

United States  
Department  
of Agriculture



Forest  
Service

Bitterroot  
National  
Forest

December  
2001

# Bitterroot National Forest

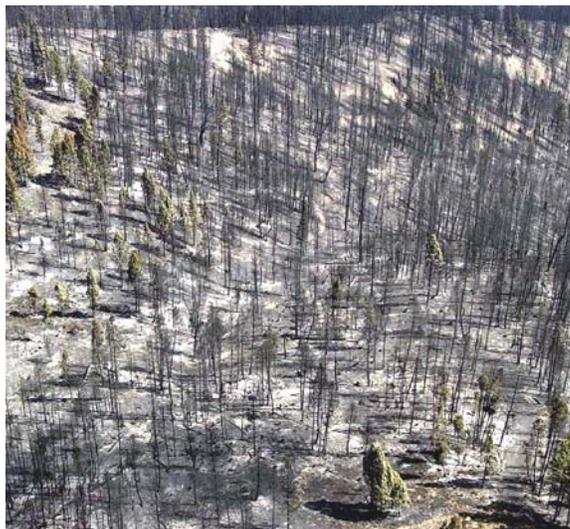
*Burned Area Recovery Record of Decision*



**Reduce Fuels**



**Improve Watershed Conditions**



**Reforest Burned Lands**

## **BURNED AREA RECOVERY, BITTERROOT NATIONAL FOREST**

### **DECISION RECOMMENDATION**

As Forest Supervisor on the Bitterroot National Forest, I recommend the activities described in Alternative F-Modified for Burned Area Recovery on the Bitterroot National Forest. I reached this recommendation after careful consideration of the analysis documented in the Environmental Impact Statement, and comments from the public and local, state and tribal governments, and consultation with regulatory agencies.

Over the last year and a half the Bitterroot National Forest, in close consultation with local communities, other state and federal agencies, organizations, public groups and individuals, has worked tirelessly to recover and rehabilitate the burned area. As part of these efforts, the Forest prepared an Environmental Impact Statement evaluating proposed fuel reduction, watershed improvement, and reforestation activities to take place over the next several years on approximately 15 percent of the burned area.

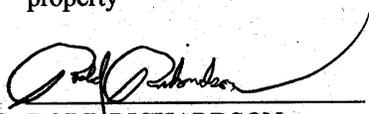
Alternative F-Modified would decommission or place in storage over 150 miles of road, treat over 500 miles of road damaged by fires to eliminate sediment sources, undertake restoration work in 16 miles of stream, plant streamside burned areas, and reduce hazardous fuels on nearly 44,000 acres through at least 25 fuel reduction projects. These projects will include multiple management tools and activities such as service contracts, pilot stewardship authorities, timber sale contracts and prescribed burning. In those cases where timber sales are used, our desire is to capture economic value to help offset the cost of needed restoration activities in the project area.

The numerous management requirements, mitigation measures, and monitoring procedures will ensure protection of soils, watershed conditions, and wildlife habitat. The goal of this project is to expeditiously recover areas adversely affected by the fires of 2000 for the long run.

The Bitterroot National Forest worked extensively with the public and other agencies in its efforts leading to this decision. Public involvement opportunities included numerous public meetings and field trips, as well as various notices and letters sent to an extensive mailing list. Based on requests from some members of the public, the DEIS comment period was extended to provide a 60-day review and comment period. A 30-day period was also provided after the Final Environmental Impact Statement was released. The public and potentially affected interests have been provided with numerous opportunities to participate in the planning process for the Burned Area Recovery Project. The Bitterroot National Forest consulted with the Environmental Protection Agency, the U.S. Fish and Wildlife Service, the Montana Department of Environmental Quality, and the Governor of Montana. In summary, they have expressed support for the proposed actions and the preferred alternative. Alternative F-modified fully complies with all laws and regulations applicable to the National Forests.

I recommend the need for action, based on both my professional judgment and personal knowledge, on the Bitterroot National Forest in the context of the extraordinary 2000 fire season. I believe Alternative F-Modified is a sound decision, based upon extensive public involvement and collaboration with local governments, Tribes, and Federal and state agencies; and that it is important to move forward with implementation of the action. We are concerned not only with the protection of multiple resources on the National Forest, but also with impacts to the citizens who enjoy these lands. Implementation of Alternative F-Modified will ensure that restoration and risk reduction activities are implemented as soon as possible to alleviate resource impacts caused by the 2000 fire season.

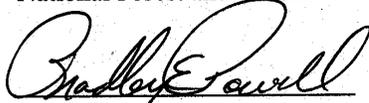
I believe that proceeding with the project is in the best interest of the public, the agency and the resources that we are charged with managing. I believe this to be a balanced management approach that will help recover the burned area and reduce unacceptable risks to the Bitterroot National Forest natural resources, public safety and private property



RODD RICHARDSON  
Forest Supervisor  
Bitterroot National Forest

12/7/01  
Date

I have reviewed the analysis and Forest Supervisor Richardson's recommendation to implement Alternative F-modified of the Burned Area Recovery on the Bitterroot National Forest and concur.



BRADLEY E. POWELL  
Regional Forester  
Northern Region

12/7/01  
Date

I have reviewed the analysis and Forest Supervisor Richardson's recommendation to implement Alternative F-modified of the Burned Area Recovery on the Bitterroot National Forest and concur.



DALE N. BOSWORTH  
Chief  
Forest Service

12/10/01  
Date

• **RECORD OF DECISION**

**BURNED AREA RECOVERY**

**Bitterroot National Forest**

**Sula, Darby, West fork and Stevensville Ranger Districts  
Ravalli County, Montana**

**December 2001**

Lead Agency: USDA Forest Service

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## Record of Decision

This Record of Decision documents my decision to implement Alternative F-Modified for Burned Area Recovery on the Bitterroot National Forest. Alternative F-Modified reflects changes to Alternative F considered in the Burned Area Recovery Final Environmental Impact Statement (FEIS). I reached this decision after careful consideration of all the alternatives analyzed in the FEIS and comments from the public, local governments and other agencies. This document describes my choices and the reasons for my decision.

### *The Fires of 2000*

Fires have been a recurring and defining element of the Bitterroot forest ecosystem over many millennia. However, never before in recorded history has the Bitterroot experienced wildfires as large and intense as the fires of the summer of 2000.

Within a three-month period during the summer of 2000, wildland fires burned 356,000 acres in the Bitterroot Valley and surrounding area of southwestern Montana and central Idaho. Of the 307,000 acres of National Forest System lands burned, the Bitterroot National Forest saw 20% of the Forest engulfed in flames. For more information, see the *Bitterroot Fires 2000 An Overview of the Events, Effects on People and Resources, and Post-Fire Recovery Priorities* (Project File (PF) Doc. NFMA-NEPA-1).

Also burned were 14,000 acres of State land, and 35,000 acres under private ownership. By the time the worst was over, a total of 70 homes, 170 other buildings, and 95 vehicles were destroyed, and nearly a fourth of Bitterroot valley residents were either evacuated or prepared to evacuate their residences.

Conditions during the summer were hot and dry and came on the heels of a long drought cycle. Almost half the area burned at a moderate or high severity level, killing many of the trees and other vegetation in several large watersheds and many smaller tributary drainages. Other areas burned at a lower severity and were not as severely impacted.

**Figure 1 – Fire burning across the Skalkaho Highway southeast of Hamilton**



Of the more than 85,000 acres experiencing high severity fires, most of the forest canopy and soil organic layers were removed resulting in increased run-off, erosion rates and stream water temperatures.

A large portion of the forest remained closed throughout the summer for safety reasons. Combined with the prolonged smoke filled air, impacts on people were severe. Hunters were unable to access favorite hunting areas, many people felt confined, no longer able to go to their favorite hiking, picnic or camping areas, some residents were forced to leave for up to six weeks due to respiratory problems, and people's sense of well being was impacted throughout the region.

The fires continued to burn though the fall months and weren't declared fully contained until the snows fell in November. The fires and their aftermath took a toll on the local economy as well. Tourism fell dramatically, witnessed by local hotel and outfitter/guide trip cancellations and the related decline in retail revenue. From the day-hiker to the backcountry enthusiast, to local residents, to area businesses big and small--all were impacted in one way or another.

### *Emergency Rehabilitation Efforts*

To address watershed and public safety risks that immediately followed the fires, the Forest Service and the Bitterroot Interagency Recovery Team began planning and implementing emergency recovery work. The work focused on stabilizing soils, preventing erosion in areas most severely burned, and preparing for increased stream flows. By the winter of 2000, the Forest completed hill-slope and channel treatments on over 5,000 acres, replaced or removed 310 culverts to handle increased flows, and repaired approximately 15 miles of roads and about 100 miles of trails.

## Local Public Opinion

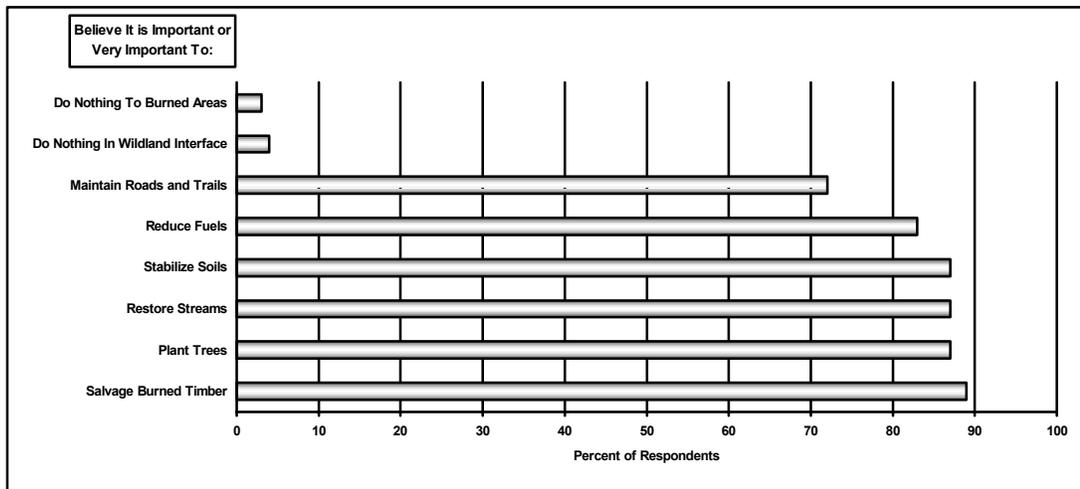
Concurrent with the emergency rehabilitation efforts, the Forest hosted a series of public meetings. The Forest wanted to hear from Ravalli County residents what they should consider as priorities for our post fire recovery efforts.

The highest priority post-fire needs and opportunities identified by a majority of meeting participants were:

- Watershed protection and erosion control
- Communication and public education
- Local economic opportunities
- Salvage logging
- Reforestation
- Weed control.

Following the 2000 fire season, the Forest commissioned a statistically valid public opinion survey to help the Forest better understand how the people of Ravalli County wanted the Bitterroot National Forest (BNF) to be managed, particularly in response to the fires. The University of Montana’s Bureau of Business and Economic Research interviewed by telephone over 1,200 residents of Ravalli County during December of 2000 and January of 2001. Responses to survey questions relevant to the proposed Burn Area Recovery project provide a perspective on public desires that is different from the perspective gained by looking only at public comments on the Draft EIS and as such are valuable to me as a decision maker. Figure 2 reflects the opinions of Ravalli County residents as summarized by the survey.

**Figure 2 – Ravalli County Residents’ Opinions On Post-Fire Forest Management (UM 2001).**



## Burned Area Recovery Project Planning

The framework for determining how manage following the 2000 fires is provided by the federal laws governing the management of the National Forests, and the Land and Resource Management Plan for the Bitterroot National Forest.

The cornerstone of this framework is the Organic Administration Act of 1897, which states the National Forests are established “to improve and protect the forest within the boundaries, or for the purpose of securing favorable conditions of water flows, and to furnish a continuous supply of timber for the use and necessities of the citizens of the United States.” Congress expanded on these purposes in the Multiple-Use Sustained-Yield Act (1960) and the National Forest Management Act (1976), that direct the Forest Service to administer the resources of the National Forests for multiple use and sustained yield of outdoor recreation, range, timber, watershed, wildlife, and fish.

On September 30, 1987, the U.S. Forest Service adopted the Land and Resource Management Plan, or Forest Plan, for the BNF. The Forest Plan provides management direction to assure coordination of the various multiple uses and values of the BNF, consistent with the applicable laws established by Congress.

The Bitterroot Forest Plan establishes Forest-wide multiple-use goals, objectives and standards. It also designates specific areas as suitable for timber production, and individual management areas with specific goals and standards.

The Forest Plan goals most relevant to managing the fire effects include:

- Provide for natural process in ecosystems within designated wilderness. (FP II-2)
- Protect significant cultural sites. (FP II-2)
- Provide habitat to support viable populations of native and desirable non-native wildlife and fish. (FP II-3)
- Maintain habitat for the possible recovery of threatened and endangered species. (FP II-3)
- Maintain riparian flora, fauna, water quality and recreation activities. (FP II-3)
- Provide sawtimber and other wood products to help sustain a viable local economy. (FP II-3)
- Maintain soil productivity, water quality, and water quantity. (FP II-3)
- Maintain forest stands so that pest-caused losses are reduced to acceptable levels. (FP II-4)

The Forest Plan allocates every acre of the BNF into management areas (MA's). The goals of these MA's vary in emphasis from timber management (establishing suitable timberlands), to visual quality retention, to semi-primitive recreation and elk security, to maintaining wilderness characteristics, to optimizing big game forage production.

The Bitterroot Forest Plan provides management direction to assure coordination of the various multiple uses and values of the BNF, consistent with applicable laws established by Congress. The Forest Plan does not authorize nor approve any site-specific actions or activities. With this Record of Decision, I am making a project decision that authorizes recovery activities in portions of the Forest burned by the fires of 2000. In other words, I am making a decision with site-specific actions.

Consistent with the statutory and Forest Plan framework, a team of Bitterroot National Forest resource professionals began evaluating post-fire conditions in October 2000. Their task was to evaluate the magnitude of the fire impacts, predict future effects, and develop both short- and long-term strategies for recovery. They completed this assignment in December of 2000, with publication of a 350-page document titled *Bitterroot Fires 2000: An Assessment of Post-Fire Conditions with Recovery Recommendations* (Bitterroot Fires 2000 Assessment, PF Doc NFMA-NEPA 1).

Recommendations from this document and associated public involvement provided the foundation for the proposed actions for burned area recovery analyzed in the FEIS and this decision.

## ***Purpose And Need***

Information received during extensive public involvement and the findings of the Bitterroot Fires 2000 Assessment were used to develop the purpose and need for action, based on the management goals and objectives of the Forest Plan.

The needs for the proposed actions are derived from the differences between current, post-fire conditions and desired resource conditions. Desired conditions are based on Forest Plan direction and management objectives, as described in FEIS Chapter 1. The proposed action is designed to move resource conditions closer to the desired conditions.

The purposes of these proposed actions, in summary, are to (FEIS page 1-5):

- Reduce fuels in portions of the burned areas
  - Increase firefighter and public safety
  - Reduce heavy fuels in Wildland Urban Interface (WUI) and ponderosa pine forests
  - Help protect reforestation investments in suitable timber lands
  - Break up large contiguous blocks of heavy fuels
- Improve watershed and aquatic conditions in heavily impacted burned drainages
- Restore forested conditions in suitable timberlands.
- Accomplish fuel reduction more cost efficiently by harvesting forest products, and provide jobs and income

## ***Scope***

The scope of the project and my decision are limited to activities prescribed to meet the purpose and need. The project is limited to those lands deemed appropriate for timber production in the Bitterroot Forest Plan (suitable timberlands) outside Wilderness and Inventoried Roadless Areas within drainages that burned during the 2000 fires. As the responsible official for these projects, I am making site-specific decisions. This is not a general management plan for the area as would be provided in a Forest Plan. The decisions I am making do not preclude the potential for future decisions to help meet desired conditions in the project area.

