associated fire regime and reference conditions do not require a detailed fire scar history or cross-dating. Fire scars and cross-dating are just one form of evidence of the historical fire interval and severity (surface, mixed, or crown). The literature on fire regime condition class and Interagency Guidebook FRCC methods recommend against detailed fire scar and cross-dating

analysis. They indicate equal emphasis be placed on each of a variety of forms of evidence, such as historical aerial or oblique photos of vegetation composition/structure, stumps-logs-snags-charcoal, litter/duff depth, historical survey or written descriptions, succession (growth) rates, fire scars, insect & disease, wind and other weather factors, herbivory, native species adaptations, other key disturbances, terrain, soils, and climate. To develop reference conditions a model that can integrate all this evidence, such as VDDT, must be used so that one form of evidence does not become the focus and subject the user to problems with that specific form of evidence. For example, fire scars and cross-dating may only represent the fire interval of surface fires severe enough to scar multiple trees, as some fires may not be represented by fire scars.

In the montane PVT of Box Creek there was the presence of large old ponderosa pine stumps, logs, and snags that were scattered across the Box Creek montane zone at densities ranging from as low as 1 tree per acre in the northern portion to 10 trees per acre in the southern portion. These would not occur in a crown fire regime. Other evidence included the grass and shrub species occurring in the small clear-cut openings and in the prescribed fire openings. Additional evidence included the dark surface soils indicative of development under conditions of open forest with grass. These conditions were found in areas that had not been subjected to major soil displacement or erosion during the mining era logging. In addition, fire behavior estimates for the historical vegetation in this gentle terrain with grassy surface fuels indicated a mixed rather than crown fire regime. All these indicators are discussed in the paper. The paper does not reject the standard model of lodgepole pine fire ecology. It fully agrees with the literature on mixed fire regimes in lodgepole pine.

The National Fire Plan places priority on fire regime groups I, II, and III, the frequent to infrequent regimes. These groups have a range of mean fire interval that goes up to 100+ years with a final break point at 200 years, and a severity of crown fire that extends up to 75%. A narrow focus on fire scars and cross-dating to determine the fire history would not be highly relevant in determining if the montane zone falls into one of these groups. The combined evidence fully supports that it falls into the mixed fire regime and the mean fire interval is somewhere on the border between groups I and II (35 years). The range of this type of mixed regime is assumed to have high variation, ranging from about 10 to 100 years. A focus on fire scars and cross-dating appears would take away time and energy from more important aspects of the analysis.

Second, the FRCC assessment relies upon the reconstruction of presettlement vegetation dynamics using the VDDT model. (4)

VDDT is a model that has been published and used for many assessments by fire ecology and vegetation experts. A range of variability was assessed to test sensitivity of transition and disturbance probabilities. The FRCC methods use a central tendency for reference conditions, so a range is not necessary as an FRCC input. Combinations of vegetation state transitions and disturbance estimates are used as inputs. Sensitivity testing of the model combined with common sense logic indicates that the mixed ponderosa pine-lodgepole forests in the montane zone would have a frequent to infrequent mixed fire regime.

Version 1.0 of the FRCC guidebook was the version used for this analysis. Version 2.0 (projected for Oct of 2005) may have changes based on the new information, science review, and user

input. This is the case for any guidebook and associated software (to update based on new information). It is highly unlikely that changes in methods would result in a change in the condition class determination of 3 for the montane and 2 for the subalpine. The missing ecological components discussed in a previous comment are very apparent after conducting multiple transects across the Box Creek landscape.

COMMENT: NEXUS

The NEXUS discussion fails to provide any evidence that the proposed treatments will be effective. Evidence presented with NEXUS is unconvincing (1,2,3,4).

RESPONSE:

The purpose of the fire behavior simulations is to assess the relative fire potential in the lodgepole pine stands within the Box Creek project area. The prescriptions are designed to improve condition class (FRCC). Treating stands can be effective in reducing the probability of a fire carrying into the crowns and reduce fire intensity. From the simulations it is clear that these stands can experience some kind of crown fire under high open wind speeds. While surface fire intensity is a critical factor in crown fire initiation, height to crown: the vertical continuity between fuel strata, is equally important. Crown fire spread is also dependent on the horizontal continuity of the canopy fuels. Thus treatments that reduce canopy fuels decrease the fire hazard through the change in stand structure and by the creation of buffers to break up the crown fuels over the landscape.

PRESCRIPTIONS

In Prescription 3, low intensity fire would be used wherever there is sagebrush. It is likely that there would be sagebrush in areas of lodgepole regeneration? If so, how would fire be kept away from the lodgepole and in the sagebrush only (1,2,3)?

RESPONSE:

Yes, there are patches of sagebrush intermixed within in areas of lodgepole regeneration, because lack of fire in the past has allowed intrusion of larger lodgepole trees into the sagebrush. In this prescription, we are increasing the sagebrush and forage component, so fire will not be kept from lodgepole. A low intensity fire will kill some individual lodgepole trees. These trees will provide for more standing dead and down coarse woody debris for wildlife habitat.

Are there any stands in the project area that meets this description for prescription 7 (1,2,3)?

RESPONSE:

There are 61 acres proposed for this prescription (EA, Table 2-4). Because of the small number of acres in this prescription, these acres are incorporated into prescription 12 (density reduction for winter range). Table 2-4 has been modified to reflect this change.

While some thinning on winter ranges may be desirable or acceptable, the Forest Service should carefully consider the need for cover before thinning, especially because of the risk of windthrow in prescription 12 (1,2,3)

RESPONSE:

Before thinning or harvesting occurs, the need for cover will be analyzed.

We recommend burning only every 20-30 years in these areas for prescription 12. (1,2,3)

RESPONSE:

Prescription 12 is designed for tree density reduction for winter range forage stimulation and provides for a fire frequency of 4 to 6 years, if necessary to maintain the desired condition. It is unlikely a fire frequency of 4 to 6 years would be implemented, but remains an option depending on shrub and grass response in these areas. Monitoring forage response would dictate the necessity for subsequent burns and could occur in 4 to 6 years, but would more likely be a longer rotation.

We assume that a moderate intensity fire for prescription 13, means that some trees would experience crown fires and die. Could such a fire be controlled?

RESPONSE:

Removal of heavily mistletoe infested trees, and intermediate and suppressed trees, would result in larger trees interdispersed within the unit. Fire prescriptions would be modified to provide a mosaic pattern over the stand. This would reduce the possibility that crowning could go from tree to tree, allowing the fire to be controlled. In addition, unless all conditions for the prescribed burn are met, the burn would not occur.

