

# MOOSE POST-FIRE PROJECT

## *Record of Decision*

Flathead National Forest  
Glacier View Ranger District  
Flathead County, Montana

**November 2002**

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USDA Forest Service

**Responsible Official:**

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# Moose Post-Fire Project

## Record of Decision

### I. SUMMARY OF DECISION

After careful consideration of the potential impacts of the alternatives analyzed and documented in the Moose Post-Fire Project final environmental impact statement (FEIS) (issued in October 2002), I have decided to implement management actions as described below under *Summary of Decision*.

Project activities will occur within the 68,000-acre Moose project area approximately 15 air miles north of Columbia Falls, Montana. The project area includes all National Forest System Lands affected by the Moose Fire plus the unburned portion of the Big Creek drainage (Map 1).

A summary of the actions in my decision include:

#### SUMMARY OF DECISION:

- **Implement vegetation treatments from Alternative 3 with some changes (See VII. Decision for a description of the changes). My decision will include:**
  - salvage of trees on 2015 acres (not in any inventoried roadless area)
  - fuels reduction on 141 acres
  - planting trees on 1065 acres
  - beetle funnel traps, pheromones, and trap/baited trees
- **Implement the road strategy identified in Alternative 3 with some modifications. This includes wheeled motorized restrictions on 11 miles of open road and 56 miles of road decommissioning.**
- **Implement project-specific design criteria and monitoring actions detailed in the FEIS on pages 2-9 through 2-14 and pages 2-65 through 2-67, respectively.**
- **Implement Appendix A, Salvage Units Lists**
- **Implement Appendix B, FEIS – Post Mortality Analysis and Guidelines**
- **Implement Appendix C, FEIS – Best Management Practices**
- **Implement Appendix E, FEIS – Monitoring Plan for Fish, Soil, and Water**



Map 1. Vicinity Map

## II. PROJECT BACKGROUND

### *The Moose Fire*

The Moose Fire started on August 14, 2001, the result of a lightning strike from a storm near the Whitefish Divide within the Glacier View Ranger District, Flathead National Forest. The fire made several very large runs down the Big Creek drainage due to high gusty winds and dry temperatures. By early September, the fire had grown to 43,000 acres due to winds pushing the fire east across the North Fork Road and the North Fork Flathead River into Glacier National Park. The fire continued to run east into Glacier National Park and to the south on Flathead National Forest land, forcing an evacuation of Big Creek Campground. To protect the old Glacier View Ranger Station complex, now occupied by Glacier Institute, fire fighters successfully applied a “burnout operation.”

By October 2<sup>nd</sup>, at approximately 71,000 acres, the fire was considered 88 percent contained. The fire did not gain much in acreage after this date. The fire burned 35,750 acres within the Flathead National Forest, 26,955 acres in Glacier National Park, 6856 acres of State of Montana lands, and 953 acres of private lands. Refer to Map 1-1 for a view of the fire and its effects on ownership.

Fireline rehabilitation work started at the end of September 2001 and included returning plant materials that were removed when building the lines; cutting dangerous snags for safety reasons; building waterbars or ditches to redirect surface water and prevent soil erosion; and other soil erosion prevention work.

### *Pre-Fire Analyses*

Before the Moose Fire, two environmental analyses in the Big Creek drainage provided pre-fire baseline information. A landscape-level assessment of the Big Creek drainage was completed in November 1999. The *Big Creek Geographic Unit Ecosystem Analysis at the Watershed Scale (Big Creek EAWS, project record exhibit V-8)* considered social, physical, and biological factors both on a landscape and a stand basis. The EAWS made no decisions but provided both short-term and long-term recommendations for managing the Big Creek watershed. From this assessment, the *Big Creek Resource Management Project* emerged. This site-specific project proposed various activities within the Big Creek drainage; however, the analysis for the project was not complete when the 2001 Moose Fire occurred.

### *Moose Post-Fire Analysis*

During the latter stages of the Moose Fire, two analyses were initiated to: 1) determine emergency rehabilitation needs; and 2) evaluate the primary concerns related to the post-fire effects on terrestrial, aquatic, and social ecosystem components.