## **The Decision**

### ***Introduction***

After careful consideration of the potential environmental, social and economic impacts of the alternatives analyzed in the Environmental Impact Statement and the comments of the public, local governments, and other agencies, it is my decision to implement Alternative F with modifications (Alternative F – Modified). With this Record of Decision I am authorizing the following activities to be conducted in portions of the Bitterroot National Forest burned by the fires of 2000:

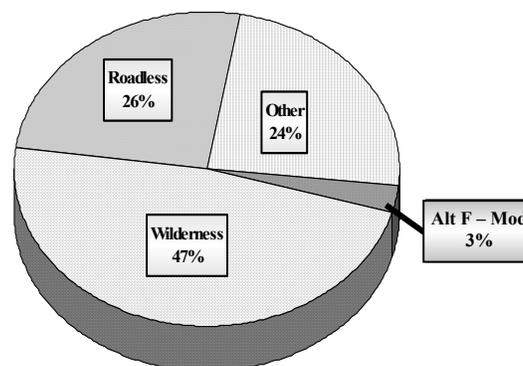
- Fuel reduction activities, including activities within two pre-existing timber sale areas
- Watershed improvement and aquatic habitat enhancement activities
- Reforestation
- Management requirements, mitigation measures, and monitoring
- A site specific amendment to the Bitterroot Forest Plan

I believe the actions in this decision represent a conservative, but balanced fire recovery program for the Bitterroot National Forest. My decision will reduce fuels on approximately 44,000 acres (or 15%) burned by the fires of 2000, improve watershed conditions in key drainages, provide for accelerated recovery of forested conditions in the Forest's suitable timberlands, and provide economic opportunities. In summary, I believe Alternative F, with modifications, does the best job of balancing concerns for future severe fires, improving long term watershed health, providing for Forest user needs and economics, while minimizing short-term impacts to soils, water, wildlife, and other resources.

Figure 3 shows the percents of the BNF allocated to Wilderness, Inventoried Roadless and other management area. Activities will occur on 3% of the BNF, entirely outside Wilderness and Inventoried Roadless Areas.

Appendix A provides a detailed description of Alternative F-Modified, and related maps and tables describing the specific activities.

**Figure 3 – Acres on the Bitterroot National Forest**



### ***Fuel Reduction***

I have decided to implement fuel reduction activities using tools such as stewardship contracting authority (FEIS pg. 3-684), service contracts, timber sales, and/or Forest Service and other crews in the burned area, including approximately:

- 40,805 acres of fuel reduction using harvest and where needed, subsequent manual or prescribed fire treatments
- 2,897 acres of fuel reduction using only manual or prescribed fire methods

My goal is to reduce fuels in appropriate and strategic locations in this project, as defined by Alternative F-Modified. Where the value of products harvested will not cover the expense of the fuel reduction work, this work will be funded subject to the budget allocated to the Forest. Priority for that funding will be allocated as follows:

1. Wildland urban interface
2. Ponderosa pine forests outside of wildland urban interface
3. Other suitable timberlands outside of the above areas.

Fuel reduction objectives will be accomplished in a cost efficient manner that provides for resource protection. Reduced fuel loads will be achieved in part by harvesting a portion of the marketable fire-killed trees. Fire-killed trees will also be retained in harvest units for wildlife snags and coarse woody debris to benefit soil productivity (FEIS pgs. 1-16 and 1-18). Specific provisions for snags and woody debris retention are discussed further in the section "Forest Plan Amendment",

which follows below. Other areas will only have non-harvest fuel reduction methods such as hand piling and prescribed burning conducted in them.

To minimize the potential for additional sediment production, my decision will not construct any permanent roads. My decision limits all fuel reduction activities to Forest Plan Management Areas designated as suitable timberlands.

Three prescriptions will be applied in areas where harvest is proposed to reduce fuels: salvage harvest, salvage/regeneration harvest, and intermediate harvest (FEIS pgs 2-8 and 2-9). Salvage and salvage/regeneration only include the removal of dead and dying trees. Salvage harvesting occurs in low/mixed severity fire areas where after harvest, a stand of live over-story trees will remain. A salvage/regeneration harvest occurs where the fire burned at moderate/high severity, and there are no or very few live trees remaining after the fire. Planting or natural seeding will reforest these stands. My decision also includes thinning stands where a low or mixed severity fire occurred in the wildland-urban interface. This includes removal of some live trees, which I believe is necessary to accomplish the desired conditions stated on page 1-8 and 1-9 of the FEIS. This thinning will be applied as a “thinning from below,” which favors the retention of ponderosa pine and large-diameter trees. Units to be thinned are identified in Appendix A in this document with a treatment prescription called “Intermediate”. Intermediate harvesting is discussed in more detail in the FEIS on page 2-8. With the modification described below, all thinning will occur within the Wildland Urban Interface areas that burned at low or mixed severity.

To increase the cost efficiency of the fuel reduction and increase the area where ground-based and skyline systems will be used, approximately seven miles of temporary roads will be used. These roads will be fully re-contoured and re-vegetated following use for the activities authorized by this decision.

Table 1 summarizes the fuel reduction activities to be implemented. It shows acres treated within the Wildland Urban Interface (WUI, FEIS pgs. 1-8), ponderosa pine forest outside WUI (VRU2, FEIS pg. 1-9), and lands designated as suitable for timber production in the Bitterroot Forest Plan (FEIS pg. 1-11) not included in the other two categories.

**Table 1 – Summary Table of Activities in Alternative F-Modified**

Fuel Reduction Method	WUI	VRU2	Suitable Timberlands	Total
Salvage Harvest	1,040	4,670	1,653	7,363
Salvage/Regen Harvest	8,430	6,804	14,450	29,684
Intermediate Harvest	3,758	0	0	3,758
Manual/Rx Fire	455	993	1,449	2,897

### ***Fuel Reduction Specific to Pre-Existing Timber Sale Areas That Burned***

Two timber sales that were under contract prior to the fires of 2000 were burned; the Bear Timber Sale and the Roan Burke Timber Sale (see Fuel Reduction Map, Skalkaho-Rye Geographic Areas, Appendix A). These timber sale contracts are held by two local small businesses. Under the terms of these contracts, the Forest Service and the timber purchaser can agree to modify the contract to add additional harvesting within the timber sale area due to catastrophic loss from fire. Such changes are subject to environmental review, as required by the National Environmental Policy Act (NEPA), prior to formalizing any contractual changes. My decision will include of fuel reduction that were not in the original contracts (1,027 acres in the Bear Timber Sale and 2,344 acres in the Roan Burke Timber Sale). One 115-acre manual fuel reduction unit is in the Bear Timber Sale; the remaining acres in both sales is fuel reduction through harvest.

### ***Bark Beetle Risks***

My decision includes three components to address bark beetle risks; preventative measures that include thinning of live/green stands, removal of infested trees, and monitoring of populations.

Thinning to address bark beetle susceptibility in moderate/high-risk stands will occur within the wildland urban interface on 1200 acres of low or mixed severity burned areas where there is a moderate or high-risk of Douglas-fir bark beetle mortality. This thinning harvest prescription will be applied to create stand structures and densities to meet desired conditions in the WUI (FEIS pg. 1-8) and to create stands more resilient to beetle attack (FEIS pg. 3-353).

Dead and dying trees within stands determined to be at moderate/high-risk for Douglas-fir bark beetle will also be removed. Emphasis will be placed on harvesting these trees before and during the beetle’s flight season of 2002 in order to reduce these populations and the potential for tree mortality to expand into the unburned areas Forest and private land. I am also including monitoring of beetle populations within the burned area and adjacent unburned areas with particular emphasis around the wildland urban interface for the next several years. (FEIS Appendix C, page 35).

## ***Summary of Modifications to Alternative F***

Alternative F is described in the FEIS on pages 2-18 through 2-21 and in Appendix A of this document. I have decided to modify Alternative F fuel reduction activities in five sensitive watersheds in order to provide increased protection for aquatic resources. The changes apply in the following drainages: Little Sleeping Child Creek, Rye Creek, Robbins Gulch, Medicine Tree Creek, and Laird Creek. Modifications to Alternative F fuel reduction activities in these drainages include:

1. Reducing the amount of harvest by 1,355 acres,
2. Substituting approximately 2,233 acres of ground based harvesting with skyline or helicopter systems,
3. Substituting approximately 1,546 acres of skyline harvesting with helicopter systems,
4. Changing the prescription on 233 acres from intermediate harvest to salvage. With this modification, thinning of live trees will be limited to the Wildland Urban Interface
5. Dropping all fuel reduction treatments within the Medicine Tree Creek drainage, and
6. Reducing one mile of temporary road construction.

Table 2 summarizes the modifications to be applied to Alternative F within the five drainages.

**Table 2 - Fuel Reduction Changes Between Alternative F and the Alternative F-Modified**

Drainage	Fuel reduction activity areas dropped (ac)	Ground based harvest changed to skyline or helicopter (ac)	Skyline harvest changed to helicopter (ac)	Temporary roads dropped (mi)
Little Sleeping Child	0	255	944	0
Rye Creek	0	1393	602	0.57
Robbins Gulch	11	188	0	0.23
Medicine Tree	1344	0	0	0.19
Laird Creek	0	397	0	0

These changes are described in greater detail in Appendix A of this document.

Modifications discussed above reduce the acres treated for fuel reduction and changes the type of logging system used in specific units. The result is fewer treated acres in the Skalkaho-Rye and East Fork Geographic Areas (FEIS pg. 1-1). Other alternatives do less fuel reduction than Alternative F – Modified, so modifying Alternative F is within the range of the alternatives considered in the FEIS. ROD Appendix C provides additional analysis of Alternative F-Modified.

## ***Watershed Improvement and Aquatic Habitat Enhancement Activities***

I have decided to implement watershed improvement and aquatic habitat enhancement activities in the burned area as specified in Alternative F (FEIS pages 2-20 and 2-11 and ROD Appendix A). These activities will help make progress toward Forest Plan goals and desired conditions for watersheds and fisheries (FEIS pages 1-12 and 1-13) by reducing sediment sources from the road system and improving habitat for fish. The activities are:

- 513 miles of road maintenance (sediment stabilization, drainage improvements, graveling, etc). These roads will be improved to meet Best Management Practices standards (FEIS Appendix C)
- 105 miles of roads to be “placed in storage”. These roads will be retained on the Forest’s transportation system for future use. A need for these roads is not anticipated in the foreseeable future. These roads will be put in a self maintaining and stable condition by pulling culverts, decompacting road surfaces, and revegetating road prisms.
- 46 miles of road decommissioning. These roads will be removed from the Forest’s transportation system and recontoured and/or pulling the culverts, decompacting, revegetating and blocking access.
- 16 miles of fish habitat improvement (placing large woody debris in streams where its currently lacking)
- Replacing 37 culverts to allow fish passage
- 4.5 acres of riparian planting in severely burned areas to accelerate riparian forest recovery

All of these activities are described more completely in Appendix A. Table 3 summarizes watershed and aquatic habitat improvement work by Geographic Area (GA).

**Table 3 – Watershed Improvement in Alternative F-Modified**

	<b>Blodgett GA</b>	<b>Skalkaho- Rye GA</b>	<b>East Fork GA</b>	<b>West Fork GA</b>	<b>Total</b>
Maintenance (miles)	9	222	232	50	513
Pull Culverts, Stabilize, Place in Storage (miles)	1	65	36	3	105
Road Decommissioning or Recontouring (miles)	2	24	19	1	46
Improve Fish Habitat (miles)	0	10	5	1	16
Enlarge Culverts (number)	0	14	11	12	37
Plant Trees (riparian) (miles)	1	0	0	3.5	4.5

Detailed tables and maps are provided in Appendix A that describe which roads will be treated and their locations.

## ***Reforestation Burned Lands***

I have decided to plant trees on about 33,150 acres where forested conditions were lost during the fires of 2000. There are no changes to the reforestation activities in the FEIS Alternative F. All planting will be conducted in MAs 1, 2, 3a and 3c, except where noted above (riparian planting, MA3b). Appropriate species and stocking levels to be planted will be specified in prescriptions that will be prepared in the field. Following planting, surveys will be conducted for three to five years to determine and ensure regeneration success.

The remaining areas that burned in 2000 and resulted in loss of forested conditions will be allowed to reforest naturally. On 9,467 acres designated by the Forest Plan as suitable timberlands and where seed sources are present and a desired species mix can be achieved, natural regeneration is planned. Site-specific prescriptions will also be prepared in the field in these areas. Surveys to determine natural regeneration success will be conducted for three to five years. If it is determined through monitoring that natural regeneration is inadequate, these sites may be planted.

## ***Management Requirements, Mitigation Measures and Monitoring***

With this decision I am adopting the management requirements and mitigation measures specified for Alternative F, presented on FEIS pages 2-25 through 2-31. The management requirements and mitigation measures for Alternative F-Modified are also provided in Appendix A of this document as part of the detailed description of the decision.

I want to highlight the critical mitigation measures I consider key in protecting soils and water.

In order to protect soils and aquatic resources, my decision requires all ground based harvesting (tractor skidding) in activity units that burned at moderate or high severity be conducted during the winter when soils can be protected from damage such as compaction and displacement. Based on comments on the FEIS I have decided to clarify winter harvest requirements for ground based equipment used in moderate and high severity burn areas. The goal to protect soils has not changed. Limiting ground-based equipment to 4 inches of frozen ground or 24 inches of settled snow is a guideline to be used during implementation. This guideline, or a combination of frozen soil and settled snow sufficient to meet soil protection objectives, will be applied. In areas burned at low severity, ground based harvest will be allowed when soils are dry and are subject to limiting detrimental disturbance (see list of mitigations located in Appendix A pg. A-8). Areas identified with high erosion hazard will be harvested using a skyline logging system in the winter.

My decision requires wider streamside buffer zones than those prescribed by the Inland Native Fish Strategy Amendment (INFISH, 1995) as shown in Table 4. No fuel reduction activities will occur in streamside buffer zones. This increase in buffer widths is to further reduce the potential for sediment to reach streams.

**Table 4 - Streamside Buffer Widths Prescribed by INFISH and for this decision.**

<b>Class</b>	<b>INFISH</b>	<b>Decision</b>
Perennial, fish bearing	300	300
Perennial, non-fish	150	200
Intermittent – priority watersheds	100	200
Intermittent – non-priority watersheds	50	200
Wetlands < 1 acre in area	100	100
Wetlands > 1 acre in area	150	150

Based on comments from the Montana Department of Fish Wildlife and Parks, I am adding the following mitigation measure to also be applied in this project:

*In VRU-2 low severity, where available retain up to 30 un-thinned ¼ to ½ acre size thickets of sapling/pole-sized Douglas-fir or ponderosa pine per square mile to provide breeding area thickets for Blue Grouse. Thickets should have more than 500 trees per acre, over half between 4 and 8 inches dbh, and most between 20 and 40 years old.*

Additionally, I am adding the following noxious weeds public education features to be implemented on the BNF to address concerns for weed spread in the burned area:

*Provide noxious weed prevention brochures to the public and post signs along Forest Service Roads in burned areas warning users of the increased potential for weed spread in moderate to high severity burn areas.*

The BNF is currently preparing a separate Forest-wide noxious weed management EIS (FEIS pgs. 1-21 and 2-35).

By selecting Alternative F -Modified, I am also adopting the monitoring program specified in Appendix C of the FEIS. I am committed to delivering quality results on the ground, and believe this monitoring plan provides the means to assure and measure those results. As part of the commitment to quality, an interdisciplinary team of resource specialists will be assigned to carry out and oversee monitoring of this project. The plan is designed to complement and build on existing quality control protocols, the approximately sixty-five ongoing research and monitoring studies on the Forest, as well as the many others at the Regional and National levels (PF Doc. Research-4, -5 and -9).