This prescription (21) would allow or encourage burning every 4-6 years. Again, this is much too frequent.

RESPONSE:

As in prescription, it is unlikely a fire frequency of 4 to 6 years would be implemented, but remains an option depending on shrub and grass response in these areas. In areas that have sagebrush regeneration the fire frequency would be much longer to allow the sage to reestablish. In areas without sagebrush then it may be desirable to burn more frequently to stimulate additional grass and forb growth.

Slash should not be piled and burned in these areas for prescription 23, as proposed (EA, pg. 18).

RESPONSE:

The Forest Service is not proposing to pile and burn slash near homes. Slash will be either machine or hand piled depending on the area and type of terrain. The piles will contain the tops and limbs of the trees. The piles will only be burned with adequate moisture (minimum of 24 hours of constant rain or 3 inches of snow on the ground). The majority of the burning will occur in the winter months from October to April. Smoke will be minimal and of short duration. All piles are checked daily until they are determined to be out. Residences of the

area are notified of the pile burning through the use of news releases, flyers located on community boards and signs stating the prescribed fire will be progress.

MISTLETOE

COMMENT: NO EVIDENCE OF MISTLETOE DISTRIBUTION OR INTENSITY

"The EA presents no evidence of the spatial distribution of dwarf mistletoe infestation intensity. There are no measurements presented of dwarf mistletoe rating in either tabular or map form." (4)

RESPONSE:

The planning area was surveyed using the Hawksworth rating system for current infection levels. ([Hawksworth, Frank G. The 6-class dwarf mistletoe rating system. Gen. Tech. Rep. RM-48. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Forest and Range Experiment Station; 1979. 7 p.](#)) . Timbered portions of the planning area (both BLM and Forest Service) were surveyed based on interpretation of mistletoe infections. As a whole, 16 % of the forested area was viewed as having no visible infections. Twelve percent were viewed as having light infection (1/2 or less of the total number of branches infected). And, 72 % of the forested area having is heavily infected (more than 1/2 of the branches or stems infected). These stands were identified for treatments that were designed in part to reduce the extent or severity of dwarf mistletoe. Those stands are shown on the maps of treatments.

COMMENT: DWARF MISTLETOE TREATMENTS WOULD NOT BE EFFECTIVE

". . . the proposed action is intended to reduce dwarf mistletoe through thinning, but there is no evidence that thinning will, in fact, reduce the rate of infection of remaining trees. While it may be possible to reduce the stand-level dwarf mistletoe rating by cutting the most heavily infested trees, there is no reason to believe that remaining trees will not become just as infested in a few years. Within the project area, stands that were previously clear-cut are already heavily infested." (4)

". . . dwarf mistletoe . . . cannot be eradicated except by removing every single tree that has this parasite. That is nearly impossible to do, because some trees infested with mistletoe will not show any evidence of the parasite for several years after first receiving the seed." (1,2,3)

"The clearcut regeneration logging and moderate intensity fire proposed in some prescriptions would likely result in regeneration of lodgepole pine. If adjacent stands have mistletoe, the young regeneration would also get infected. Trees infected at an early age grow into bushes and never become tall trees. Their value to the ecosystem is thus limited." (1,2,3)

"Under prescriptions 8/10 and 11/14, trees would be removed in 'areas greater than 20 acres to prevent the spread of mistletoe' (EA at 17). This would not prevent the spread of mistletoe, as the trees that regenerate in these clear cuts would easily become infected from surrounding trees that have mistletoe." (1,2,3)

"Prescriptions 8 and 10 also call for interplanting ponderosa pine to increase species diversity. However, mistletoe would infect this species as well." (1,2,3)

“Prescription 7: Mistletoe reduction and thinning of lightly infected stands. . . . removing the younger trees might not reduce mistletoe much because the older and taller trees would likely have it.” (1,2,3)

RESPONSE:

Dwarf mistletoe is the best understood disease of forest trees. Management strategies for dwarf mistletoe were clearly laid out and understood 90 years ago ([Meinecke 1914](#), [Weir 1916](#)) and they have been greatly refined and quantified since then. *Arceuthobium americanum* in lodgepole pine has been particularly well studied and details of its ecology and management have been summarized ([Hawksworth 1975](#), [Hawksworth and Johnson 1989](#)).

Borders of regeneration units will be placed where there is little or no infestation outside the unit where possible, to prevent reinfection of regeneration. Otherwise, regeneration units will be large enough (> 20 acres) that the rate of reinfection is inconsequential and the majority of the new stand will be uninfested at maturity ([Hawksworth 1975](#), [Hawksworth and Johnson 1989](#)). Regeneration near an infected edge does indeed become infected, but the rate of disease spread into the new stand is slow enough that most of the stand remains disease-free if the size is greater than 20 acres. Also, sanitation thinning of the edges of such regenerated patches will be done.

Some of the comments seem to assume that the goal is always eradication. That is the goal in regeneration cuts, as discussed above, but not in thinning. Partial cuts oriented toward mistletoe management are used in areas where infestation is less severe (stand dwarf mistletoe rating < 3) and sanitation is likely to be more effective. Sanitation thinning in this case is known to be effective over a long time ([Hawksworth and Johnson 1989](#)). Commenters can consult the references cited above for dwarf mistletoe biology, ecology and management.

Planting of ponderosa pine is mentioned as a problem because it can be infected too. It is not a principal host of *Arceuthobium americanum* and less infection generally occurs on it. Moreover, there are other benefits of having a few ponderosa pine and Douglas-fir in some parts of the watershed.

In prescription 7 (acres now in prescription 12), multi-tiered stands generally have the most severe mistletoe in the understory. Larger trees may well be infected, but generally it is less severe and tends to be in the lower crown. These trees have potential to get larger and older, particularly when freed of competition by the smaller and more heavily infected trees.

It must also be recognized that there are multiple objectives of the treatments. In some treatments, resource values other than mistletoe may be considered more important, and certain treatments applied to certain units may actually result in a local increase in mistletoe at some point in the future. Management and environmental analysis must consider multiple ecological factors. However, overall the project will result in a reduction of the severity and distribution of dwarf mistletoe in the lodgepole pine type of the watershed.