### **Burned Area Emergency Rehabilitation**

The first analysis, Burned Area Emergency Rehabilitation (BAER) used a team of regional and local natural resource specialists representing several government agencies (Flathead National Forest, Glacier National Park, U.S. Fish and Wildlife Service, and Montana Department of Fish, Wildlife and Parks) to determine emergency actions needed to protect watersheds from the effects of the fire. Some of the actions identified and subsequently completed included aerial seeding; placing straw wattles on a very severely burned area; cleaning road ditches, culvert inlets, and catch basins; constructing diversion dips on roads; and upgrading several culverts. Additional watershed rehabilitation treatments and monitoring of the effectiveness of completed work continues in 2002 and beyond.

### **Post-Fire Assessment**

Following the BAER analysis, the Flathead National Forest assembled an interdisciplinary team to assess post-fire conditions for the Moose Fire and three other non-wilderness fires that burned within the forest. The result was a

document titled: *Wildfires of 2001 Post Fire Assessment of the Moose - Werner Peak - Ear - Sunset Peak Fires (2001 Post-Fire Assessment – project record exhibit V-7)*. Besides providing a history of each fire, the assessment was designed to:

- Identify post-fire and post-BAER rehabilitation and restoration needs and opportunities within and adjacent to burned areas.
- Review pertinent Forest Plan guidance for the management areas affected by the fire.
- Identify potential management actions within the fire areas.
- Provide a context for potential post-fire management activities.
- Identify and recommend appropriate NEPA strategies for potential projects, including potential key issues and purpose and need statements

The *2001 Post-Fire Assessment* recommended numerous restoration and recovery actions and management opportunities, including the activities included in the proposed action described for the Moose Post-Fire Project. Many restoration and recovery activities are being addressed under separate NEPA analyses and are included as current and reasonably foreseeable actions in the cumulative effects analysis disclosed in Chapter 3 of the FEIS. Some of these activities include:

- **Reforestation Activities** – Numerous activities to revegetate and reforest sites throughout the Moose Fire area. Activities began in the spring of 2002. Reforestation of proposed salvage harvest activities are included as part of proposed activities addressed in the Moose Post-Fire Project FEIS.
- **Road Maintenance Activities** – Roads throughout the Big Creek and Coal Creek watersheds require attention to ensure they meet best management practices (BMP) standards and that road drainage and culvert sizes can accommodate anticipated increased run-off resulting from the fire. Activities began in the spring of 2002 and will continue through the 2003 field season. Additional road maintenance work on roads planned for timber hauling associated with proposed harvest activities is addressed in the *Moose Post-Fire Project FEIS*.
- **Trail Maintenance** – The fire damaged several trails that are now in need of maintenance activities or reconstruction. Work began in the summer of 2002 and will continue in subsequent years depending on funding.
- **Noxious Weed Monitoring and Treatment** – Monitoring and treatment of noxious weed infestations in the Moose Fire area began in 2002. The *2001 Forest-wide Noxious and Invasive Weed Environmental Assessment and Decision Notice* (project record exhibit V-21) authorizes and guides this work.
- **Fish Habitat/Channel Stability Improvement** – In-stream activities to help maintain channel stability may occur in some specific stream segments.
- **Visitor Safety** – Signing and periodic removal of dead trees that constitute safety hazards in and adjacent to administrative sites and recreation facilities will occur; it began in 2002.
- **Inventory and Monitoring** – The *2001 Post-Fire Assessment* identified a variety of inventory and monitoring opportunities. These activities are being implemented as funding allows (See FEIS Chapter 3, current and reasonably foreseeable actions).

## II. PURPOSE OF AND NEED FOR ACTION

I assigned the Three Forks Planning Team (a group of natural resource planning specialists, most of which are stationed at the Hungry Horse/Glacier View Ranger Station) the important task of producing an environmental impact statement (EIS) for the 'Moose Post-Fire Project.' I directed the team to design the project to respond to the goals and objectives of the Flathead Forest Plan and to help change resource conditions towards meeting desired future conditions identified in the Big Creek EAWS, Moose Post-Fire BAER analysis, and the Post-Fire Assessment process.