I believe, based on the analysis in the FEIS, the cautious project design combined with the required mitigation and monitoring demonstrates that significant environmental harm will be avoided. The Forest has received comments stating the mitigation is overly protective, overly restrictive, and unnecessary to achieve the stated end results for this project. The Forest will apply the mitigation and monitoring as described above and use the results of monitoring or other research to determine if other feasible measures can be employed to achieve results similar to those predicted in the FEIS. If so, the Forest may adjust the activities or mitigation on this project to achieve those similar results that protect resources. I believe this type of adaptive management will be important to achieve quality results on the ground and furthering knowledge of burned area recovery.

## ***Forest Plan Amendment***

Integral to my decision to implement Alternative F-Modified, I am approving a site-specific amendment to the Forest Plan that modifies or clarifies the:

1. Forest-wide snag retention standard. The new standard specifies trees per acre to be retained for wildlife snags within fuel reduction activity units.
2. Forest-wide elk habitat effectiveness standard in the Laird Creek drainage. This standard allows for the current level of motorized access in this drainage.
3. Forest-wide thermal cover standard in the Skalkaho-Rye Geographic Area. This standard allows for a minor reduction in thermal cover resulting from thinning in the Wildland Urban Interface.
4. The coarse woody debris standards for four Management Areas. This standard specifies trees per acre to be retained for soil productivity and wildlife benefits within fuel reduction activity units.

The approved amendment applies only to this Burned Area Recovery decision and is attached to this Record of Decision in its entirety as Appendix B. Note that wording for two items in the amendment changed slightly to reflect my selection of Alternative F-Modified. As no harvesting will occur within old growth, the corresponding language for snags in old growth was removed. Similarly, because thinning is more limited in the selected alternative, the resulting thermal cover will be four percent in the Skalkaho-Rye area, which is one percent below the existing condition.

## **Reasons for My Decision**

It is my decision to implement Alternative F with modifications that address comments received on the DEIS, FEIS and additional analysis by the interdisciplinary team. I believe Alternative F-Modified best achieves the purpose and need of the proposed project. It promotes accelerated reforestation on portions of the burned area on lands designated by the Forest Plan as suitable for timber production. It reduces the potential for future wildland fires of undesirable size, intensity and severity. It also effectively rehabilitates sources of sediment and otherwise promotes watershed recovery. The numerous management requirements, mitigation measures, and monitoring activities ensure that Alternative F-Modified will achieve these multiple use objectives in a conservative and environmentally sensitive manner. I base this conclusion in part upon the comments of other agencies who have concluded that this alternative complies with applicable

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environmental protection laws and regulations. In summary, Alternative F-Modified achieves the purpose and need and the multiple-use objectives of the Forest Plan better than any of the other alternatives.

The Federal laws directing the management of National Forests guided my decision. The Multiple-Use Sustained-Yield Act and the National Forest Management Act direct the Forest Service to administer the resources of the National Forests for multiple use and sustained yield of outdoor recreation, range, timber, watershed, wildlife and fish. The Multiple-Use Sustained-Yield Act defines multiple use as including the “harmonious and coordinated management of the various resources, each with the other, without impairment of the productivity of the land...” Following the direction of these statutes, my decision strives to harmonize and coordinate the management of fuels, timber, recreation, range, watershed, wildlife and fish.

In my deliberations leading to this decision, I have carefully considered the alternatives presented in the FEIS and the potential environmental, social, and economic effects of the alternatives. I have also seriously considered the many suggestions and concerns that the public, other agencies, and elected officials provided in comments on this project.

It is my desire and obligation to manage the Bitterroot National Forest in a way that conserves its priceless resources for future generations. My challenge in making this decision is how to best integrate Forest Plan goals and objectives, recovery needs in light of the conditions created by the fires of 2000, while assuring the long term health and productivity of soils, watersheds, wildlife habitat, and other resource values. My focus in this decision is to find the best possible strategy to manage risks posed by the heavy fuel accumulations that will result from the fires of 2000, provide sustainable patterns of forest succession and fire disturbance, maintain soil productivity, restore or maintain properly functioning watersheds, promote healthy fish populations, satisfy public needs for wood products, and contribute to a healthy and diverse local economy. I have also strived to build upon the positive spirit of cooperation and community that the people of the Bitterroot Valley developed through their shared experiences during the fires of 2000.

## ***Fuel Reduction***

My decision to reduce fuels focuses on managing risk (as guided by the Forest Plan). These risks include minimizing the chance that small fires will escape initial attack and become large conflagrations that threaten firefighter safety, communities, and resources in areas where such disturbance is not compatible with current goals and objectives. I have control over only one factor affecting risk: fuel loads. My decision to reduce fuels in specific areas is proactive management to lessen risk (FEIS pages 3-15,16). It is true that removing large-diameter fuels will tend to increase small woody fuels in the short term, but fine fuels pose less resistance to control and lower fire intensities (FEIS 3-5, 3-6).

Fire and its effects have heavily influenced the Bitterroot National Forest vegetation and landforms for millennia (FEIS pgs. 3-1; 3-9; 3-; 3-16 thru 21). Fires and secondary fire events (i.e. overland erosion, rilling, gulling, and debris torrents) can have harmful effects on the land if they impact valuable natural resources or improvements that society values (i.e. fish, plantations, timber, water, roads, houses, power lines, etc.). My decision to reduce fuels in the burned area focuses on concerns for future fires where human values are emphasized; the wildland urban interface and areas established by the Forest Plan as suitable timberlands. My decision is consistent with Forest Plan (FP) direction for suitable timberlands to treat fuels to minimize fire danger and secure establishment and protection of new stands (FP pg. III-7, 13, 20, 28, 34).

The effects of the fires of 2000 on the people of the Bitterroot and western Montana have heavily influenced my decision. I want to minimize future effects of fires on people in the Bitterroot Valley and surrounding areas. I believe the public would not tolerate smoke from fuel reduction through the use of only prescribed fire. At the same time I want to do what I can to increase our ability to use prescribed fire in the future where and when appropriate.

I want to maximize our ability to safely suppress future fires through fuel reduction efforts that will reduce fire intensities and the risk of catastrophic fires. I have used the analysis to establish areas that are priorities for treatment (FEIS pgs. 1-8 through 1-12). I consider the wildland urban interface (WUI) the highest priority area for fuel reduction due to the values at risk and danger to wildland firefighters. I believe my decision will make a difference in lowering future fire resistance to control and improve firefighter and public safety in this critical area.

Reducing post-fire large fuel loads is the first step in restoring historic ponderosa pine stand conditions (FEIS pgs. 1-19, 3-340 to 3-341). Reducing large surface fuels will also enable us to apply low-intensity prescribed fire in the future to maintain and protect these stands (FEIS pgs. 3-6; 3-12; 3-340,341).

I am also concerned about the future continuity of heavy surface fuels resulting from the extensive fires of 2000. Fuel reduction activities will break up large expanses of heavy surface fuels that will accumulate over the next several decades. This will allow firefighters to make safer strategic and tactical decisions in areas where current management direction is to take suppression actions when wildfires occur (FEIS pg. 1-7). Fuel reduction will also allow managers to use

prescribed fire to manage fuels in these areas in the future. The level of fuel reduction to be implemented will help decrease the potential for extreme fire behavior over large areas (FEIS 3-9; Agee 1993; Rothermel 1983; Rothermel 1991; Brown and Davis 1979; Ryan and Noste 1985; Agee et al 2000). Again, this decision focuses in priority areas; wildland urban interface, ponderosa pine forests, and other suitable timberlands

The following figures illustrate the heavy fuel conditions that I am concerned about. Figure 4 shows a typical stand of trees on the BNF that was killed by the 2000 fires. This stand is estimated to have 65 tons per acre of fire-killed trees. Figure 5 is a 2001 photo of the current fuel conditions in an area of the Sleeping Child Fire of 1961 that was not harvested. It shows the type of fuel bed I am concerned about in coming years; fine fuels provided by the young stand of trees and other plants with heavy ground fuels that are partially decayed, very prone to high intensity burning, and very difficult to extinguish once ignited.

**Figure 4**



**Figure 5**



I received many comments on this project related to the fuel reduction proposal. Following is a synopsis of comments relative to fuel reduction received on the proposal during the Draft EIS comment period:

- There is no scientific evidence that harvest of fire-killed trees is an effective way to reduce fuels, or that reducing fuels reduces the potential for future fires.
- There is doubt that fuel conditions following the fires will lead to larger, more intense or severe fires in the future.
- Proactive fuel management can reduce the potential for severe and more dangerous future fires.
- I failed to consider the recommendations provided in Beschta et al. (1995) and failed to utilize sound science in reaching the decision to proactively manage future fuel loads.
- Home ignitability is largely determined by the area immediately surrounding the home and construction materials used (FEIS 3-10).

I have evaluated these comments, reviewed the available science and analysis of the effects of the alternatives with respect to the purpose and need for the project, including the 1995 paper by Beschta, et al. (PF Doc. Research - 13). I have strived to balance people's concerns with the capabilities of the resources. I am using the following evidence as rationale for reducing fuels:

- Fire-killed trees fall over and contribute to the total fuel loading (Dahms 1949, Lyons 1984, Harrington 1996). Forest that burned at moderate and high severity during will result in continuous heavy fuel loads over large areas.
- In the relatively cold and dry climate of the BNF, natural processes of decay are slow (Arno, 1976) and are unlikely to reduce excessive amounts of coarse woody debris before future fire events occur (FEIS 3-13).
- Future fire events are reasonably assured. Future fire occurrence estimates can be based on past fire data for the Bitterroot National Forest. In the last thirty years, there have been an annual average of 133 wildland fire ignitions on the Forest (FEIS 3-16 to 3-17).
- Fire behavior research shows:
  - The greater the amount of available fuel, the greater the fire intensity with higher BTU output and greater flame lengths (Rothermel, 1983).

- The greater the amount of available fuel, the more surface temperature and heat duration increases (Wright and Bailey, 1982; DeBano et al., 1998). Heavy fuel consumption by fires is correlated with severe fire effects (Neary, et al, 1999; Wright and Bailey, 1982).
- Mass fires with extremely violent behavior can occur when excessive fuels are ignited (Countryman, 1969).
- Favorable conditions for crown fires include heavy accumulations of dead and downed fuels, conifer reproduction and other ladder fuels, and continuous conifer tree forest (Rothermel, 1991).
- Dense regeneration with excess fuels from previous fires is susceptible to more severe fires in a few decades (Arno et al., 1985). Fire history research on the adjoining Clearwater National Forest in Idaho has documented repeated fires in fire-killed forests (Barrett and Arno 1982). Reburns have also been documented in Oregon's Tillamook Area (Heinrichs, 1983; Arnst, 1993; Lucia, 1983; Pyne, 1982), Yellowstone National Park, (Miller, 2000), and a series of fires following the fires of 1910 in northern Idaho and western Montana (Brown and Davis, 1973).
- Experience in the northern Rockies shows that fires originating in relatively remote areas can be driven by winds for long distances in a short time. Fires in remote areas can burn into settled areas very quickly, where they threaten private property and public safety (Little Blue Fire of 2000, Bitterroot NF; Canyon Fire of 1988, Helena and Lewis and Clark NFs).
- Given prevailing social attitudes and ongoing population growth in Ravalli County, wildland fire suppression efforts will continue on at least some portion of the forest. Firefighting is hazardous work and firefighters have the right to safe assignments. In a national survey, nearly 80% of all firefighters identified fuel reduction as the single most important factor for improving their margin of safety (Tri-Data, 1996). Heavy fuel loads increases resistance to control, cost of fire suppression, and contributes to fire spotting and extreme fire behavior (VanWagtendonk, 1996; Finney et al., 2000; Rothermel, 1983), increasing risks to firefighter safety.
- The primary determinants of fire behavior are fuels, weather, and topography (Agee, 1993). Modifying any of these elements will modify fire behavior, but management activities have no influence on weather or topography. Fire behavior and effects can however, be modified by fuels management (DeBano et al, 1998; Graham et al., 1999; Buckley, 1992; VanWagtendonk, 1996; Finney et al., 2000).
- Fire modeling using representative fire-killed stands in the burned area shows the difference in future fire behavior with and without fuel reduction activities (FEIS, pages 3-7 to 10). The modeling shows that in stands where fuels are reduced, flame length, crowning/spotting potential, and resistance to control are all lowered, compared to the same stands without fuel reduction.

Fire is a natural and integral part of ecosystems in the Bitterroot Valley. It is not possible, nor desirable to attempt to "fireproof" the forest through fuel treatments. Instead, I would like to give options to fire managers when they are faced with decisions to protect lives, property, and resources during a wildland fire, and also give them options to use prescribed fire as a future management tool.

While there were beneficial ecological effects from the 2000 fires in some areas, the undesirable social and ecological effects of large, severe fires are readily apparent on portions of the Bitterroot National Forest and adjoining State and private lands. Such effects include landscapes prone to massive erosion, compromised fish and wildlife habitat, reduced aesthetics, prolonged smoke exposure, reduced sense of well-being, and loss of business.

The stand depicted in Figure 6 (Cow Creek Demonstration Site in the Blodgett Fire Area) illustrates the desired conditions and reflects extraordinary mitigation measures I believe will protect soil and watershed conditions. Harvesting was conducted here in March 2001 as an on-the-ground demonstration of proposed fuel reduction activities.

This three-acre site was harvested using ground-based equipment over frozen ground, which protected soils very effectively as no evidence of soil damage

**Figure 6 – Cow Creek Demonstration Site (Aug. 2001)**



or erosion exists (PF Soils-5 and-6). Some fire-killed trees will remain (Snag and Coarse Woody Debris Retention Standards, Appendix B). After treatment, adequate numbers of standing dead trees will provide snags for wildlife and a source of future coarse woody debris for soil and animal habitat benefits.

My decision will limit thinning stands that burned at low severity to those within the Wildland Urban Interface. This will widen crown spacing, eliminate ladder fuels and make these areas more defensible (FEIS, Chpt. 3 Fire and Fuels Section).

### ***Watershed Improvement***

Current watershed and aquatic conditions are a result of past management (particularly road construction), and now the effects of fire, flooding and serious surface erosion (FEIS pg. 1-13). Watershed improvement is a key purpose and need and feature of my decision. More intensive road maintenance, road decommissioning and storage will reduce the amount of sediment reaching streams in the long-term. I have also decided to replace 37 culverts known to be barriers to fish passage in the burned drainages to ensure passage at all stream flows with larger culverts, open-bottomed arches, or bridges. All of the new crossings will be sized to meet the 100-year event and allow the formation of a natural stream bottom through the structure. Watershed conditions in the drainages affected by the fires of 2000 will improve as a result of my decision (FEIS pgs 3-89 to 3-92, 3-97, 3-107 to 3-118, 3-125 to 3-130, 3-138 to 3-149, 3-157 to 3-162, 3-168 to 3-175, 3-182 to 3-186; ROD Appendix C).

I chose to modify the proposed fuels treatments during development of Alternative F by eliminating thinning and associated risk of increased water yield where that is a concern (FEIS pg. 2-19). I recognize the increase of skyline and helicopter yarding in Alternative F-Modified will increase the cost of treatments, however, in the balance I believe this trade-off will further reduce ground disturbance and risk of sediment input to streams, thereby ensuring maintenance of water quality and beneficial uses. In order to protect watershed and fisheries, I am willing to forgo fuel reduction in the Medicine Tree Creek drainage.