COMMENT: DWARF MISTLETOE BENEFIT TO WILDLIFE

“Dwarf mistletoe has also been found to have considerable benefit to wildlife. See Bennetts et al, 1996.” (1,2,3).

RESPONSE:

This point was addressed in the on page 43 of the EA. “Effects of dwarf mistletoe on other species may be positive or negative. Observations have been made of the use of lodgepole pine dwarf mistletoe for food by blue grouse (Wyoming) and blacked capped chickadee (Wyoming) ([Hawksworth & Wiens, 1996](#)). While a few mammals such as red squirrel, chipmunk and elk occasionally utilize mistletoe as a dietary supplement, none depend on it as a primary food source ([Hawksworth & Wiens, 1996](#)). The brooms may also be favored as nesting sites for some animals, although this has not been studied in the lodgepole pine system (EA, pg. 43). As noted by the commenter, some published observations suggest that dwarf mistletoe may provide benefits to other forest organisms. However, studies of wildlife benefits of dwarf mistletoes are mostly based on *Arceuthobium vaginatum ssp. cryptopodum* on ponderosa pine and not on *Arceuthobium americanum* on lodgepole pine. If there are benefits of the latter dwarf mistletoe to certain species in the analysis area, there is likely an optimum level of mistletoe for such an effect. Above this level there may be no further benefit or even a net detriment as the stand deteriorates because of high levels of dwarf mistletoe. However, published studies do not address this issue. Dwarf mistletoe is very severe and widespread in the 5,231 acres of lodgepole pine in Box Creek watershed. Alternative B is expected to eradicate the mistletoe from up to 561 acres (prescriptions 8/10) of lodgepole pine, or 10.7% of the lodgepole type. Cumulative with the 485 acres of treatment that resulted in mistletoe eradication in the last 40 years; this will result in eradication of mistletoe on less than 20% of the lodgepole type. Other prescriptions (7, 11/14 and 12, totaling 2,273 acres) are intended in part to reduce the intensity of the mistletoe in residual stands but not eradicate it from the treated stand. Although the project should reduce the amount of mistletoe in about 60% of the lodgepole type, most of the mistletoe-infested lodgepole acreage will still have mistletoe after the project. We therefore feel that there will be ample dwarf mistletoe to provide any benefits.

Under the impacts to fire and fuels for no action alternative A, the EA states that mistletoe would “enhance vertical fuel continuity and the likelihood that ground fires will burn out individual tree crowns (EA, pg. 51). However, the very next page states that for action alternative B, smoldering fires will be the most common because understory fuels are sparse and fire spreads into the crowns is difficult because they are elevated well above the forest floor (EA, pg. 52) (1,2,3).

This is true, for the no action alternative, mistletoe would enhance vertical fuel continuity, allowing ground fires to climb into tree crown. Alternative B would decrease the amount of mistletoe, thereby reducing the vertical continuity and keeping the fire on the ground, not in the tree crowns.

Reducing fuels is not, by itself, a reason to cut mistletoe infected trees. (1,2,3)

We agree. In reducing the amount of mistletoe infected trees it is more likely that true old-growth conditions will be reached in the watershed. The development of large, old trees, some

with decay columns that support cavity-nesting wildlife would be more likely. Dwarf mistletoe at high levels severely suppresses tree growth and leads to deformity, top kill, and premature mortality ([Hawsworth and Johnson, 1975](#)). Reduction of mistletoe infected trees also decreases fire rate of spread, rate of spread, intensity, crowning, spotting and duration ([Alexander and Hawsworth 1975](#)). By reducing mistletoe infected trees we are also meeting Forest Plan goals – “Implement an integrated pest management program emphasizing silvicultural management of timber stands to prevent and control insect infestations and disease (Forest Plan, pg III-4)”.

The Forest Service should accept the presence of this parasite in mature lodgepole pine and concentrate on reducing mistletoe infection in areas surrounding the previous clearcuts. This appears to be proposed in prescription 3; however, this prescription would only be used in Alternative D, which as a fire emphasis (EA at pg. 22) (1, 2, 3)

Prescription 3 is a part of all action alternatives, not just alternative D. Regeneration units will be large enough (> 20 acres) that the rate of reinfestation is inconsequential and the majority of the new stand will be uninfested at maturity ([Hawsworth 1975, Hawsworth and Johnson 1989](#)). This has been amply and quantitatively documented in the references cited above. Regeneration near an infected edge does indeed become infected, but the rate of disease spread into the new stand is slow enough that most of the stand remains disease-free if the size is greater than 20 acres. Also, sanitation thinning of the edges of such regenerated patches is commonly done.

It is impossible to determine what the infection level really is. The assertion is made that current population levels are dramatically increased over historical levels or levels that would be expected in the absence of historical human disturbance. However, no evidence is presented of expected dwarf mistletoe infestation levels. It simply cannot be concluded that the current condition warrants intervention. (4)

Detailed, intensive surveys to quantify dwarf mistletoe over the 5,230 acres of lodgepole pine in the Box Creek watershed would be prohibitively costly and an unnecessary expense. Instead, aerial photographs of the lodgepole component were interpreted (by Jim Cunio and Sam Schroeder) and combined with field observations to identify the most severely infested stands in the watershed. These stands were identified for treatments that were designed in part to reduce the extent or severity of dwarf mistletoe. Those stands are shown in the maps of treatments. Timbered portions of the planning area (both BLM and Forest Service) were surveyed based on interpretation of mistletoe infections. As a whole, 16 % of the forested area was viewed as having no visible infections. Twelve percent was viewed as having light infection (1/2 or less of the total number of branches infected). And, 72 % of the forested area is heavily infected (more than 1/2 of the branches or stems infected).

Since the landscape extent and level of dwarf mistletoe is host specific to species, density, and size class conditions we can conclude that the historical levels of dwarf mistletoe would be much less because there would have been much less small, dense lodgepole, and it would have been scattered in small patches across the landscape.

TREATMENT METHODS

COMMENT: ALL PROPOSED PRESCRIPTIONS APPEAR TO LACK AN ADEQUATE SCIENTIFIC BASIS FOR ACHIEVING THE STATED OBJECTIVES.
(1,2,3,4)

RESPONSE:

The Box Creek Project Area was mapped using species composition, vegetation structure, size classes, and ownership. The Historical Range of Variability (HRV) was determined using a Vegetation Dynamics Development Tool (VDDT) which models landscape vegetation over different times and disturbances (Appendix A). Based on the model outputs, the targeted vegetation polygons with the greatest departure from HRV were selected for treatment. Each polygon was assigned a unique identifying number. Individual polygons were assigned a treatment prescription based on existing vegetation and structure and the desired future outcome to meet objectives. Some polygons were assigned more than treatment prescription if objectives could potentially be met with either treatment.