Given the changed ecological conditions created by the fire, the purpose of and need for the project was to:

### **PURPOSE AND NEED:**

- **Decrease potential mortality caused by bark beetles to remaining live Douglas-fir and spruce trees within and outside the Moose Fire area**
- **Recover merchantable wood fiber affected by the Moose Fire in a timely manner to help support local communities and contribute to the long-term yield of forest products**
- **Reduce the hazard and severity of future fires by reducing future fuel accumulations caused by the Moose Fire on specific sites adjacent to private property or administrative sites**

Further description of the purpose of and need for action is in the FEIS on pages 1-6 through 1-9.

## IV. PUBLIC INVOLVEMENT

Extensive public involvement was conducted with this project. The key public involvement activities are listed below. Additional details can be found in the FEIS on pages 2-2 through 2-4 as well as in the project record (exhibit F-3).

### Scoping Process

- A legal notice was published on January 6, 2002 in *The Daily Inter Lake* that provided information about the initial proposal and purpose of and need for the *Moose Post-Fire Project*.
- A *Notice of Intent to Prepare an Environmental Impact Statement* was published in the *Federal Register* on January 10, 2002.
- Numerous newspaper articles were published in *The Daily Inter Lake*, *Hungry Horse News*, and *Whitefish Pilot* in January 2002. The project was discussed on KOFI-Talk Radio in mid-January.
- Over 300 letters were mailed to the public, government agencies, and groups or individuals potentially interested in or affected by the project, asking them to review and comment on the proposed project.
- Presentations were provided to small groups who requested further information on the project in January and February of 2002.
- The public was provided 30 days to comment during the "scoping" process. We received nearly 160 letters, phone calls, and e-mails commenting on the proposed action.

### Draft Environmental Impact Statement (DEIS)

- The DEIS was published and made available for public comment on June 26, 2002. Copies of the DEIS were provided to interested people and letters were sent to rest of the mailing list informing them of the

availability of the DEIS. In addition, the DEIS was posted on the Flathead National Forest website at [www.fs.fed.us/r1/flathead/nepa](http://www.fs.fed.us/r1/flathead/nepa). Copies of the DEIS were placed at Flathead County library branches at Columbia Falls, Whitefish, and Kalispell.

- A *Notice of Availability* was published in the *Federal Register* on June 28, 2002.
- News releases were sent to the local news media for publication and broadcasting.
- Approximately 7 bus tours of the project area took place in June and July, including one tour in which specialists from the planning team hosted the tour.
- An evening open house was provided on July 17, 2002 in Kalispell, Montana, hosting approximately 40 people.
- Meetings with various local civic groups, government agencies, and congressional staff personnel took place following the DEIS publication.
- The public was provided 45 days to comment on the DEIS. We received nearly 1400 letters, phone calls, and e-mails commenting on the DEIS. These comments were addressed in the FEIS, Chapter 4, in Volume 2.

#### Final Environmental Impact Statement (FEIS)

- A *Notice of Availability* was published in the *Federal Register* on October 25, 2002
- The FEIS was published and made available for public comment on October 25, 2002. Copies of the FEIS were provided to interested people and letters were sent to the rest of the mailing list informing them of the availability of the FEIS. The FEIS was posted on the Flathead National Forest website at [www.fs.fed.us/r1/flathead/nepa](http://www.fs.fed.us/r1/flathead/nepa).

#### Exemption of Stay Activities

- On October 21, 2002, a letter requesting an emergency determination and exemption from stay of activities during the appeal period was sent to the Chief of the Forest Service.
- The cover letters sent to the mailing list at the time the FEIS was published also mentioned that the Forest requested an emergency determination and included a summary of what activities were included in the exemption request. This cover letter also mentioned that the Record of Decision would be signed in late November to provide a 30-day period between the release of the FEIS and the Record of Decision as specified under FSH 1909.15 Chapter 27.21(10)(b).
- The Chief of the Forest Service, Dale Bosworth, granted an exemption of stay on November 18, 2002.

#### Ongoing Coordination

- Ongoing Coordination with State and Federal agencies and the Confederated Salish and Kootenai Tribes occurred throughout the process. These contacts are documented in the project record – this coordination will continue through project implementation.