Some commenters suggested that the stream buffers specified in INFISH are not wide enough to prevent sediment from reaching streams in burned areas. In order to take a cautious approach, I have widened the stream buffers on all of the ephemeral, intermittent, and perennial non-fish bearing streams across the project area to 200 feet on both sides of the channel. I am also retaining 300 foot buffers around all fish-bearing streams, 100 foot buffers on all wetlands less than one acre in area, and 150 foot buffers on all wetlands greater than one acre.

Some commenters expressed concern that we have not adequately addressed the cumulative effects of fire suppression with the fire recovery activities. I am confident that the fuel reduction activities in Alternative F-Modified will ensure that potential cumulative impacts will be limited and within acceptable levels and legal standards based on the positive monitoring results that were observed in 2001 (PF, FISH-13, FISH-17), the lack of significant impacts that occurred to aquatic resources (FEIS pgs 3-237, 3-238, 3-257, 3-289, 3-290, 3-320), and additional effects analysis in Appendix C.

Some commenters have expressed concern that new harvest activities will negatively affect soils already impacted from past tractor logging. My decision limits tractor logging to 10% of the area treated, and most of that is limited to snow covered/frozen ground conditions. Helicopter and skyline yarding have less potential for soil damage. Areas with high erosion hazard will require skyline logging to be done over snow covered/frozen ground. A soil resource specialist will inspect each unit where past ground-based activities have occurred and prescribe soil amelioration treatments as appropriate (mechanical decompaction, revegetation, slash coverage, etc.)(FEIS pg. 2-25).

Some commenters suggest that ground-based logging should face fewer restrictions, particularly the winter limitations. I recognize the increased cost and narrower operating period winter logging presents. I believe this requirement is an appropriately cautious approach in areas of moderate and high severity burns. The fires eliminated or greatly reduced the protective duff layers in these areas, making soils more susceptible to damage from heavy equipment. Effects of winter tractor logging on watershed and soils assumed no more than 10% ground-cover disturbance (FEIS pg.3-203, PF Doc. Watershed-41 pg. 4) would occur. In response to these concerns, I am clarifying the winter ground-based operating requirements. My intent is to maintain adequate ground cover and I want to ensure that ground cover reduction does not exceed 10%. The mitigation requirement in the FEIS requiring 4 inches of frozen ground or 24 inches of settled snow is a guideline to meet this goal. Careful implementation monitoring (FEIS Appendix C) will assure that soils are protected.

Some commenters expressed concern that fuel reduction activities will increase soil erosion, decreased soil productivity and water quality and degrade habitat for fish. I believe that my decision will protect these resources. My conclusion is based on the following factors: (1) the protection and expansion of stream buffers; (2) the use of conservative soil protection mitigations; (3) treats about 15% of the burned area and 90% of the area treated will be skyline or helicopter yarded. Most of the remaining 10% will be over snow or frozen ground; (4) the DEQ conclusion that state water quality standards would be met and beneficial uses would be protected (PF Doc FEIS Correspondence -14); (5) the

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Environmental Protection Agency conclusion that the FEIS and Preferred Alternative are responsive to their earlier comments and concerns (PF Doc. FEIS Correspondence - 13); (6) the US Fish and Wildlife Service conclusion that Alternative F-Modified is unlikely to jeopardize the persistence of bull trout populations (PF Doc. Fish-28); and (7) proactive monitoring by sale administrators and resource specialists with the authority to stop/modify activities if significant detrimental impacts are occurring. These conclusions were reached after a careful and thorough consideration of the environmental analysis and public comment, including the 1995 paper by Beschta, et al. (see PF Research - 13).

In the long-term (generally 20-60 years after the fires), fuel reduction will benefit soil and water resources by reducing the potential for larger and more severe future fires (FEIS pg. 3-81, 3-200, 3-202).

## ***Reforestation***

The Bitterroot Forest Plan includes the following Forest-wide standard, “A variety of tree species will be planted where habitats and conditions permit, to prevent creation of monocultures that are susceptible to insect and disease epidemics” (FP, p II-22). Forest Plan (FP) standards for suitable timberlands (MAs 1,2, and 3) include direction to reforest with trees in a timely manner and with species that help achieve Management Area goals. A related protection standard for these same Management Areas directs “Treat fuels in coordination with site preparation to minimize fire danger and insect and disease problems, and assure establishment and protection of new stands.” (FP pgs. III-7, 13, 20, 28, 34). My decision to reduce fuels in suitable timber lands will help provide an added margin of protection for the monetary and time investments made in reforestation (FEIS pg. 3-25).

Reforestation is desired in certain areas to accelerate recovery of forested conditions. About 33,000 acres of the burned area needs to be planted where natural regeneration will not provide the desired stocking and/or species composition.

There was little concern expressed for the proposed reforestation activities. Most commenters agreed and applauded the proposal to reforest National Forest land to the extent possible following the fires. Some commenters, however, disagreed with the need for widespread planting. They believe that the forest will naturally recover in time and do not wish to see stands restocked to traditional densities or with regular spacing creating unnatural looking rows.

Over time, nearly all burned areas will become reforested. Long-term reforestation is dependent on adequate fuel reduction to reduce the likelihood that future fires will again burn recently established stands, leaving them with little or no seed source. Active reforestation in suitable timber lands will speed the recovery of forested conditions, improve wildlife habitat, reduce noxious weed habitat and protect soils and watersheds.

## **Temporary Roads and Landings**

Temporary roads were also a concern to some people who assert that soil productivity and quality would be degraded, and cause increased erosion and sediment to streams. I am fully aware that poorly located and constructed temporary roads and landings can degrade soil productivity, and contribute sediment to streams. However, these roads will be carefully located on dry ridgelines far away from streams and will not cross or enter riparian areas. Similarly, landings will be minimized and carefully located (FEIS pgs. 2-25, 2-27). Both landings and temporary roads will be constructed, used, and restored with minimal risk to water quality and fish habitat. I realize that temporary roads will have a longer-term impact to the soil profile due to the mixing of soil horizons that occurs during construction and restoration. I am limiting the use of temporary roads to a total of approximately seven miles, and will require a complete restoration treatment on all of the temporary roads following their use (recontouring back to the original slope, spreading slash over the disturbed area, and revegetating). Mitigations measures will limit the impacts from noxious weeds, and with adoption of Alternative F-Modified, I have decided to eliminate the temporary road that would negatively impact a sensitive plant population (see Sensitive Plants, Appendix C of the ROD).

## **Old Growth and Wildlife**

Some commenters suggested that I should protect old growth stands that survived the fires because they are more valuable now and are an important element of diversity in the burned landscape. My decision will not conduct any treatments within old growth stands that survived the fires and therefore will retain their old growth characteristics.

Some commenters expressed concern for protecting known occupied habitat for Flammulated Owls - a sensitive species in the Northern Region. My decision responds to these concerns and will protect known occupied Flammulated Owl habitat. This is especially true in the Medicine Tree drainage, where Flammulated Owls are known to occur, and I have decided to defer fuel treatment in the entire drainage for a number of reasons. My decision will protect three areas of known occupied Flammulated Owl habitat by harvesting no live trees and limiting all harvest to the winter when the owls are not present (FEIS pgs.2-20 and 2-29).

It is also my intention to retain as many snags that survived the fires as possible (ROD Appendix A, Management Requirements and Mitigation Measures, pg. A-8) (PF Doc. Timber/Silv-43). No fuel reduction activities will occur in 85% of the burned areas, providing vast habitat for species such as black backed woodpeckers that prefer dense stands of fire killed trees (FEIS pgs 3-549).

### **Unroaded Areas**

No activities would occur in designated Wilderness or Forest Plan Inventoried Roadless Areas. Some people have suggested that no fuel reduction activities or temporary road construction should occur in other areas without roads outside Wilderness and Inventoried Roadless Areas. I believe that fuel reduction will not significantly compromise the long-term roadless values of the unroaded areas (FEIS pgs. 3-632 through 3-654). Local environmental groups mapped what they defined as unroaded lands and my decision will result in approximately 17, 500 acres of fuel reduction and use approximately 2.7 miles of temporary roads in these areas. All temporary roads will be rehabilitated following use. Fuel reduction will leave stumps, which will be evident until they deteriorate. Within two years, the temporary roads will be fully revegetated and minimally evident, eventually they will be undetectable. Mitigation measures to limit weed spread will be applied, as will monitoring for weeds (FEIS 2-28 and Appendix C). Without fuel reduction in these areas, the effectiveness of breaking up fuel continuity in suitable timberlands would be compromised. This project is designed to maintain characteristics such as high quality air, water and soil, threatened and endangered species habitat, etc., regardless of whether activities occur in unroaded or roaded areas.

### **Noxious Weeds**

Public scoping revealed that some people believe noxious weed control should be included in the Burned Area Recovery EIS, or that logging will increase the spread of weeds. Weed control was considered during the planning process; however, I believe it is beyond the scope of this project and is more appropriately addressed at a forest-wide scale (FEIS 2-35). A Forest-wide weed management analysis is currently in progress and will be documented in a separate EIS. I expect the Bitterroot National Forest's Noxious Weed EIS to be completed in April 2002.

Although activities will occur in areas already infested with weeds, preventing the spread of weed seed during proposed activities is critical to controlling new weed infestations. The greatest risk of weed spread will come from the construction of temporary roads and landings. Therefore, temporary roads will only be used for the duration of harvest activities, further limiting the risk of weed spread. Most landings will be located along existing roads. Re-vegetation of all landings promptly after use will help prevent the establishment of new weed populations.

I am also committing to design and distribute noxious weed prevention brochures, and post signs along Forest Service Roads in burned areas warning users of the increased potential for weed spread in moderate to high severity burn areas.

Not reducing fuels creates the potential for a more severe fire event occurring in future decades, creating an even more suitable environment for weed spread (FEIS pg. 3-464 to 3-484). I believe that we can effectively mitigate the short-term risk of introducing more weeds and also minimize ground disturbance and the weed colonization opportunity it provides. Monitoring for noxious weeds will also occur in areas of proposed activities (FEIS Appendix C pgs. C-20 to C-21).

### **Sensitive Plants**

Some commenters expressed concern that sensitive plant species populations or habitat could be negatively affected by fuel reduction activities. Alternative F-Modified drops a temporary road in the Robbins Gulch drainage that would have resulted in a "likely to impact" effect to Lemhi penstemon habitat. My modification to Alternative F will adjust the boundary of unit 218 to exclude two of the seven subpopulations of Lemhi penstemon found within areas of fuel reduction activities in the Robbins Gulch drainage. It is expected that the fires of 2000 will have a beneficial effect on Lemhi penstemon populations through seed bank recruitment (Heidel and Shelly, 2001). Effects of proposed activities "may impact individual plants or habitat, but will not likely result in reduced viability" for the Robbins Gulch Lemhi penstemon population (ROD Appendix C).

I believe my decision minimizes short-term risks to sensitive plant populations and habitat and maintains viability. Fuel reduction activities will help reduce the severity of future fires that may have detrimental effects on sensitive plants.

### **Bark Beetle Risks**

Many respondents who favor a more natural recovery and treatment, and hence oppose fuel reduction activities, argue that bark beetles provide ecological benefits. Other commenters suggest that any potential bark beetle threat to marketable timber should not be used to justify salvage logging.

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Douglas-fir bark beetles are a threat due to their presence prior to the fires of 2000. However, other beetles will also cause fire-damaged trees to die (FEIS pg. 3-350). Increased tree mortality from bark beetles will occur after the fires of 2000. It is my desire to reduce the fuels expected to result from bark beetle-caused mortality in moderate to high risk stands particularly within the Wildland Urban Interface. It is also my desire to reduce bark beetle populations at the local level, particularly in the wildland urban interface.

My decision to engage in preventative thinning in strategic locations, the removal of infested trees, and extensive monitoring of beetle populations in 2001 and 2002 is the most prudent course of action at this time. I choose not to implement widespread thinning of low and mixed severity stands in light of the potential effects on water quality, increased water yields, and aquatic habitat. It is also my decision not to thin or salvage within stands determined to have old growth characteristics.

### **Economy**

State, regional and local economies will directly and indirectly benefit by the fuel reduction, watershed improvement and reforestation activities. Timber products provided through timber sales, stewardship contracts, or service contracts contribute to meeting Forest Plan goals to provide saw timber and wood products to help sustain a viable local economy. My decision will accomplish these goals at reduced taxpayer costs while protecting soil, water and wildlife values.

My decision to implement Alternative F-Modified will cost an estimated \$82/acres for fuel treatments (ROD Appendix C). Alternative F's fuel reduction costs were significantly less (\$6/acres). I opted for more expensive logging systems and less fuel reduction in my decision in order to provide additional short-term protection for soil, water, and fish in five sensitive drainages.

### **Access and Road Management**

Some people support road closures and associated motorized access restrictions and some people adamantly oppose them. Some commenters expressed concern that the road rehabilitation activities (storage and decommissioning) proposed to improve watershed conditions would reduce current motorized and non-motorized access for recreation.

The public offered a variety of suggestions for how to manage roads on the Bitterroot National Forest. Some respondents requested the construction of additional temporary or permanent roads in these areas. Several others request that the Forest Service maintain the road system as is.

I have balanced these concerns in my decision by decommissioning 46 miles of roads currently closed to the public and by placing 105 miles of roads into storage, while maintaining opportunities for OHV, foot, and stock access. This will improve watershed conditions in the long term and minimize effects on motorized access.

### **Forest Plan Amendment**

The amended standards were designed using current science, fourteen years of Forest Plan monitoring and special consideration for the conditions left by the fires of 2000 so as to achieve the desired conditions described in the Forest Plan. I believe the amended language for snags and coarse woody debris provides much better direction for management actions within the current post-fire area than the corresponding standards in the Forest Plan. Each uses the best available science and an additional conservative approach to assure Forest Plan goals and objectives are supported.

Elk objectives have been met or exceeded on the Forest since the Forest Plan was adopted, and based on discussions with the State of Montana and the analysis in the FEIS, the objectives will continue to be met with amended standards. Therefore, the amendment of the two elk standards simply provides consistency between this project and the Forest Plan. I am amending the elk habitat effectiveness standard in the upper Laird Creek drainage to allow ongoing recreational access on Road 5731, which accesses the Medicine Point-Shook Mountain Ridge, and Road 5729, which accesses the Medicine Point Trailhead.

### ***Summary of Reasons***

The most difficult part of this decision has been to find the right balance between the need to reduce fuels economically and my desire to protect soil, watershed, and fisheries. My final decision has been heavily influenced by these needs. My decision accomplishes both these goals because it:

- Meets fuel reduction needs by treating the third largest amount of acres of all the alternatives
- Protects soils, watershed, and fisheries by requiring more expensive, but less impactful, logging systems (originally planned in Alternative F) on 3779 acres

- Reduces watershed and fisheries risks in the short-term by dropping 1355 acres of fuel reduction activity, including the entire Medicine Tree Creek drainage
- Protects watershed and fisheries by requiring wider Riparian Habitat Conservation Areas (RHCAs) stream buffers. No fuel reduction will occur in RHCAs.
- Requires all ground based harvest in moderate and high severity areas be done during the winter when there is frozen soil or settled snow sufficient to substantially reduce soil disturbance and compaction.
- Provides ample habitat for wildlife that prefer areas with lots of snags by only treating 15% of the burned area
- Will not jeopardize native fish, as concurred with by the US Fish and Wildlife Service (PF Doc. Fish-28)
- Is not likely to adversely affect threatened or endangered wildlife species (PF Doc. Wildlife-76)
- The plan exceeds state Forestry Best Management Practices (BMP) guidelines, exceeds the requirements of the state Streamside Management Zone law, will protect and improve water quality and enhance fish habitat and should meet the criteria of the Montana Water Quality Act, as determined by the Montana Department of Environmental Quality (PF Doc. FEIS Correspondence - 14)
- The US Environmental Protection Agency concludes that the preferred alternative is responsive to their comments and concerns and commends the Forests for its informative responses to the many public and agency comments. (PF Doc. Correspondence – 13)
- Resource specialists will review activities frequently and contracting officers have the authority to stop them if serious detrimental impacts are occurring

I have also considered the location of fuels treatment for community protection on the landscape. Some members of the public suggest fuels treatment only needs to occur around homes and buildings. However, I believe the risk to firefighters, the watershed, landowners and their property is too great to warrant fighting a fire within 40 meters of a home. My decision to break up large expanses of heavy fuels with special emphasis in the WUI will provide increased opportunities for firefighters to protect communities from devastating fires.