The number of acres in each prescription will change by alternative. The total number of acres to be treated is the same for all alternatives; however the methodology will change by alternative. The number of acres selected best meets the purpose and need and would move the area more quickly towards desired conditions. The use of prescribed fire methods was specific to the re-establishment of vegetation structure and composition. Prescribed fire methods would create a variety of effects while continuing to meet the project purpose and need. Variation may include acres treated, season of treatment, type of wildlife habitat created such as standing blackened trees for woodpecker foraging, sanitation of dwarf mistletoe target stands, maintenance of openings such as big game winter range, modification of pine encroachment in shrub-forest transition zones, rejuvenation of decadent aspen stands, site preparation for conifer establishment, nutrient recycling and hazard fuel reduction in harvested stands and high risk urban interface zones.

Harvest methods included the felling and removal of live and/or dead conifer and/or deciduous tree species. Harvest methods may also be varied to create a suitable array of effects while continuing to meet the project purpose and need. Variation may include volume offered per sale, size of material offered, species harvested, duration of sale activity, and season of activity.

Non-harvest methods included felling in-place without removal or sale of products. Post harvest treatments may include burning of excess fuels, prevent disease outbreaks, and encourage establishment of seedlings. Non-harvest methods are useful with limitations. This component will be varied and combined with other treatment methods to create a suitable range of effects while continuing to meet the project purpose and need. Variation may include treatment of priority target stands such as dwarf mistletoe or densely stocked stagnated stands, selection of stands where retention of downed logs may improve denning habitat for the Canada lynx or security habitat for other species, and selection of stands where increased fuel loadings will enhance prescribed fire effectiveness.

See also the discussion on mistletoe.

COMMENTS: NOXIOUS WEEDS

Define mechanical treatment of weeds. (1, 2, 3)

RESPONSE:

The EA has been revised to reflect the control methods to be used on noxious weeds; including mechanical (include hand pulling, hand cutting, burning, discing, and hoeing), herbicides and biological (insects, animals).

COMMENT: EFFECTIVENESS OF PROPOSED TREATMENTS

It is not clear that the proposed treatment methods would have the desired effects (1, 2, and 3)

The EA fails to provide any evidence that the proposed treatments will be effective. For example, the treatments are explicitly intended to reduce fire risk, but the evidence presented in Appendix E is unconvincing. For example, according to the NEXUS simulation outputs, the torching index (the wind speed required to induce torching) is currently 93.1 miles per hour. Immediately after treatment, it will have been reduced to 55.6, and five years post-treatment it will fall further to 20.8. Over the same period, the crowning index will remain unchanged from current conditions (4).

RESPONSE:

Table 2-7 shows the estimated differences in number of acres by structural stages by vegetation type. The action alternatives would increase aspen in the pole/sapling/open and seedling-stand initiations stage by decreasing the pole/sapling closed and moderated stage. The action alternatives will also decrease lodgepole in the pole/sapling moderate and closed stages by increasing the seedling/pole/sapling/open and moderate stage. Changes in the aspen type would help aspen regeneration. By making these changes in the lodgepole vegetation structural stages, the action alternatives are reducing dwarf mistletoe infestations; moving towards improving FRCC conditions; maintain openings such as big game winter range; stimulate forage production through thinning and burning; and reducing the probability of a fire carrying into the crown. The urban interface prescription was designed to both reduce fire behavior hazard and improve condition. Road closures would help reduce road density to improve wildlife habitat and decrease sediment in streams.

Table 2-8 presents the percent change in structural stages before and after treatment. Prior to treatment, 20 percent of the area is covered by open sapling pole moderately to closed canopies of sapling pole stands of primarily lodgepole. The treated areas would be converted to open mature and sapling-pole forest interspersed with openings. The open stand conditions in thinned stands would encourage the development of understory grasses and shrubs. Overtime, this type of understory, combined with the thinned conditions, would create light ground fuels and a stand structure that could carry a low intensity fire with only occasional torching of individual crowns. If ground fires were allowed to burn through these stands over time, the more open environment could be maintained by discouraging the establishment of understory trees.

Table 2-9 shows the estimated difference in acres from untreated to treated by structural stage. In addition, below the table there is description of the anticipated responses to the vegetation. The EA also explains the effects of the alternatives in Chapter 3 (pgs. 42-83)

The proposed alternative is expected to eradicate the mistletoe from up to 561 acres (prescriptions 8/10) of lodgepole pine, or 10.7% of the lodgepole type. Cumulative with the 485 acres of treatment that resulted in mistletoe eradication in the last 40 years; this will result in eradication of mistletoe on less than 20% of the lodgepole type. Other prescriptions (7, 11/14 and 12, totaling 2,273 acres) are intended in part to reduce the intensity of the mistletoe in residual stands but not eradicate it from the treated stand. The project will reduce the amount of mistletoe in about 60% of the lodgepole type.

Crown fire assessment results from NEXUS for the 4 scenarios; indicate that the Torching Index (TI) is higher than the crowning index (CI). That is, stronger winds may be required to initiate crowning than are needed to sustain active crowning once started. The area can experience some kind of crown fire activity under moderate winds during the summer (20 mph). However, the treated stands are likely to experience only passive crowning even under high winds, whereas the untreated stands can support fully active crowning. Once initiated, it may be possible for crown fires to spread through adjacent stands that could not initiate crown fires on their own (Scott and Reinhardt 2001).

Implementation of the monitoring plan (EA, pg. 14) will help determine with the project will have the desired effects. If, through monitoring, it is found the prescriptions are not having the desired effect, adjustments in the acres treatment or methodology may occur.

COMMENT: MITIGATION MEASURES

Pages 13 through 16 list "Actions common to all action alternatives". Many of these measures appear to be designed to reduce impacts of the project by preventing or reducing the extent and intensity of such impacts. Hence, these are mitigation measures. No discussion on how effective these measures are likely to be in reducing adverse impacts. (1, 2, 3)

RESPONSE:

We built these "Actions common to all action alternatives" as design criteria and Best Management Practices (BMP) (see Appendix B of the revised EA). Many of these items are things the agency is obligated to do by law or policy. The design criteria and best management practices were incorporated into all action alternatives and prescriptions, and were analyzed as such.

Prescriptions 8 and 10 also call for interplanting of ponderosa pine to increase species diversity. Any planting will be expensive, so it cannot likely be done over more than a few small areas (1,2,3).

Interplanting will be done on a limited basis, approximately 50 trees per acre.

WILDLIFE

COMMENT: MANAGEMENT INDICATOR SPECIES

The Forest Service must gather local population and trend data for MIS (1, 2, 3).

RESPONSE:

The Breeding Bird Survey (BBS) does incorporate local population data in the overall state and regional trend estimates. There are 9 BBS routes on the Pike and San Isabel National Forests (PSI) and an additional 8 routes within 10 miles of the PSI. Each BBS route is approximately 29 miles long with 256 miles of routes occurring on the PSI and an additional 221 miles of routes that start within 10 miles of the PSI.

Additionally, the Rocky Mountain Bird Observatory (RMBO) with funding and logistical support from the Colorado Division of Wildlife, U.S. Bureau of Land Management, and the U.S.D.A. Forest Service, started conducting a statewide, long term bird-monitoring project known as *Monitoring Colorado's Birds* (MCB) in 2000. The project has two main components 1) a program of 30 point transects in each of Colorado's main habitats and 2) a program of censusing directly those species (termed "special species") whose ranges, behaviors, and/or ecologies cause them to be under-represented on the transects.

These surveys have been conducted annually and the RMBO is currently compiling the data. There are approximately 32 transects on the PSI which sample the following habitat types: Aspen, Alpine

Tundra, high-elevation riparian, mixed conifer, Montane shrubland, ponderosa pine, and spruce-fir. There are nearly 30 additional transects within 10 miles with the aforementioned habitats plus Pinon-juniper, sage shrublands, semi-desert shrub lands, and wetlands. There efforts currently underway will provide excellent population information in the near future.

Marten

Marten habitat consists of mid- and late-successional spruce-fir and cool-moist mixed-conifer habitats (habitat structural stages 4a, 4b, 4c, and 5). Given the amount of suitable habitat available, population trend survey information, the fact the marten hunting is no longer occurring, the shift in timber harvest treatments from even-aged to uneven-aged management, little influence from fire activity, and the currently low influence of livestock grazing (on the district), marten population trends are stable or possibly upward. What is considered marten habitat would not be altered to an unusable state by the box creek project. Additionally, the treatment areas should not be considered quality habitat because of the xeric nature of the area.

Due to large home ranges and general curiosity, martens are highly susceptible to trapping ([Buskirk and Ruggiero 1994](#)). In the western u.s., the effects of trapping are probably local and temporary. In areas where habitat is poor and population size small, however, trapping may contribute or hasten local extinctions (*ibid.*). Trapping of marten as a furbearer has been

illegal in Colorado since 1996. It is unknown if populations continue to be affected by past trapping.

The marten has no federal status. It is classified as a “sensitive species” in regions 2 and 5 of the USDA Forest service. It has been designated a management indicator species (MIS) on many national forests throughout regions 1–6 ([Buskirk and Ruggerio 1994](#)). Martens may not be taken in four western states: New Mexico, Nevada, South Dakota, and California (ibid.). It is formally listed as “a species of special concern” in Utah ([Utah Division of Wildlife 1997](#)) but is still allowed to be trapped within the state with a trapping permit ([Utah Division of Wildlife Resources 2002](#)). The marten is designated threatened in New Mexico ([New Mexico Dept. of Game and Fish 1990](#)). The New Mexico natural heritage program ranks this species as s2 (imperiled) in that state ([NMNHP 1997](#)). The state of Colorado has given no special status to marten. The Colorado natural heritage program (CHNP) does not rank this species.

The Action alternatives would not improve habitat for late successional species as claimed; a fact a reduction in habitat would result (1, 2, 3).

RESPONSE:

The Box Creek action alternatives would not reduce old growth of any vegetation type. Tables 3.2 and 3-10 do not add up exactly, but are close approximations of what would happen should all prescriptions of action alternatives be implemented. The apparent change of old growth (5) to an early successional stage (1) in spruce fir resulted assuming Rx 19 would occur. This Rx was originally intended to be a prescribed burn, but has since been changed to proposed fire use—meaning if a fire use plan is approved and developed, then a fire start in this area would be allowed to burn under predefined conditions. Should this area burn some tree mortality could occur and is reflected in the tables as old growth being transformed into an early successional stage.

COMMENT: HABITAT CAPABILITY

The approved project does not comply with several Forest Plan Standards (1,2,3)

RESPONSE:

Habitat potential varies with vegetation structure and composition and can never be 100% for all species due to different habitat requirements for each species. The current habitat capabilities under the no action alternative are also considered potential habitat capability for this area since no major vegetation changes would be expected with this alternative in the foreseeable future. The current habitat capability for marten, red-naped sapsucker and three-toed woodpecker are 0.18, 0.28 and 0.20 respectively for all Management Areas within the project area (1.0 is optimal habitat). Action alternatives would maintain habitat capability at least 0.14 (78%), 0.26 (93%), and 0.15 (75%) for marten, red-naped sapsucker and three-toed woodpecker respectively following implementation of all treatments—well above the 40% standards and guidelines in the Forest Plan p.III-32.

HABCAP numbers are an index of habitat values currently and immediately following treatment. Despite HABCAP showing immediate decreases for marten, red-naped sapsucker and three-toed woodpecker, actual changes in these species occurring on the ground would

not be expected because of poor habitat to start with. Marten are associated with mesic sites containing larger diameter trees—Box Creek treatment areas do not contain this habitat type. Treatment areas are primarily dry lodgepole pine stands with very little diversity. Treatments would be expected to increase flora and fauna diversity, increase snags and coarse woody debris, increase herbaceous vegetation and increase small mammal species which marten forage upon. It is doubtful marten would ever use this area extensively in its current condition.

Red-naped sapsuckers and three-toed woodpeckers are similar to martens in that the Box Creek treatment areas do not contain quality habitat. Noticeable differences in these species abundance in the area following treatment would not be expected because of the current vegetation types in the area.