I have selected Alternative F-Modified because it provides the best balance between achieving fuel reduction, watershed improvement and reforestation needs; protecting resources; and meeting the needs of people. Alternative F-Modified does not necessarily do the most or the best for any one of these needs, but this selection provides a reasonable balance between these needs. I believe my decision will maintain, and over the longer term improve watershed conditions in the drainages affected by the fires of 2000.

Alternative F-Modified, in my view, provides an optimum balance between the need to reduce heavy fuel loads and minimizing short-term resource impacts. I also believe that Alternative F-Modified has the best likelihood of successfully accomplishing a significant portion of the fuels reduction work that needs to be done for community protection.

I believe my decision to reduce fuels will provide for:

- Increased levels of public and firefighter safety in burned areas where the Forest Plan directs suppression actions be taken when wildfires occur.
- Reduced intensity and severity of future fires in priority areas within the burned portion of the Forest
- An added margin of protection for reforestation investments
- Increased ability to use prescribed fire in these areas in the future

I am convinced that we can reduce risks of fires and associated ecological and human consequences while protecting long-term soil productivity, properly functioning hydrologic conditions, and maintenance and recovery of native fish and wildlife. I believe my decision accomplishes these needs.

## ***Alternatives Considered***

Below is a summary of the seven alternatives I considered (Alternatives A, B, C, D, E, F, and G). These seven alternatives are described in detail in Chapter 2 of the FEIS. Other alternative concepts were considered but not given detailed study (FEIS pg. 2-31 through 2-36).

***Alternative A is the No Action Alternative (FEIS, pg. 2-7)*** - serves as a baseline for comparison of the effects of all of the alternatives. Under this alternative there would be no change in current management direction or in the level of ongoing management activities within the project area.

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I did not select Alternative A because it would not meet the purpose and need to reduce fuels, improve long-term watershed health, and reforest burned lands. I strongly believe that it is important to reduce fuels in the burned areas, particularly in the wildland-urban interface and our ponderosa pine forest types. In the absence of fuel reduction treatments, heavy fuel loads left by the Fires of 2000 will continue to accumulate and increase the potential for extreme fire behavior (FEIS 3-10). When large-scale fire recurs in these areas, taking no action now would limit the range of future fire suppression actions that can be conducted while ensuring firefighter and public safety. Alternative A also would not take active measures to improve watershed health, reforest burned lands, and provide economic opportunities. Alternative A would avoid environmental effects such as changes in motorized and non-motorized access, effects on unroaded lands, and short-term impacts on fish. However, I do not believe avoiding these effects out-weigh the risks of not taking actions to reduce fuels or improve watershed conditions.

**Alternative B – Proposed action (FEIS pgs 1-5 through 1-20)** - was developed based on the purposes and needs described in Chapter 1 of the FEIS. Fuel reduction treatments including timber harvesting, post-harvest slash disposal, and, in areas without economically valuable products, mechanical and hand piling and burning. Watershed improvements include road decommissioning, road storage, upgrading roads to BMP standards, and fish habitat improvement. Alternative B proposes planting on about 32,000 acres.

This alternative contains Forest Plan amendments for coarse woody debris, snags, big game thermal cover, and elk habitat effectiveness in three third-order drainages.

Alternative B addresses many of my concerns. It would meet the purpose and need for fuel reduction and reforestation. However, I did not select this alternative for several reasons. Alternative B contains a relatively large amount of live tree thinning. This thinning could potentially increase water yields for several decades in burned drainages where pre-fire water yield increases are a concern. This would not meet the purpose and need to improve long-term watershed health in those drainages. At this time, in drainages that are Water Quality Limited, contain bull trout, or are at risk for stream channel changes following the fires, I believe that it is more important to minimize water yield increases than it is to thin stands that survived the fires. Additionally, the level of fuel reduction activities in Alternative B cause too much potential for increased sediment in some drainages. I also did not select Alternative B because it would allow a second entry of heavy equipment on burned soils in many harvest units. This would pose an unacceptable risk to burned soils, and not meet the purpose and need of improving long-term watershed health. Finally, Alternative B proposes fuel reduction activities in old growth stands, and I do not wish to implement activities in old growth stands with this decision.

Alternative B conducts thinning in low severity burned stands in three known occupied areas of Flammulated Owl habitat. I prefer the higher level of protection provided in Alternative F-Modified.

Alternative B contains more road decommissioning, which I believe adversely affects access for the public and forest managers to suitable timber land at a level I find undesirable.

**Alternative C (FEIS pg 2-14)** –modifies the Proposed Action by achieving improved watershed conditions through more road decommissioning, storage, and upgrading and by restoring vegetation in burned areas by planting. It includes no harvesting or other fuel reduction activities (i.e., no mechanical fuel reduction treatments).

Activities would be consistent with Forest Plan direction. No Forest Plan amendments are needed.

This alternative would have fewer effects on unroaded lands because no fuel reduction activities would occur in them. Reforestation work, however would occur in some unroaded lands.

No short-term impacts to old growth or areas of prime Flammulated Owl habitat would occur because no fuel reduction activities would be conducted in these areas.

I did not select Alternative C because it would not meet the purpose and need to reduce fuels. Alternative C would meet the purpose and need for improving long-term watershed health and reforesting burned lands. Alternative C would provide minimal economic opportunities. As discussed in Alternative A above, I believe it is important to reduce fuels in the burned areas and believe that not reducing fuels would lead to undesirable conditions.

**Alternative D (FEIS pgs. 2-15 through 2-16)** - focuses on reducing fuels by conducting additional salvage harvest, addressing bark beetle risks, reforesting burned lands, and improving watershed conditions while maintaining current access opportunities. Watershed improvement and planting would occur as proposed in Alternative B.

This alternative would conduct watershed improvement work, but would minimize new motorized access restrictions.

This alternative would be more proactive in addressing bark beetle susceptibility by thinning high-risk stands that burned at low severity.

This alternative would conduct more timber salvage. Thinning in high-risk bark beetle stands would increase harvest levels and economic benefits. It would also improve economics by allowing summer or “dry season” ground-based skidding on low severity burn areas, and use more temporary roads to reduce logging costs.

I did not select Alternative D for the same watershed reasons as those described for Alternative B.

**Alternative E (FEIS pgs. 2-17 through 2-18)** - limits fuel reduction treatments to the wildland-urban interface and ponderosa pine forests. Planting is reduced from Alternative B to coincide with areas treated for fuel reduction. Watershed improvements include the same treatments as those described in Alternative C (i.e. road decommissioning, road storage, upgrading roads to BMP standards, and fish habitat improvements). Buffers on intermittent and perennial, non-fish bearing streams would be widened to increase the ability of riparian areas to filter out sediment.

Alternative E responds to those who question the need to reduce fuels at mid and upper-elevations beyond the wildland-urban interface and in warm, dry ponderosa pine forest areas. It would not conduct fuel reduction activities beyond these priority areas or live tree thinning in the wildland-urban interface or the ponderosa pine forest type.

Alternative E would increase the amount of road recontouring to improve watershed conditions and protect other ecosystem values. It would also require skyline yarding to be done over snow covered or frozen ground conditions. Additionally, it would increase the width of riparian buffers in areas where fuel reduction work is conducted. No temporary roads would be allowed in this alternative.

Alternative E addresses many of my concerns, particularly in the areas of soil and water protection. It would meet the purpose and need for improving long-term watershed health, and partially meet the purpose and need for reducing fuels and reforesting burned lands (i.e. these activities would be restricted to the wildland-urban interface and ponderosa pine forest types). I did not select Alternative E because it limits fuel reduction to the wildland-urban interface and ponderosa pine forest types, and does nothing to break up fuel continuity across the larger expanses of the burned landscape or protect reforestation investments in suitable timberlands. This would limit the range of future fire suppression actions that can be conducted while ensuring firefighter and public safety. Alternative E also provides the most limited economic opportunities relative to the other alternatives that consider harvest (i.e. Alternatives B, D, and F).

**Alternative F (FEIS pgs 2-18 through 2-21)** - was added following the DEIS in response to public and other agency comments as well as the Interdisciplinary Team evaluation of DEIS alternatives. This alternative focuses on reducing fuels, improving watershed health, reforesting burned lands, and improving economics, while minimizing reduction of current access opportunities.

Fuel reduction treatments are reduced from Alternative B to protect water, old growth, wildlife habitat, fish habitat and to reduce costs. Watershed and aquatic improvement is similar to Alternatives B and D, except that more roads would be put in storage in this alternative rather than decommissioned, and 30 additional culverts would be replaced to eliminate barriers that impede fish passage during certain times of the year. Stream buffers would be widened as described for Alternative E.

After completing effects analysis of alternatives in the DEIS, it became apparent that an additional alternative was needed that would provide more protection for aquatics and also improve economics. The Forest started developing this alternative shortly thereafter. This alternative was developed with additional field review, further consultation with the USFWS, and comments on the DEIS. It was finalized for study after the DEIS comment period closed.

No temporary road construction would occur in unroaded areas over 1000 acres contiguous to Inventoried Roadless Areas or wilderness areas.

Alternative F favors placing roads in storage instead of decommissioning them. Effects-wise, storage would achieve a similar level of watershed improvement as decommissioning, but without precluding future management and fire suppression access. Alternative F minimizes changes in current access for Forest users.

Alternative F contains about 7.9 miles of temporary roads to reduce logging system costs. It would also improve economics by allowing summer or “dry season” ground-based skidding on about 400 acres. This alternative also considers the use of “tracked-line machines” to reduce logging system costs. Additional salvage acreage is included within the boundaries of two pre-existing burned timber sales, at the request of the timber contract purchasers.

Alternative F would not conduct harvest in old growth habitat. It allows manual and prescribed fire fuel treatments that would not change stand structure in the ponderosa pine forest types. It avoids or modifies fuel reduction prescriptions and timing to reduce impacts in three areas of burned Flammulated Owl habitat that are known to be occupied.

Alternative F meets the purpose and need for fuel reduction and reforesting burned lands. However, I did not select Alternative F in its entirety because of cumulative sedimentation concerns in five drainages (Medicine Tree; Little

Sleeping Child; Laird; Rye/North Rye; and Robbins Gulch). The short-term sediment increases in those drainages, along with other sediment sources (past activities, fire, and mudslides) would not meet the purpose and need for improving long-term watershed health.

**Alternative G (FEIS, pages 2-22 through 2-24)** - is a recommended approach to fire recovery submitted by local environmental groups in response to the Draft and Final EIS. Because this alternative fell within the range of alternatives described in the DEIS, it was appropriate to consider it in the FEIS. Certain aspects of their proposed alternative were presented conceptually/thematically to which the Forest asked clarification questions in an attempt to craft management prescriptions that matched the recommendations as closely as possible. However, in a few instances, the Forest still had to make certain assumptions to derive site-specific prescriptions that match the intent of the recommendations.

Alternative G would conduct fuel reduction activities in the immediate vicinity of private homes using primarily manual methods, depending on needs and homeowners preference. These activities would improve defensible space and reduce ignitability risks in the immediate vicinity of homes in the wildland-urban interface.

Alternative G would also conduct fuel reduction activities on burned National Forest lands outside unroaded areas (as mapped by those requesting this alternative). These activities would be limited to managed areas and forest types that are outside the range of historic conditions (e.g. the ponderosa pine forest type). Methods used to reduce fuels in these areas would be limited to manual felling, hand piling, and/or prescribed burning. With the exception of 105 acres designated for research fuels treatments, no commercial timber harvesting would occur. Efforts to reduce fuels near homes on private land would be accomplished by creating a government funded community conservation corps.

Alternative G contains more extensive watershed improvements relative to the other alternatives. Planting would be limited to burned plantations. Planting would also occur on sites within the burned area where, after the summer of 2002, natural recovery is not occurring. Natural regeneration would be planned on all other burned lands.

Alternative G would suspend livestock grazing in the burned allotments until further NEPA analysis and decision-making is completed. Alternative G would also increase public education efforts and Forest Service presence on the ground to minimize the potential for spreading weeds into the burned areas.

The Forest considered two additional elements; "weed control" and "integrate natural fires," but did not study them in detail for reasons described in the FEIS on pages 2-33 to 2-35. Weed management currently is being analyzed in a separate EIS. Natural fire management programs are ongoing in wilderness and a portion of the West Fork Ranger District outside wilderness. Fire use plan opportunities are not currently in place anywhere else on the forest and wildfire suppression actions are currently required. Additional fire use plans are more appropriately addressed during Forest Plan Revision.

There are several reasons why I did not select Alternative G. One of most important reasons is that the fuel reduction activities and reforestation will not occur at the necessary level or across a large enough area to meet fuel reduction needs. Certain prescriptions, prescribed burning, are unlikely to do an adequate job of reducing fuels and are largely infeasible in severely burned areas due to cost, smoke, limited burn windows, and reforestation delays. Costs of fuel reduction methods in Alternative G are estimated to be over \$800/acre (FEIS pg 3-686), which I consider prohibitive.

Suspending grazing in the burned allotments until new NEPA analysis can be completed would not comply with HR-1994, the Rescission Bill of 1995. This element of Alternative G would not follow the established schedule to complete range management NEPA decisions between now and 2007 (Rescission Bill HR-1994, 1995). HR-1994 directs the Forests to schedule NEPA for grazing allotments and to re-issue any permits, with the same terms and conditions, which expire before the scheduled NEPA is completed. Range management on the Forest is covered by the terms of existing permits and operating plans. The Forest will continue to monitor range readiness in the burned allotments that were rested in 2000 (PF Doc. Range-16 through 37). That work will be done under existing range management authorities.

Alternative G would conduct active fuel reduction within 40 meters of Wildland Urban Interface homes in the Bitterroot Valley (including the East and West Fork drainages). However, simply treating a 40-meter perimeter around homes ignores fire-fighter safety, potential massive erosion following fires, and other property values (outbuildings, fields, forest, etc.) The Forest Service is currently working with private landowners within the Wildland Urban Interface to improve defensible space conditions and also contributes to public education efforts.

Short-term impacts to soil and watershed resources from logging activities would be avoided with Alternative G. Extensive road recontouring would cause short-term sediment increases to streams, particularly along the road segments that encroach on streams. In the long-term, Alternative G would improve watershed and aquatic habitat more than the other alternatives because of its more aggressive watershed improvement treatments. Alternative G also includes soil stabilization using log erosion barriers in certain areas that burned at high severity. This work is ongoing under existing

Burned Area Emergency Rehabilitation. Although Alternative G would meet the purpose and need for watershed improvement, I believe it would result in major reductions to current motorized access that would be unacceptable for forest management and the majority of the public. My decision incorporates the proposal from Alternative G to eliminate fish barriers by enlarging an additional 30 culverts.

This alternative would provide employment opportunities, with emphasis on local hiring and contracting. Alternative G would create fewer jobs and revenue for the local economy relative to Alternatives B, D, E, F, (FEIS pg 3-960). Alternative F-Modified is estimated to provide over 3000 more jobs (ROD-Appendix C). The Forest Service currently has the authority through the Stewardship Pilot Program to emphasize local employment as a selection criterion when selecting the successful contractors.