The Project would violate the requirement for hiding cover for deer and elk (1, 2, 3)

The project would cause a violation of the Forest Plan's requirement for thermal cover for deer and elk (1,2, 3)

RESPONSE:

Table 3.9 on p.68 of the EA clearly states that figures in the table only reflect timbered cover with more than 30% canopy closure. The narrative beneath the table clearly displays the rationale for meeting cover standards. Following is the narrative accompanying Table 3.9 (EA, pg 68):

The LRMP FEIS defines hiding cover as “Vegetation capable of hiding 90 percent of a standing adult deer or elk from the view of a human at a distance equal to or less than 200 feet”. Timbered vegetation contributing to hiding cover has generally been interpreted as pole/sapling, mature and old growth stands with greater than 30% canopy closure. This does not account for hiding cover provided by understory species, topography, or a combination of topography and vegetation.

Thermal cover is defined as “Cover used by animals for protection against effects of weather”. In the past this has been interpreted as pole/sapling, mature and old growth stands with greater than 70% canopy closure.

Cover calculations for all alternatives in Table 3.9 only reflect Timbered Cover in the size and age classes described above. Quantitative measurements for estimating the value of topography and understory vegetation for hiding cover is not feasible. Cover requirements for deer and elk survival would be met following implementation of action alternatives, indicated by increased habitat effectiveness and habitat capability in Table 3.8. Additionally, recent literature ([Cook et al. 1998](#)) indicates that what is traditionally considered thermal cover (including the above timbered definition) can in fact have a negative energetic effect.

Based on the fact that 1) there is no direction for quantitatively evaluating thermal and hiding cover, 2) recent scientific literature brings into question what has traditionally been considered thermal cover, and 3) deer and elk habitat effectiveness and capability would be improved following implementation of action alternatives,

forest plan cover standards would be met following implementation of action alternatives.

Additionally, regeneration in treatment areas would contribute to even greater hiding cover a few years following treatment.

The project would violate the requirement for retention of old growth (1,2,3).

RESPONSE:

No old growth would be treated under any alternative. See response for Charts on 3.2 and 3-10 for additional spruce-fir clarification. Structural stage 4 is classified as mature trees with A, B and C representing <30%, 30-70%, and >70% canopy closure respectively. Current conditions show 393 acres of old growth and 1,092 acres of mature structural stages in the project area. Action alternatives would retain all old growth (despite showing 384 acres in table 3-10) and all mature stands (tables 3.2 and 3-10 are estimates and do not add up exactly, but are close approximations of what would happen should all prescriptions in action alternatives be implemented). It is incorrect to assume that structural stage 4C is closest to becoming old growth. All mature stands (4A, 4B and 4C) could become old growth and opening the canopy (mechanically, prescribed burning, insect, wind event, etc.) would increase the rate at which mature stands have characteristics of old growth stands. The remaining trees would also have an increased growth rate. By retaining all current old growth and providing for future old growth the Forest Plan old growth standards are being met.

Inapplicable research is cited in describing the habitat trend for deer and elk (1,2,3).

RESPONSE:

The Kaufman et al. research cited on p. 36 of the EA could not be any more pertinent in the context within which it was used—habitat trends at the Pike and San Isabel Forest (PSI) scale. No direct connection with the Box Creek area was made, rather this section describes a broader picture for habitat trend for the PSI as a whole.

The action alternatives would not benefit the Boreal toad. (1,2,3)

RESPONSE:

Potential boreal toad habitat exists within the project area and if toads inhabit the area then action alternatives would increase the amount of coarse woody debris (EA, pg. 72) and overwintering sites. Overwintering sites must not be within the frostline for survival. Slash piles would provide direct or indirect (small mammal burrows) potential overwintering habitat for boreal toads (EA, pg. 77).

Security cover is the limiting factor because this is the most heavily hunted habitat in GMU 48. (5)

RESPONSE:

Personal communication with Jack Vayhinger, CDOW area wildlife manager, indicated that creating additional openings for deer and elk foraging habitat would be beneficial. In

addition to creating foraging habitat, cover would be maintained per Forest Plan standards and would increase as regeneration occurs. Most of the prescriptions are not regeneration or clearcuts and a substantial amount of roads would be closed and rehabilitated as part of the project. Road closures actually increase elk habitat effectiveness and security and is incorporated into the HABCAP indices.

The EA suggests that timber clearing is more favorable to snowshoe hares and therefore beneficial to Canada lynx. (5)

RESPONSE:

The Box Creek project area currently contains relatively little habitat in the early successional stage. Creating additional snowshoe hare winter foraging habitat would be beneficial to lynx (EA, pg. 39) and follows recommendations in the Lynx Conservation Assessment and Strategy which states: “Timber management practices should be designed to maintain or enhance habitat for snowshoe hare and alternate prey such as red squirrel. Dense horizontal cover of conifers, just above the snow level in winter, is critical for snowshoe hare habitat. This structure may occur either in regenerating seedling/sapling stands, or as an understory layer in older stands.”

There is no map showing vegetation types or structural stages for wildlife (1,2,3,4).

RESPONSE:

This has been added to the revised EA – see map 8.

NEPA

COMMENT: ENVIRONMENTAL IMPACT STATEMENT

The Forest Service must prepare an Environmental Impact Statement (EIS) for this proposed project (1, 2, 3).

RESPONSE:

The Forest Service has considered doing an Environmental Impact Statement (EIS) as required under the Council on Environmental Quality (CEQ) regulations for implementing the National Environmental Policy Act (NEPA). CEQ created the Environmental Assessment (EA) to provide sufficient evidence and analysis for determining whether to prepare an EIS or a finding of no significant impact (FONSI). The Ranger is the responsible official for making the decision on this project. A Finding of No Significant Impact and Decision Notice and appropriate rationale are required if an EIS is not necessary.

The Forest Service prepared an EA for this project because the initial scoping and analysis did not raise any significant issues with the proposed action. Scoping for this EA was designed to ensure a full range of public issues, opportunities, and concerns were identified and considered during development of the proposed action and EA (EA, pgs. 8-9). The Forest Service does not believe that preparing an EIS only because a public group has requested it is in keeping with NEPA policy. Agencies are required to the fullest extent possible “to make the NEPA process

more useful to decision makers and the public, to reduce paperwork and the accumulation of extraneous background data, and to emphasize real environmental issues and alternatives” (40 CFR § 1500.2(b)).

The EA is also consistent with the Land and Resource Management Plan and FEIS that already evaluated vegetation management effects, including the effects of timber harvest on the project area environment. As discussed in the response above, this project tiered off the Land and Resource Management Plan FEIS ([USDA Forest Service 1984](#)).

COMMENT: SCOPING

Relationship of this Box Creek project to 5 other adjacent, similar projects, on of which (the Ten Ark project) is already in the planning stages. This is a failure of the public involvement process dictated by NEPA (8).

Honestly listening to the experienced and informed public as required by NEPA (8).

RESPONSE:

Scoping for this EA was designed to ensure a full range of public issues, opportunities, and concerns were identified and considered during development of the proposed action and EA (see EA pgs. 8-9). The Forest Service mailed over 75 letters to the public in February, 2000, that included a description of

the proposed action, a map delineating the proposed area and a request for input on the project. A second mailing of 748 letters occurred on October 30, 2000. The EA (pg. 8) describes the public involvement process, and along with documents in the Project Record, show that relevant information was provided to the public and decision-makers early in and throughout the process. A total of 13 comment letters were received from both mailings. All comments were considered in the development of issues and the alternatives.

COMMENT: LACK OF INFORMATION

The EA does not provide a map of vegetation types or stand structural stages, either historically, currently, or in the desired future condition (4)

It presents no evaluation of the distribution of wildlife habitat or the effects of roads (4).

According to the EA (p. 16), the project targets “vegetation polygons with the greatest departure from HRV,” but no map supports the assertion (4).

Similarly, the EA (p. 26) asserts that “[s]pruce-fir stands lack the historical mosaic of mature trees intermingled with openings of young trees, aspen, and shrub,” and (on page 27) “decay in standing lodgepole pine in the watershed is extremely rare,” but it provides no support (4).

Also, the EA fails to provide basic information on stand structure before and after treatment, current growth trajectories, or anticipated responses to treatment that should be expected in any evaluation of thinning or restoration (4).

RESPONSE:

Maps of vegetation types and structural stages are now included in the EA (Maps 8 and 9).

Page 40 of the EA, discusses the effects of roads on lynx stating “Proposed Project road reclamation will result in no net increase in groomed or designated over-the-snow routes and play areas and open motorized routes will be reduced below the 2 miles per square mile density suggested in the Lynx Conservation Assessment Strategy (LCAS) used for prioritization of seasonal closures or restrictions. Because this action does not convert currently non-system roads into federal system roads, and there will be an overall reduction in open motorized route miles in potential lynx habitat by 68% (summer) and 85% (winter), there will be a beneficial effect to this species. The EA also further analysis the effects of roads on wildlife in Chapter 3, pgs. 60-72).

The alternative maps show the polygons with the greatest departure from HRV.

The spruce-fir stands lacking historical mosaic of mature trees and decay in lodgepole has been observed the collection of stand exam information. Also, the EA, pg 27 provides the support that decay is rare – 1) the lodgepole is less than 120 years old and 2) fire has not been active on the landscape during the lives of the trees. This is shown through stand exam data located in the project record.

Tables 2-7 and 2-8 (EA, pg. 21-22) displays the predicted changes in structural stages and Table 2-9 (EA, pg. 21) shows the estimated difference in acres from untreated to treated by structural stage. In addition, below the table there is description of the anticipated responses to the vegetation. The EA also explains the effects of the alternatives in Chapter 3 (pgs. 42-83)

COMMENT: ALTERNATIVES (RANGE)

The EA does not analyze a sufficient range of alternatives (1,2,3,4)

All three proposed action alternatives would treat the exact amount of acreage; only the treatment methods differ. (1,2,3)

Mechanically treated acreage of both is exactly 3096 acres? (5)

RESPONSE:

The Council of Environmental Quality (CEQ) in the 1981 “Forty Most Asked Questions Concerning CEQ’s National Environmental Policy Act Regulations”, says when there is a large number of alternatives, only a reasonable number, covering the full spectrum of alternatives, must be analyzed and compared. What constitutes a reasonable range of alternatives depends on the nature of the proposal and the facts in each case.

In addition, alternatives to the proposed action are developed on the results of scoping and the determination of issues to be analyzed in detail (Forest Service Handbook (FSH 1909.15, 14)). Alternatives must meet the purpose and need of the proposed action (FSH 1909.15, 14.2).

The use of prescribed fire methods was specific to the re-establishment of vegetation structure and composition. Examples include broadcast burning of live and/or dead vegetation (grass,

shrubs, trees) to bring about changes in spatial distribution of structure and composition. Activity fuel treatments are specific to reduction of fuel loadings created by harvest and/or non-harvest methods. Treatment of activity fuels, slash burning of dead vegetation such as scattered or piled tree branches or stems, is included as post harvest or non-harvest treatment. Prescribed fire methods would create a variety of effects while continuing to meet the project purpose and need. Variation may include acres treated, season of treatment, type of wildlife habitat created such as standing blackened trees for woodpecker foraging, sanitation of dwarf mistletoe target stands, maintenance of openings such as big game winter range, modification of pine encroachment in shrub-forest transition zones, rejuvenation of decadent aspen stands, site preparation for conifer establishment, nutrient recycling and hazard fuel reduction in harvested stands and high risk urban interface zones.

Harvest methods included the felling and removal of live and/or dead conifer and/or deciduous tree species. Post harvest treatment may include burning of excess branch and or stem debris to encourage seedling establishment. Products removed can be sold commercially and/or as part of the public fuel-wood program. This component may also be varied to create a suitable array of effects while continuing to meet the project purpose and need. Variation may include volume offered per sale, size of material offered, species harvested, duration of sale activity, and season of activity.

Non-harvest methods included felling in-place without removal or sale of products. Post harvest treatments may include burning of excess fuels, prevent disease outbreaks, and encourage establishment of seedlings. Harvest techniques can include small service contracts or force account crews that may utilize a full array of mechanical and non-mechanical equipment similar to harvest methods (chain saws, horses, and automated bunch-fellers). Product includes all size classes and species.

Non-harvest methods are useful with limitations. This component will be varied and combined with other treatment methods to create a suitable range of effects while continuing to meet the project purpose and need. Variation may include treatment of priority target stands such as dwarf mistletoe or densely stocked stagnated stands, selection of stands where retention of downed logs may improve denning habitat for the Canada lynx or security habitat for other species, and selection of stands where increased fuel loadings will enhance prescribed fire effectiveness.

The maximum duration was considered as 10 years in order to maintain project continuity. Time periods less than 5 years did not appear feasible due to planning and implementation logistics and amount of acreages involved accomplishing burning, harvest or non-harvest methods. Time periods that varied between 5 to 10 years would not maintain project continuity, nor meet the purpose and need because of the implementation logistics and implementation of the project itself.