My decision is based on direction for managing the suitable timber base outlined in the Forest Plan. That direction includes securing tree establishment and providing protection for new stands by treating fuels to minimize fire danger. It also includes direction to minimize reductions to soil productivity and water quality. It directs that sediment be actively reduced from existing roads. The Plan also directs that fish habitat is maintained or enhanced by minimizing sediment delivery to streams, remove fish migration barriers, close and stabilize or obliterate roads not needed for future management. The Bitterroot National Forest has ongoing programs that address home protection, range readiness, and emphasizing local employment.

There are currently 65 research studies occurring on the Bitterroot National Forest (PF Doc. Research – 4, 5, and 9). Of these, 31 are directly related to the 2000 fires.

## **Public Involvement**

The Bitterroot NF has done an extraordinary amount of public involvement for this project. Efforts to engage local citizens in the planning process began in October 2000, immediately following the fires of 2000. Line Officers and the interdisciplinary team visited Ravalli County communities to share information and collect input. In total, the Forest hosted 18 public meetings and two public field trips. In addition, several field trips for groups such as the Missoula Chamber of Commerce and local legislators were held to demonstrate on-the-ground examples of proposed activities. Information about the project was also presented to a variety of groups in both Ravalli and Missoula Counties. The complete record of the public involvement process is available for review in the Project File

### **Post-Fire Assessment**

The alternatives discussed in the analysis evolved from the issues, concerns, and recommendations identified in the Post-Fire Assessment. A series of 12 public meetings were held in various locations in Ravalli County during the fall of 2000. These meetings provided the opportunity for citizens and the Bitterroot NF to share post-fire information and collect input on post-fire recovery needs. These public involvement efforts are described in the Post-Fire Assessment (USDA, 2000a).

### **Ravalli County Citizens' Opinions**

Following the 2000 fire season, the Forest contracted the University of Montana's Bureau of Business and Economic Research to conduct a public opinion survey to help understand how the people of Ravalli County wanted the Bitterroot NF to be managed, particularly in response to the fires. As I said earlier, these findings support the majority of comments expressed at community meetings, which are described in the Final EIS, Chapter 1. Survey results are described in greater detail in the "Local Public Opinion" section on page 2 and the Bitterroot NF Social Survey (UM 2001).

The Bitterroot NF public opinion survey was conducted so local managers could evaluate the views of Ravalli County residents, who are most affected by the fires of 2000 and potential recovery actions. As stated in the Final EIS, I recognize that the Bitterroot NF is a national resource, as well as a local resource. Had the same opinion poll been conducted nationally, the responses may have been different. The analysis does not intend to imply otherwise. The survey results have been used as one piece in an array of information and input tools I have used to evaluate public opinion.

## **EIS Public Involvement**

### **Scoping**

Once a proposed action was formulated, public scoping was initiated. A Notice of Intent to prepare an EIS was published in the Federal Register on February 13, 2001. News releases were published in area newspapers in February and March

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2001. The project proposal (“scoping letter”) was mailed to about 1,300 individuals, organizations, and other agencies in February.

This letter invited interested parties to community meetings to discuss the project and share their ideas and concerns. Community scoping meetings were held in Corvallis, Darby, Sula, and West Fork, Montana, in February 2001. These meetings introduced the proposed actions, summarized purposes and needs, and provided participants with the opportunity to ask questions and submit comments. Additional meetings were held with representatives of federal, state and local agencies, tribal representatives, and representatives from the science and research communities.

Written comments were received from 45 individuals, agencies, businesses, and organizations during scoping. Additional comments were submitted by phone, personal visits, and at community meetings. Comments from scoping were used to develop issues and alternatives and guide much of the analysis.

### **Tribal Consultation**

Tribal consultation has occurred with interested American Indian tribes. Representatives of the Confederated Salish and Kootenai Tribal Preservation Office toured the burned areas during and after the fires. The Confederated Salish and Kootenai Tribes, the Nez Perce Tribe, and the Shoshone-Bannock Tribes of Ft. Hall were all contacted in January 2001, prior to the preparation of the DEIS. In March and April 2001, proposed alternatives were examined in detail during the Forest’s annual consultation meetings with representatives of the Confederated Salish and Kootenai and the Nez Perce tribal cultural resource programs, and during a phone conversation with the Shoshone-Bannock Tribes’ cultural office. In May 2000, the DEIS was mailed to tribal government officials for all three tribes. Cultural resource officers for all three tribes indicated that there were no cultural concerns regarding the alternatives. The FEIS was sent to tribal government officials and cultural program officers for the Nez Perce, Shoshone-Bannock, and Confederated Salish and Kootenai Tribes. Consultation with these tribes will be ongoing throughout implementation as BNF heritage specialists monitor project activities.

### **DEIS Comments**

The Draft Environmental Impact Statement (DEIS) was made available to the public on May 24, 2001. Information about the DEIS was provided in a variety of formats - a 2-page outline and comparison the five alternatives, a 26-page summary discussing the alternatives in greater detail (with maps), and the DEIS with a map package (both bound copy and CD). The DEIS was also posted on the Forest website at [www.fs.fed.us/r1/bitterroot](http://www.fs.fed.us/r1/bitterroot), and made available at Ravalli and Missoula County libraries. Notices informing the public of the DEIS’ availability were published in the Federal Register and the Ravalli Republic on June 1, 2001.

Following the release of the Draft EIS, the Forest hosted two public meetings and two field trips. A public meeting in Darby occurred on June 7, followed by a bus trip to Waugh Gulch Demonstration Site on Saturday, June 9. A second information meeting was held in Hamilton on June 14, followed by a bus trip to Cow Creek Demonstration Site on Saturday, June 16. Both field trips demonstrated on-the-ground examples of proposed activities, allowed the ID Team to present information, and provided the public with opportunities to ask questions and hold discussions with the Team and Line Officers.

Additionally, the Forest launched a three-week public awareness campaign to publicize the availability of the DEIS and the opportunity to comment. Newspaper ads appeared in three papers and radio spots were broadcast several times daily on six radio stations.

Over 2,400 comments from individuals, organizations, businesses, and other agencies were received during the comment period. Comments varied in format and included letters, postcards, form letters and cards, e-mail messages, and telephone comments. Collectively over 4,400 signatures were submitted (Content Analysis Team, Executive Summary of Public Comment, August 20, 2001).

The ID Team, other Forest staff and Forest Line Officers reviewed the comments. Comments were then forwarded to the Content Analysis Team, which used a systematic process to compile, categorize, and capture the full range of public viewpoints and concerns. This process is described more completely in Chapter 4 (FEIS Volume 2). These comments were used to modify the alternatives, supplement the effects analysis, and clarify statements made in the DEIS. The Responses to Comments appear in Chapter 4 of the FEIS (Volume 2).

Some respondents urged the Forest to extend the comment period for an additional 60 days to allow adequate time to develop informed public comment. Others insisted that the 45 day comment period was sufficient. The Forest responded to the need to provide some people with more time to review the Draft EIS by extending the comment period an additional 15 days to July 31, 2001. They were not willing to extend the comment period further because that would have

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caused an unacceptable delay in completing the Final EIS. Notification of the extension was sent to everyone on the mailing list. A notice appeared in the Federal Register on July 20, 2001 with the extension information.

The FEIS was released for public review on October 10, 2001. The Federal Register published the Notice of Availability of the Final EIS on October 19, 2000. Since issuing the FEIS, a number of comments have been received on the FEIS. The FEIS comments and responses to them are provided in Appendix D.

## **Legally Required Findings**

I am required by law to make certain findings of fact regarding the effects of the selected alternative. Required findings and consistency with laws are described in this section.

### **National Forest Management Act: Finding of Non-significant Forest Plan Amendment**

The National Forest Management Act (NFMA) provides that forest plans “shall be amended in any manner whatsoever after final adoption and after public notice, and, if such amendment would result in a significant change in such plan, it accordance with subsections (e) and (f) of this section and public involvement comparable to that required by subsection (d) of this section” (16 USC 1604(f)(4)). The Secretary of Agriculture’s implementing regulation indicates the determination of significance is to be “based on an analysis of the objectives, guidelines and other contents of the forest plan.” (36 CFR 219.10(f)) The Forest Service has issued guidance for determining what constitutes a “significant amendment” under NFMA. This guidance, in Forest Service Handbook 1909.12 – Chapter 5.32, identifies four factors to be used when determining whether or not a proposed change to a forest plan is significant. These factors are: timing; location and size; goals, objectives, and outputs; and management prescriptions. This Handbook guidance states, “other factors may also be considered, depending on the circumstances.” The Forest Plan Amendment #21 included in this decision is described in detail in Appendix B.

**Timing:** The site-specific amendment will become effective immediately. The management activities that will occur as a result of this amendment are planned to begin in December 2001.

This amendment is not significant in terms of the timing of overall changes in the Forest Plan. The National Forest Management Act requires that Forest Plans be revised at least every 15 years. The Bitterroot Forest Plan has been in effect for 14 years. Revision of the Forest Plan is anticipated to begin in 2003. As stated in FSH 1909.12, Chapter 5.32: “the later the change, the less likely it is to be significant for the current forest plan.” This amendment is not significant or incompatible with the upcoming revision plans.

**Location and Size:** The amended standards apply only to the management practices selected in this decision. Therefore the amended snag and coarse woody debris standards apply, as a one-time event, to activities on approximately 14.6 percent of the area burned in 2000 and only 2.8 percent of the entire Bitterroot National Forest. Similarly, the amended standard for elk habitat effectiveness in Laird Creek applies to less than one percent of all Bitterroot National Forest lands governed by the current standard. The amended elk thermal cover standard governs only this project’s activities within the Skalkaho Rye Geographic Area, which includes less than 14 percent of the big game winter range on the Bitterroot National Forest.

**Goals, Objectives, and Outputs:** As described in the Burned Area Recovery FEIS (I-16 to 20), the amended standards are designed to specifically address and meet the same goals, objectives and outputs addressed by the Forest Plan standards they amend. Each amended standard is built on the best available science, fourteen years of Forest Plan monitoring, and consideration of the conditions left by the 2000 fires to achieve the desired conditions described in the Forest Plan. The predicted effects of implementing the amended standards for this project, as disclosed in the FEIS, confirm that the respective Forest Plan goals, objectives and outputs will be supported.

**Management Prescription:** The Forest Plan amendment is site-specific to the Burned Area Recovery project. It does not apply to future decisions. The project does not change the desired future condition, objectives, or the anticipated goods and services to be produced, all described in Chapter II of the Forest Plan. This amendment does not change the management area allocation or suitable timberland base.

**Conclusion:** Based on a consideration of these five factors and considering the Bitterroot Forest Plan in its entirety, I have determined that this amendment is not a significant amendment under the National Forest Management Act implementing regulations [CFR 219.10(f)]. This amendment generally furthers the Forest Plan goals and objectives.

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## **National Forest Management Act: Diversity and Viability Provisions for Fish and Wildlife**

The National Forest Management Act requires the Secretary of Agriculture to specify “guidelines for land management plans developed to achieve the goals of the Program which provide for diversity of plant and animal communities based on the suitability and capability of the specific land area in order to meet overall multiple-use objectives” (16 USC 1604(g)(3)(B)). In accord with this diversity provision, the Secretary promulgated a regulation that provides in part: “Fish and wildlife habitat shall be managed to maintain viable populations of existing native and desired non-native vertebrate species in the planning area.” (36 CFR 219.19)

The scientific community and courts recognize that NFMA does not create a concrete, precise standard for biological diversity. The committee of Scientists that provided scientific advice to the Forest Service on drafting of NFMA regulations stated that “it is impossible to write specific regulations to ‘provide for’ diversity” and “there remains a great deal of room for honest debate on the translation of policy into management planning requirements and into management programs.” (44 Fed. Reg. 26,660-01 & 26,608)

In this planning context, absolute certainty is not possible. Thus, determining whether alternative management scenarios will maintain viable populations of vertebrate species is a question of risks. Numerous factors, which vary according to the characteristics of individual species and particular ecosystems, are considered in evaluating risk (FEIS, Fisheries and Wildlife sections of Chapter 3). Common factors include the life history of the species, the current amount and distribution of habitat, the amount and distribution of species’ ranges relative to the planning area, and the sensitivity of species to human disturbance and activities. In naturally dynamic and disturbance prone ecosystems, such as the Northern Rockies, the likelihood that habitat will continue to support population persistence can vary among species even in the absence of human-induced habitat changes. Thus, compliance with the regulation is a matter of assessing risk, which is not subject to precise numerical interpretation and cannot be fixed at any one single threshold.

In determining compliance with the NFMA fish and wildlife diversity provision, I have considered Forest Plan conservation measures, such as old growth management objective and standards; reasonably foreseeable vegetation management action; the Forest Plan land allocations; agency policy directives, such as the Forest Service’s sensitive species program; and steps taken during the planning of specific projects. I have also considered current research, habitat availability and existing population monitoring data (including peregrine falcon, goshawk, lynx, songbirds, elk, wolves, pileated woodpeckers, pine martin, cutthroat trout, bull trout, flammulated owls, and amphibians and reptiles)

The Forest Plan contains an array of components that contribute to the wildlife habitat capability of the Bitterroot National Forest. Each of these components reduces the risk to wildlife viability. Based upon a consideration of these components of the Forest Plan, as amended, and the conservative mitigation, monitoring, and design of the selected alternative, I conclude that Alternative F-Modified poses little risk to the viability and distribution of native vertebrate species.

My selection of Alternative F-Modified will not compromise the goals of any other agency. Precluding fuel reduction in remaining old growth and modifying activities in known occupied Flammulated Owl habitat helps assure meeting the requirements for diversity. Montana Fish, Wildlife and Parks has no goals relative to maintenance of old growth or Flammulated Owl habitat, and the Endangered Species Act does not apply since the owls are listed sensitive by the Regional Forester and are not threatened or endangered.

The Bitterroot Forest has entered into an agreement with the Beaverhead-Deerlodge and Salmon Forests to coordinate timber harvest activities in the area of the Continental Divide. The objective of the agreement, signed in 1990, is to provide elk security during hunting season. The Forest recently learned of a proposal by the Beaverhead-Deerlodge Forest to salvage dead trees from the Mussigbrod Fire area just over the Divide from Tolan Creek (PF, Map 298). Their proposal is to harvest dead trees from selected portions of the burned area. The activities will create a patchwork of harvest units in a matrix of burn. The proposed harvest units will not interrupt wildlife movements over the Continental Divide because the treated areas have a generous intervening untreated area. Specific routes of movement may be affected but animals will have many alternative routes through unaltered burned area. Snags and coarse woody debris will be left in the treated areas therefore providing an element of diversity in the burned area. I therefore do not anticipate detrimental cumulative effects to wildlife species or habitat from implementation of the Mussigbrod proposed action. The Forests will comply with terms of the Continental Divide agreement when scheduling activities in the Tolan, Camp, and Reimel Creek drainages of the Bitterroot Forest and in the Schulz, Tie, Elk, Hogan, and Prairie Creek drainages of the Beaverhead-Deerlodge Forest.

In the FEIS, effects of certain activities in Alternative F appeared to have negative consequences on westslope cutthroat trout populations and habitat in Medicine Tree, Little Sleeping Child, North Rye, and lower Rye Creeks, with a determination that the action may contribute towards federal listing or result in reduced viability for the population or

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species because of cumulative sediment impacts (FEIS 3-274, 3-306, and 3-307). These activities have been eliminated or modified in Alternative F-Modified to reduce sediment inputs. In Little Sleeping Child, North Rye, and Rye Creeks, the determination for Alternative F-Modified is “*may impact westslope cutthroat trout individuals or habitat, but not likely to result in a trend toward federal listing or reduced viability for the population or species*”. In Medicine Tree Creek, the determination for Alternative F-Modified is “*beneficial impact*”. These changes reflect the sediment reductions that will occur as a result of Alternative F-Modified. In the long-term, fish barrier removal, road decommissioning, storage or reconstruction, implementation of Best Management Practices and the avoidance of activities in RHCAs are expected to slowly improve fish habitat conditions (FEIS 3-187, 3-244, 3-275, 3-308, and 3-336).

In the fisheries Biological Evaluations (FEIS 3-273 to 3-274 -- Skalkaho-Rye Geographic Area; FEIS 3-306 to 3-307), the determination of effect on westslope cutthroat trout (a sensitive species) is updated to reflect the lesser effects that will occur under Alternative F-Modified. With Alternative F-Modified, the determination of effect on westslope cutthroat trout in the Skalkaho-Rye and East Fork Geographic Areas will be “*may impact individuals or habitat, but will not likely result in a trend toward federal listing or reduced viability for the population or species*”. The reasons for the change in determinations are:

1. Reduced short-term sediment increases relative to the original Alternative F
2. Improved survivorship is likely to occur in the 2002-05 year classes, and
3. Alternative F-Modified is unlikely to threaten westslope cutthroat trout population persistence in the long-term in all of the affected streams.

In the Blodgett and West Fork Geographic Areas, the determination of effect on westslope cutthroat trout for Alternative F-Modified will be “*may impact individuals or habitat, but will not likely result in a trend toward federal listing or reduced viability for the population or species*”. These determinations are unchanged from those made for Alternative F in the FEIS (3-244 = Blodgett; 3-335 = West Fork).

The 1987 Bitterroot Forest Plan designates the westslope cutthroat trout as the Management Indicator Species for assessing fish habitat changes on the Bitterroot National Forest (FEIS 3-215 to 3-216). The Forest Plan contains direction to monitor westslope cutthroat trout populations in six streams annually (USDA Forest Service, 1987c; IV-7 and IV-9, items 21 and 41). The Forest, in cooperation with Montana Fish, Wildlife, and Parks fisheries biologists, typically monitors westslope cutthroat trout populations in 12-15 streams annually. The majority of these streams also contain bull trout populations, a species listed as Threatened under the Endangered Species Act. The method of monitoring is estimating populations using mark/recapture electroshocking. Monitoring reaches consist of 1000-foot long sections of stream. Since the late 1980s, the Forest has established > 100 of these long-term monitoring reaches, with the majority located in drainages where timber harvest, road construction, and/or grazing has or is occurring. The majority of these monitoring reaches have been sampled for at least three years prior to the 2000 fires. The monitoring results are analyzed in the annual Forest Plan monitoring reports, and in periodic Montana Fish, Wildlife, and Parks Dingell-Johnson reports (Clancy, 1993, 2001; Montana Fish, Wildlife, and Parks 1991, 1992, 1996, 1998).

For this project, 17 reaches have been identified for monitoring westslope cutthroat trout and bull trout populations (PF, WATERSHED-62). All of these reaches support westslope cutthroat trout populations; about half also support bull trout populations. The 17 reaches are located in drainages where salvage harvest is proposed, and fish populations could potentially show a response to the effects of harvest. All of the reaches were sampled in summer, 2001 to establish baseline post-fire fish population levels. The 2001 sampling was a joint effort conducted by the Bitterroot National Forest, Montana Fish, Wildlife, and Parks, and a research project directed by Mike Young of the USFS Rocky Mountain Research Station in Missoula. The 17 reaches will be monitored at least three times over the next six years, commencing whenever fuel reduction projects start upstream of the reach. Results of this monitoring will be published in the annual Forest Plan monitoring reports and periodic Montana Fish, Wildlife and Parks Dingell-Johnson reports.

In addition to monitoring westslope cutthroat trout and bull trout populations, stream temperature monitoring will occur at 37 sites (PF, WATERSHED-62). The majority of these sites are located downstream of proposed fuel reduction projects. Most are located in or near a long-term fish population monitoring reach. Electronic, continuously-recording thermographs will be used to record temperatures. Monitoring will occur annually, from July 15<sup>th</sup> to October 1<sup>st</sup>, for a period of five years (2001-2006). If the fish population and stream temperature monitoring results indicate that problems are potentially being caused by this project, the project will be modified as needed to minimize problems to the fishery.

## **National Forest Management Act Findings**

**The National Forest Management Act** and accompanying regulations require that specific findings be documented at the project level. These findings are as follows:

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**36 CFR 219.27 (a) Resource Protection and 36 CFR 219.27 (g) Diversity.**

- (1) Alternative F-Modified conserves soil and water resources and will not result in significant or permanent impairment of the productivity of the land. Water quality is maintained through use of Best Management Practices streamside buffers, logging systems designed for minor impacts, and site-specific mitigation measures. Additionally, watershed conditions are improved in the long-term through reduction of chronic sediment sources (e.g., road upgrades, graveling, treating eroding cut and fill slopes) (FEIS 3-187). Soil resources are protected and improved through minimizing erosion, compaction, and displacement, implementing post-project monitoring, eliminating activities in areas ranked as high erosion potential in the soil survey, and maintaining coarse woody debris (FEIS 3-210).
- (2) Activities will not affect potentially serious natural hazards. Several of the vegetative treatments will reduce wildfire severity and increase control effectiveness (FEIS 3-28, 3-386, 3-395, 3-405). Hazards from floods and erosion will not be increased by fuel reduction, and will be decreased by watershed improvement work and planting.

Water yield increases are proportional to the amount of live vegetation and tree canopy removed from the site (FEIS p. 3-72). The Equivalent Clearcut Area water yield model (ECA), used to estimate increases of water yield from proposed activities, predicted that any increase in water yield would be small (PF Watershed-41, pages 13-15 and Table 2) as the project proposes to remove mainly burned dead and dying trees. Increases in streamflow are mostly related to fire effects (FEIS p.3-77) and the harvest of the dead and dying trees would have little cumulative effect on water yield increases. Water yield increases associated with post-fire fuel reduction are more closely related to compaction and reduced infiltration than with the removal of burned material (FEIS p. 3-79). The limited amount of ground based skidding (the majority of that required to occur over snow) and skyline and helicopter yarding will limit the amount of soil compaction that will occur as a result of the project FEIS p. 3-205).

The small degree of change in sediment yield shows minimal overall impacts on a watershed scale (FEIS 3-84).

- (3) The timber resource would be managed consistent with the Forest Plan objective of minimizing hazard due to insects and disease by maintaining stand vigor and diversity of plant communities and tree species (FEIS p 3-408).
- (4) Water bodies and their values are appropriately protected or improved in Alternative F-Modified (FEIS 3-187, 3-244, 3-275, 3-308, and 3-336) through road decommissioning, storage or rehabilitation, implementation of Best Management Practices, and avoidance of activities in Riparian Habitat Conservation Areas. In the FEIS, effects of certain activities in Alternative F appeared to have negative consequences in certain drainages. These activities have been eliminated or modified in Alternative F-Modified to eliminate these problems.
- (5) In the FEIS Alternative F was determined to have the same cumulative effects on sensitive plants as the no action alternative (MIH=May Impact Individuals or Habitat but will not likely result in a trend toward federal listing or reduced viability for the population or species, or NI=No Impact, FEIS 3-441 through 3-445) except for Lemhi Penstemon (LIFV=likely to impact individuals or habitat with a consequence that the action may contribute towards reduced viability for the population in Robbins Gulch due to temporary road construction (FEIS 3-443 to 3-444). The temporary road in the Robbins Gulch drainage has been eliminated in Alternative F-Modified, so effects of the selected alternative on this Lemhi penstemon population would be the same as No Action. An addendum to the East Fork Geographic area Biological Evaluation is found in Appendix C (the only change is to the effects on Lemhi penstemon in Alternative F-Modified).

The mitigation measures included in modified Alternative F will provide for and maintain a diverse plant community. The main threat to plant communities in the burned area is the risk of noxious weed spread into areas previously uninfested. Weed prevention methods in FSM 2080 and continuing public education on the vulnerability of the burned landscape to weed encroachment will help to inhibit the spread of weed seed.

- (6) The activities will either not affect or will maintain sufficient habitat for viable populations of existing native vertebrate species and management indicator species consistent with the multiple-use objectives established in the Forest Plan. Refer to the previous section, "Diversity and Viability Provisions for Fish and Wildlife", for a more complete discussion.

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- (7) The FEIS assesses potential physical, biological, social, aesthetic, cultural, engineering, and economic impacts and consistency with multiple uses planned for the area. Forest Plan consistency is located throughout the FEIS Chapter 3 sections and also addressed below in a section to follow.
  - (8) The project will not adversely affect critical habitat for threatened and endangered species (FEIS 3-244, 3-275, 3-308, and 3-336 and 3-562 and 3-563). The U.S. Fish and Wildlife Service determined that the project is not likely to jeopardize the continued existence of the bull trout subpopulations in the project area (PF Doc Wildlife 76). Compliance with the Endangered Species Act is addressed further below.
  - (9) No right of way grants are being issued as part of these activities.
  - (10/11) Only temporary road construction would occur. The proposed temporary road construction will be designed to standards appropriate for the planned uses, while considering safety, transportation costs and effect upon land and resources. FEIS Chapter 3 addresses effects from proposed roads in relation to each resource. None of the new temporary roads are necessary for the permanent transportation system and will be reclaimed, closed, and revegetated following use.

Based on the analysis provided, I have determined that the temporary roads identified in the Environmental Impact Statement and in this decision are necessary to implement the project.

- (12) Federal, State, and local air quality laws, standards, and regulations will be met (FEIS 3-68).

### **36 CFR 219.27 (b) Vegetation Management**

#### **The selected alternative will:**

**Be best suited to the multiple-use goals established for the area as stated in the Forest Plan.** These goals are stated in the FEIS within Chapters 1 and 3. Based upon review of pertinent information from the FEIS, interdisciplinary team field review, and the project file, I have determined that Alternative F-Modified is best suited to meet these goals while responding to public concerns.

**Assure that technology and knowledge exists to adequately restock lands within five years after final harvest.** Managed stands will be re-stocked in a timely manner (FEIS 3-369, 3-381, 3-392, 3-402).

**Not be chosen primarily because it will give the greatest dollar return or the greatest output of timber (although these factors shall be considered).** Factors I considered in making the selection are discussed previously in this Record of Decision. Alternative F-Modified does not give the greatest dollar return nor output of timber.

**Be chosen after considering potential effects on residual trees and adjacent stands.** The selection of Alternative F-Modified does consider the effects on residual trees and adjacent stands as disclosed in discussions in the FEIS Chapter 3 "Forested Plant Communities" Section.

**Be selected to avoid permanent impairment of site productivity and to ensure conservation of soil and water resources.** For all alternatives, protection of soil resources and maintenance of long-term soil productivity will be accomplished in accordance with BMPs, Management Requirements, and Mitigations Measures (FEIS 3-210).

**Be selected to provide the desired effects on water quality and quantity, wildlife and fish habitat, regeneration of desired tree species, forage production, recreation uses, aesthetic values, and other resource yields.** Chapter 3 of the FEIS documents the effects on these resources. Alternative F-Modified provides the above desired effects, as previously discussed under "Reasons For The Decision".

**Be practical in terms of transportation and harvesting requirements and total costs of preparation, logging, and administration.** All alternatives with timber harvesting have positive present net values for preparation, logging and administration (FEIS 3-690). Harvesting and transportation requirements in this project are practical, based on past application and experience.

### **36 CFR 219.27 (c) Silvicultural Practices.**

The following management requirements apply to timber harvest and silvicultural treatments:

1. **No timber harvesting shall occur on lands classified as not suited for timber production pursuant to Sec. 219.14 except for salvage sales, sales necessary to protect other multiple-use values or activities that meet other objectives on such lands if the forest plan establishes that such actions are appropriate. These lands shall continue to be treated for reforestation purposes if necessary to achieve the multiple-use objectives of the plan.**

Guidelines for determining suitability are found in the Forest Plan and proposed harvest units in this decision only

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include areas within productive and suitable lands (FEIS 3-408).

2. **The selected sale schedule provides the allowable sale quantity for the first planning period. Within the planning period, the volume of timber to be sold in any one year may exceed the average annual allowable sale quantity so long as the total amount sold for the planning period does not exceed the allowable sale quantity. Nothing in this paragraph prohibits salvage or sanitation harvesting of timber stands which are substantially damaged by fire, windthrow, or other catastrophe, or which are in imminent danger of insect or disease attack and where such harvests are consistent with silvicultural and environmental standards. Such timber may either substitute for timber that would otherwise be sold under the plan or, if not feasible, be sold over and above the planned volume.**

The allowable sale quantity for the Bitterroot National Forest (33.4 MMBF) is available for the annual timber sale program. This equates to approximately 334 MMBF over the traditional ten-year period for the Forest Plan. The current Forest Plan was signed 14 years ago. This equates to 467.6 MMBF of allowable sale quantity to date. Since 1988, the Bitterroot Forest has harvested approximately 109.18 MMBF. The amount of harvest proposed in Alternative F-Modified is approximately 176 MMBF. The total (accomplished + planned) is approximately 285.18 MMBF. This project would not exceed the allowable sale quantity (Forest Plan Monitoring and Evaluation Report 1988-1999 and Timber Volume Offered and Sold Year 2000).

3. **When trees are cut to achieve timber production objectives, the cuttings shall be made in such a way as to assure that the technology and knowledge exists to adequately restock the lands within five years after final harvest. Research and experience shall be the basis for determining whether the harvest and generation practices planned can be expected to result in adequate restocking. Adequate restocking means that the cut area will contain the minimum number, size, distribution, and species composition of regeneration as specified in regional silvicultural guides for each forest type. Five years after final harvest means five years after clearcutting, five years after final overstory removal in shelterwood cutting, five years after the seed tree removal cut in seed tree cutting, or five years after selection cutting.**

The FEIS addresses this in detail on pages 3-369, 3-381, 3-392, 3-402. Project file documents Timber/Silv-13 and Timber/Silv-125 also clarify this issue and our ability to restock lands. In summary, there is reasonable assurance that lands will be adequately restocked within five years after final harvest.

4. **Cultural treatments such as thinning, weeding, and other partial cutting may be included in the forest plan where they are intended to increase the rate of growth of remaining trees, favor commercially valuable tree species, favor species or age classes which are most valuable for wildlife, or achieve other multiple-use objectives.**

FEIS page 2-10 describes when cultural treatments would be applied and their objective.

5. **Harvest levels based on intensified management practices shall be decreased no later than the end of each planning period if such practices cannot be completed substantially as planned.**

This management requirement does not apply to this project.

6. **Timber harvest cuts designed to regenerate an even-aged stand of timber shall be carried out in a manner consistent with the protection of soil, watershed, fish and wildlife, recreation, and aesthetic resources, and the regeneration of the timber resource.**

Regeneration harvesting is designed to reduce fuels following a lethal or stand replacing fire event and is done in a manner that provides resource protection. Please refer to the discussion of Alternative F in the FEIS on page 2-18 and the modifications made to Alternative F (described previously in this document) along with the mitigation measures found in the FEIS on pages 2-25 through 2-30 and ROD Appendix A.

7. **Timber harvest and other silvicultural treatments shall be used to prevent potentially damaging population increases of forest pest organisms. Silvicultural treatments shall not be applied where such treatments would make stands susceptible to pest-caused damage levels inconsistent with management objectives.**

The Post-fire Assessment Section 4.5 (2000) and pages 3-350 through 3-353 and 3-359 through 3-360 of the FEIS discuss this management requirement. The extensive fires have created conditions conducive for a bark beetle outbreak. Management activities in Alternative F-Modified will reduce the effects of an expected bark beetle outbreak.

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### **36 CFR 219.27 (d) Even-aged Management**

This management action will not create additional openings beyond those already created by the fires of 2000. In addition, NFMA contains a specific exception (219.27(d)(2)(iii)) that the established size limits will not apply to the size of areas harvested as a result of natural catastrophic conditions, such as fire, insect and disease attack, or windstorm (FEIS 3-408).