For this project, all action alternatives were equal in acres to be treated, but varied according to mix of selected treatment methods for each alternative. Below is a table comparing the timber management and mix surface and stand replacement fire acres to be treated by each action alternative.

	Alternative B	Alternative C	Alternative D
Timber Management	3,096	3,689	1,042
Mixed Surface and Stand Replacement Fire	2,351	1,758	4,405

Each alternative meets the purpose and need by varying the treatment methods to reach the same goals. We realize the total number of acres for each action alternative is the same. The number of acres with the mixture of tools was determined by the IDT to best achieve desired conditions and meet the purpose and need within the given time frame. The District Ranger has the opportunity to select fewer acres in the decision document. If fewer acres are selected, the project would not meet the purpose and need within the needed time frame. The timber management portion (or mechanical) of the alternatives are not the same number of acres, as shown by the above table. The percentage of 37 is incorrect; it should be 49.86 percent of the Forest Service acres as pointed out by the commentors.

COMMENT: CUMULATIVE EFFECTS

The relationship of this Box Creek project to five other adjacent, similar projects, one of which (the TenArk project) is already in the planning stage as announced in the USFS "Schedule of Proposed Activities". This is a failure of the public involvement process dictated by the National Environmental Policy Act.

RESPONSE:

The EA includes a cumulative effects analysis developed in accordance with NEPA regulations. Cumulative effects are defined under CEQ Regulations, 40 CFR 1508.7 Cumulative Impact: "Cumulative impact is the impact on the environment that results from the incremental increase 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 them".

The past, present and reasonably foreseeable future projects that may contribute to cumulative effects are listed in the EA (pg 22).

Currently, the Ten Ark area is undergoing a landscape analysis in which projects may or may not be identified for the watershed. At this time, no projects have been identified. The Forest Service has no additional projects currently identified for implementation or currently ongoing in the project area, except what is listed on page 22 of the EA. The five other adjacent watershed analysis areas are what the District is looking at for its long range plans over the next 25 years or so. The agency has an obligation to evaluate reasonably foreseeable actions but is not obligated to evaluate speculate endeavors or actions.

OUTSDIE THE SCOPE OF THE DOCUMENT

That too-wide conduit right of way (EA, pgs. C-3 and C-4) was the result of the USFS decision to fully exploit an excessive Burec right of way clearing budget. (5, 6)

USFS revegetation mitigation of this too wide clearing failed miserably. (5)

RESPONSE:

These actions were completed numerous years ago and not within the scope of this project.

TRAVEL MANAGEMENT

Can proposed road closures be enforced? (1,2,3)

The EA states that “use of gates, barriers and road rehabilitation are proven effective measures for road closures” (EA, pg. 63). Where is the evidence of this? (1,2,3)

These are not “user-created” these are USFS-created problems (EA, pgs. C-3 and C-4) (5)

The Forest Service has used gates, barriers and road rehabilitation for other road closures across the Pike and San Isabel Forest with success. We realize we may have some low level trespass problems until we can completely obliterate the roads. We are closing roads to reduce the road densities in the area. Through public education and law enforcement, we hope to reduce trespass problems. We will monitor the strategy of road closure methods post-project. If current methods of road closures and obliteration are not effective, additional actions will be taken such as increase in law enforcement and Forest Closure Orders. We have declared road closed, then law enforcement can issue violation notices.

Regardless of why the roads were created, either from past projects or illegal off road use; they are still considered “user-created” or “non-system” and are not a part of the Forest Service road system.

ECONOMICS

Little to no information is provided discussing the inputs used (and those eliminated from consideration) in the Quicksilver Economic Model (1, 2, 3)

Nor is there any discussion of the methods by which values were determined (1, 2, and 3).

The apparent use of non-market resource benefits erroneously presume that the project is in high departure from historic vegetative conditions (1, 2, 3).

The economic analysis of the EA, pg. 85, completely neglects the property value impacts pointed out by my appeal (8).

Can the FS ensure that sufficient money and personnel will be available to perform this work? (1,2,3)

Prescriptions 8 and 10 also call for interplanting of ponderosa pine to increase species diversity. Any planting will be expensive, so it cannot likely be done over more than a few small areas (1, 2, and 3).

RESPONSE:

Inputs used in the Quicksilver Economic Model include: values for big game hunting and non-consumptive wildlife was the 1990 RPA value adjusted to 2000; fiscal year 1998 TPSIRS 3 year average was used for brush disposal, harvest administration, sale preparation, and appropriated reforestation. Road obliteration, gate installation, prescribed fire and fuel treatment was based on previous District projects costs.

Values were determined by using local timber costs.

The apparent use of non-market resource benefits erroneously presume that the project is in high departure from historic vegetative conditions (1, 2, 3).

Non-market values were used because the purpose of this project is not to harvest timber. As stated in the revised purpose and need is to move towards reducing FRCC; reduce dwarf mistletoe infestations; decommission (obliterate) unneeded roads and those causing erosion, water degradation and/or habitat degradation; and improve habitat effectiveness and capability for selected wildlife species; improve big-game forage and security habitat.

This project will change in environmental amenities, but will not be an adverse change. The project will provide positive environmental amenities such as improved water quality and enhanced wildlife habitat. Chapter 3 of the EA addresses the effects to the resources by alternative. There are many things that may affect property values; however, this project was not designed to protect homes and their values. The Forest Service is willing to work with local landowners to mitigate property concerns.

This project is one of the top 5 for the district to complete. Money and personnel will be available unless budget direction is otherwise.

Interplanting will be done on a limited basis, approximately 50 trees per acre. This cost was addressed in reforestation costs.

DEFENSIBLE SPACE

Before commencing thinning in areas #11 and #23, Forest Service should conclusively establish that the Pan Ark residents fully approve. (4, 5)

RESPONSE:

One of the prescriptions (#23) addresses defensible fuels zone where treatments are focused on the reduction of fuels to modify fire behavior. Previous treatments in the area has yielded good results in meeting planned objectives; has developed a good working relationship with the community; and is building community consensus for these types of actions. The residences of PanArk subdivision have been notified of the fuels reduction project through scoping and public meetings for the Box Creek projects. They support implementing a fuel break adjacent to the PanArk Subdivision.

REFERENCES TO LITERATURE (OTHER CITATIONS ARE REFERENCED IN THE EA)

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