### **36 CFR 219.27 (e) Riparian Areas.**

Activities proposed give special attention to riparian areas through the protection and expansion of INFISH RHCAs, as well as riparian habitat improvement work. The selected alternative includes buffer widths that exceed INFISH standards to further protect riparian areas. No harvesting or felling of trees will occur within INFISH RHCAs and wetlands, except where needed for safety concerns (FEIS 2-26), or where felling is proposed for fish habitat improvement (Rye Creek, FEIS 2-12 and 2-20).

**36 CFR 219.27 (f) Soil and Water.** Conservation of soil and water resources is a basic objective of this project and will be attained through a number of conservation, protection and improvement activities included in the alternative. These include but are not limited to avoidance of excessive soils disturbance. The project was designed to limit ground disturbance. A large percentage (about 65%) will be yarded using a helicopter and this typically results in little ground disturbance. Skyline and tracked line machines are similar yarding systems as far as ground disturbance and results in 5% or less area disturbed during activities. Of the yarding systems that would be used, ground based yarding systems, even over snow, provide the greatest risk of causing ground disturbance (2-10%) (FEIS pg. 3-20). With Alternative F-Modified, ground based yarding will occur over the least amount of land area, about 10% of the acres that will be treated. (FEIS, page 3-203 and ROD Appendix C) Soil quality will be maintained by minimizing erosion, compaction, and displacement (FEIS 3-210).

Sheafman Creek, utilized for the Pinesdale Municipal Watershed is rated as a B-1 water by DEQ, the same as other waters throughout the analysis area. The Montana Department of Environmental Quality has been notified of this project. The amount of area to be treated in Sheafman Creek is very small compared with the entire watershed and any sediment that may reach streams would be diluted by the size of Sheafman Creek. Units are located along a ridge and well away from live water. The application of BMP's, and additional mitigation (ROD Appendix A) should maintain the beneficial uses in this watershed.

**16 USC 1604 (g)(3)(f) Even-aged Management and Clearcutting.** The cutting of live trees to create an even-aged system is not proposed. The fires themselves created even-aged conditions where the removal of dead and dying trees is proposed and followed with either planting or natural regeneration.

### **Forest Plan Consistency**

The Bitterroot National Forest Plan (Forest Plan) establishes management direction for the Forest. This management direction is achieved through the establishment of Forest goals, objectives, standards, and guidelines. Project implementation consistent with this direction is the process by which we move toward the desired condition described by the Forest Plan. Forest Plan direction provides the sideboards for project planning. In addition, the National Forest Management Act requires that all resource plans are to be consistent with the Forest Plan (16 USC 1604 (i)). The FEIS displays the Forest Plan and Management Area goals and objectives and the standards applicable to the Burned Area Recovery project area (FEIS Chapter 1). The alternative development process and the management goals of the alternatives are described in the FEIS in Chapter 2, while the environmental consequences of the alternatives in relation to the Forest Plan standards and guidelines are disclosed in the FEIS in Chapter 3.

I have evaluated the alternatives and compared them to Forest Plan standards, goals and objectives for the Burned Area Recovery. Alternative F is consistent with the Forest Plan except for watershed and fish standards. In making this decision, I decided to modify Alternative F in five drainages to meet the watershed and fish standards. I have determined that Alternative F-Modified will meet Forest Plan Standards, as amended and will contribute toward reaching Forest Plan goals and objectives (FEIS Chapters 2 and 3, PF doc. – Forest Plan - 2).

### **Clean Water Act and Montana Water Quality Standards**

Numeric sediment thresholds are not specified in the 1987 Bitterroot Forest Plan or the 1995 INFISH amendment to the Forest Plan, nor have Total Maximum Daily Loads (TMDL) been developed for the Bitterroot River basin. Therefore, project resource specialists must rely on project analysis, past monitoring experience, and consultation with regulatory agencies such as the Montana Department of Environmental Quality (DEQ), the U.S. Environmental Protection Agency (EPA), and the U.S. Fish and Wildlife Service (USFWS) to develop and modify proposed activities so that state water

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quality standards are met, and the project is consistent with the Clean Water Act and Endangered Species Act. The DEQ, EPA, and USFWS have reviewed the sediment yields that are predicted to be produced by modified Alternative F (see Appendix C), and have concluded that State water quality standards would be met (FEIS Correspondence - 14), and modified Alternative F would be consistent with the Clean Water Act (FEIS Correspondence - 14) and Endangered Species Act (PF Doc. Wildlife 76 and Fish-28).

The Montana Department of Environmental Quality and U.S. Fish and Wildlife Service have concluded that Alternative F-Modified will protect beneficial uses, including cold water fisheries (FEIS Correspondence - 14, and PF Doc. Fish-76). In the bull trout BA, a “likely to adversely affect (LAA)” determination was made on six of the eight bull trout subpopulations that would be affected by this project. The LAA determination does not imply that the beneficial use of cold water fisheries would be impaired, it simply discloses that there is a more-than-negligible risk that take of bull trout individuals, eggs, and/or habitat could occur as a result of the project. It is the responsibility of the U.S. Fish and Wildlife Service to decide whether the take is likely to jeopardize bull trout subpopulations. In the Biological Opinion, the U.S. Fish and Wildlife Service has determined that Alternative F-Modified is not likely to jeopardize the continued existence of the bull trout subpopulations in the project area (PF Doc. Fish-28).

### **Endangered Species Act**

Consultation with the US Fish and Wildlife Service on the effects on Threatened and Endangered Species has been completed, and a Biological Opinion (bull trout) and letter of concurrence (lynx, bald eagle, gray wolf, and grizzly Bear) with the analysis findings have been received (PF doc. Wildlife 76). In the Biological Opinion, the U.S. Fish and Wildlife Service has determined that Alternative F- Modified is not likely to jeopardize the continued existence of the bull trout subpopulations in the project area (PF doc. Fish 28). The project will have no effect on gray wolves and grizzly bears. The project “May Affect but is Not Likely to Adversely Affect” bald eagles and Canada lynx (PF Doc. Wildlife - 76; FEIS 3-244, 3-275, 3-308, 3-336, 3-518, 3-562 and 3-563). The Forest will comply with terms and conditions in the Biological Opinion (bull trout) and the recommendations in the letter of concurrence (lynx bald eagle, gray wolf, and grizzly bear).

I have complied with all applicable Federal Laws and Regulations by consulting with the Fish and Wildlife Service on effects of the project on threatened and endangered species, by considering regulations promulgated under the National Forest Management Act and applying them appropriately to wildlife populations and habitat diversity, and by complying with Forest Service regulations and policies. I have addressed a comment from Montana Fish, Wildlife and Parks (FWP) relevant to thermal cover on winter range by limiting live tree harvest to areas where other resource objectives in the Wildland Urban Interface outweigh the need for big game thermal cover. I have added a mitigation measure to provide breeding thickets for blue grouse, also in response to a comment from FWP. The Environmental Protection Agency asked that the Forest monitor population effects on Pileated Woodpeckers, a Management Indicator Species of the Forest Plan. The Forest has an ongoing monitoring effort (Forest Plan Monitoring Report, USDA 1998a) and will continue that monitoring. The Forest also has monitoring efforts designed to track populations of elk, lynx, pine marten, Northern Goshawks, Peregrine Falcons, amphibians and migratory birds (Forest Plan Monitoring Report, USDA 2000e).

### **National Historic Preservation Act**

Cultural resource overviews have been completed on all areas where ground-disturbing activities will occur. This action is not expected to affect any cultural resources. Recognizing that the potential exists for unidentified sites to be encountered and disturbed during project activity, contract provision C6.24# will be included in all contracts. This provision allows the Forest Service to unilaterally modify or cancel a contract to protect cultural resources regardless of when they are identified. This provision will be enforced if a site is discovered after an activity begins.

Heritage and Tribal interests are regulated by federal laws that direct and guide the Forest Service in identifying, evaluating and protecting heritage resources. Alternative F-Modified will comply with these federal laws (FEIS 3-662).

### **Migratory Bird Treaty Act and Executive Order 13186**

I believe project design and mitigation provide adequate conservation measures for migratory birds. For instance: about 85 percent of the burned area will be precluded from treatment by my decision to implement Alternative F-Modified; in the 15 percent prescribed for treatment, snag and coarse woody debris requirements will assure maintenance of habitat for a wide variety of birds associated with snags and dead wood; riparian habitat conservation areas will not be treated and therefore will provide stringers and connections within the treated units; no remaining old growth habitat will be entered; we have specifically designated “older snags” (those snags that existed before the fires) for retention because they provide important cavity nesting bird habitat; over 6,500 acres of the treatment units require winter logging when most migratory birds are elsewhere; and resident birds are mobile, not tied to nest sites or territories. It is expected most of the 27,000

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acres of helicopter yarding will occur in winter (due to increased payload capability during cold weather); and from 10 to 30 percent of the hand piles created on 3,800 acres will be left to provide cover for songbirds and small mammals. In addition, I have decided to preclude harvest of live trees in three areas of known occupied Flammulated Owl habitat in Mink Creek, Reimel Ridge and from Robbins Gulch to Sula Peak.

I acknowledge this project may result in an unintentional take of individual migratory birds in spite of the measures taken to protect them. However, the project complies with the USFWS Directors order #131 (PF Doc. Wildlife-84) related to the applicability of the Migratory Bird Treat Act to federal agencies and requirements for permits for “take.” In addition, this project is compliant with EO #13186 because the analysis meets our obligation as defined under the January 16, 2001 MOU between the USDA Forest Service and USDI Fish and Wildlife Service designed to compliment EO #13186. The actions expected under this MOU will be precursor to help inform more site-specific protocols that will be developed in subsequent interagency MOU(s), pursuant to the EO. The purpose of this MOU is to strengthen migratory bird conservation through enhanced collaboration between the FS and USFWS, in coordination with state, tribal and local agencies. As required under this MOU, this project: (1) Identifies management practices that may affect high priority species (FEIS p 3-506-508) as defined by the MOU and Partners in Flight, and (2) develops conservation measures to avoid or minimize impacts to migratory birds (FEIS pgs. 2-25 through 2-31).

The Forest has coordinated plans for migratory bird conservation with the Montana Field Office of USDI Fish and Wildlife Service (PF Docs. Wildlife-55 and Wildlife-83).

### **Environmental Justice (Executive Order 12898)**

Executive Order 12898, “Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations,” requires that Federal agencies make achieving environmental justice part of their mission by identifying and addressing, as appropriate, disproportionately high and adverse human health and environmental effects of their programs, policies, and activities on minority populations and low-income populations.

No minority or low-income populations were identified during scoping (internal or external) and analysis that might be affected by the activities.

My conclusion is that the risk of such disproportionate effects on minority or low-income populations from this amendment is very low. Based on the FEIS, there is no evidence that the low level of risk is disproportionately placed on low income or minority populations.

Alternative F-Modified does not pose any significant socioeconomic risks that disproportionately affect low income or minority populations in communities where timber producing employment opportunities and workers are located.

### **Clean Air Act**

The basic framework for controlling air pollutants in the United States is the 1970 Clean Air Act (CAA), as amended in 1990 and 1999 (42 USC 7401 et seq.) The CAA was designed to protect and enhance the quality of the Nation’s air resources. The main air quality concern associated with this project is the amount and duration of particulate matter (PM) produced by prescribed burning. All prescribed burning would be implemented in full compliance with Montana and Idaho DEQ air programs through cooperation with the Montana Idaho Airshed Group. I have concluded that this project meets all criteria to protect air quality (FEIS 3-59 through 3-68).

### **Environmentally Preferable Alternative**

The Council on Environmental Quality defines the environmentally preferable alternative as “the alternative that will promote the national environmental policy as expressed in NEPA’s Section 101. Ordinarily, this means the alternative that causes the least damage to the biological and physical environment; it also means the alternative which best protects, preserves, and enhances historic, cultural, and natural resources.” This definition could be generalized to mean the alternative that best balances negative impacts with benefits.

The Burned Area Recovery project focuses on long-term benefits to the environment, including; reducing the severity of fires in the long-term (20+ years), improving watershed conditions in the long term (5+ years) and reforesting burned areas (5+ years). In terms of long-term benefit, Alternative D would have the most long-term benefit for reductions of fuel and reforestation, although the negative effects on fish and water are not considered acceptable. Alternative G would have the most long-term benefit for watershed improvement, but is one of the least effective alternatives in reducing fuels and reforesting burned lands.

Alternative A (No Action) would have the least short-term impacts because sedimentation effects on watersheds from road decommissioning or storage in all action alternatives, and potential increases in water yield in Alternatives B, D, E

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and F. Alternative A, however, would have no long-term benefits from reduction of fuels, watershed improvement and reforestation.

The alternative with the most long-term benefits and the least short-term and long-term negative impacts is Alternative F-Modified, which reduces fuels, improves watershed, and reforests burned areas while minimizing the impacts from water yield increases and sedimentation. Considering these factors, I conclude that Alternative F-Modified is the environmentally preferred alternative.

## **Implementation**

The implementation schedule for fuel treatments is dependent on various factors. Priority for implementation is given for treatments in:

- Wildland urban interface,
- Dry forest habitat types with excessive fuel loads, and
- Bull trout habitat.

Areas containing bull trout habitat are planned to have most of the fuel treatment activities and nearby aquatic habitat improvements completed in the first two years.

A timber value exists within many of the fuel reduction activity units to be treated. This timber value is subject to rapid deterioration; in order to retain some of the timber value, most of the removal is planned to occur in the next 2 to 3 years. The value received from the timber through fuel reduction treatments influences the amount of fuel treatment and non-fuel treatment work such as reforestation that can be accomplished.

For this project, the estimates of timber value, sale revenue and funds available from the sale of timber to complete stewardship projects were based on *current market conditions* (Fall 2001). Determining the actual value received for harvested timber is dependent upon factors such as:

- Condition of the burned timber when sold, and
- Market conditions

There is a limited window of opportunity in which to capture the value of many fire-killed trees for forest products. The impact of a one year delay from the present in getting the harvest contracts awarded would decrease sale revenue by nearly \$11 million (ROD Appendix C). This means the project would change from a net positive revenue of about \$3 million from harvest contracts to a net payment of over \$8 million to treat the same areas. The opportunity to use harvest to accomplish the fuel reduction goals could therefore greatly reduce fuel reduction costs to taxpayers and yield economic benefits locally and regionally.

Reforestation will occur following fuel reduction activities. Delays in reforestation will add to the cost of planting due to domination of sites by competing vegetation.

In the presence of poor timber market conditions and/or deteriorated timber material, the Forest Service may delay or postpone project implementation if the costs to the government are significantly greater than the timber value estimates made in the FEIS (pages 3-683 to 689). In areas where little value remains, treatments would be completed using available funding and could occur beyond 2005.

Implementation of this decision has additional logistical requirements. Portions of the project will require operations to occur over snow or frozen ground to protect soils, limiting the time available to reduce fuels in those areas. Other work, such as road storage and decommissioning is infeasible when the ground is frozen or snow-covered. Conditions will be subjected to seasonal variations. Specific roads will be improved for watershed protection prior to hauling logs on the roads, which could delay treatment activities. Forest Service officials will need time to prepare stewardship contracts, or other contracts. Prospective bidders will need adequate time to review projects and submit proposals.

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I am the Responsible Official for the decision in this Record of Decision. Note that in many cases this Record of Decision provides a summary of information described more completely in the FEIS. For more detailed information, please refer to the Final Environmental Impact Statement or the project file. I have been briefed on the FEIS analysis, the public input, and I understand this project. My decision is the final administrative determination of the Department of Agriculture.



Date: 12/17/01

**MARK REY**  
Under Secretary for Natural Resources and the Environment  
US Department of Agriculture

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