U.S. Fish and Wildlife Service  
Montana Department of Fish, Wildlife and Parks  
U.S. Environmental Protection Agency  
Montana Department of Natural Resources and Conservation  
Montana Department of Environmental Quality

Glacier National Park  
State Historical Preservation Officer

- Tribal Consultation - The Flathead National Forest archaeologist met with the Confederated Salish and Kootenai Tribe on two different occasions at the end of March 2002 and at the end of May 2002 to discuss forest-wide projects including the Moose Post-Fire Project. At the end of June, representatives from the Tribe and the Forest visited the project area to discuss inventory strategies, proposed treatments, and tribal concerns. The Tribe did not identify any tribal cultural concerns or traditional cultural property areas in the project area (project record exhibit W-1).

## V. ISSUES

The planning team identified and I approved key issues for the Moose Post-Fire Project through public and internal scoping (pages 2-4 through 2-8 in the FEIS and project record exhibit D-2). Similar issues were combined into one statement where appropriate. The team determined the following issues were key issues.

### KEY ISSUES:

1. Tree salvage in inventoried roadless areas does not allow natural processes to continue to occur within these areas and may therefore alter its roadless character.
2. Tree salvage in the Wild and Scenic River corridor may affect the character of the corridor.
3. Snag and downed woody material retention should be increased over that in the proposed action to ensure that these wildlife habitat and ecosystem components are provided over the landscape over time.
4. Riparian habitat conservation areas (RHCA) as described in the Native Inland Fisheries Strategy (INFISH) may not be large enough to compensate for the combined effects of the Moose Fire and proposed management activities.
5. The fire may have affected wildlife security particularly during hunting seasons.
6. The proposed salvage treatments and road strategy may result in ineffective use of winter range areas by ungulate species.
7. More roads may need to be decommissioned and restricted than what the Forest Plan (Amendment 19) specifies due to accelerated runoff from burned lands, and less cover and security for grizzly bears because of the fire.
8. Provide a higher level of public motorized access than Forest Plan standards allow.
9. Big Creek Road 316 should be re-opened because it provides good huckleberry picking and other recreation options.
10. Road decommissioning activities may not be compatible with snowmobiling on existing snowmobile routes.
11. There is concern that the project area needs to be rehabilitated and restored through such actions as road decommissioning and reducing sediment sources, which would include little to no salvage logging. Concern was also expressed that bark beetle control measures did not include enough non-salvage techniques.
12. There is concern that the proposed action does not salvage log enough of the project area to address beetle concerns, economic opportunities, and fuel hazards resulting in a reburn potential.
13. There is concern that deferring salvage in riparian areas results in a fuel hazard causing a reburn potential, debris jams causing channel instability, breeding habitat for bark beetles, and increases in nutrient loading.
14. There is concern that the salvage harvest should not create any openings greater than 40 acres.
15. There is concern that the post-fire mortality guidelines allow the removal of trees that would otherwise live.

## VI. ALTERNATIVES CONSIDERED IN DETAIL

I approved the following alternatives that were analyzed by the planning team in the FEIS (project record exhibit D-2):

### Alternative 1 (No Action)

This alternative represented the existing condition within the project area against which the other action alternatives were compared. It proposed no salvage, fuels reduction, bark beetle management options besides salvage, or road management changes in the Moose Post-Fire Project area at this time. It would not preclude activities in other areas at this time or the project area at some time in the future. Refer to page 2-15 in the FEIS for the full text of this alternative.

### Alternative 2

Alternative 2 is the Proposed Action. It was developed to respond specifically to the purpose and need for action. It focused on reducing potential tree mortality from spruce and Douglas-fir bark beetles, recovered merchantable wood products on lands specified as suitable for timber production in the Forest Plan, and reduced future fire risk and hazard on specific sites adjacent to private property and administrative sites. Alternative 2 proposed salvage of dead and dying trees on 2428 acres, including 151 acres in inventoried roadless areas and 15 acres within the Wild and Scenic River corridor; alternative beetle management treatments (non-salvage) on about 272 acres, mostly within riparian areas; and fuels treatments on approximately 208 acres along private lands and Forest Service administrative sites.

Road closures and road decommissioning actions were included in this alternative in order to provide secure habitat for grizzly bears as required in the Flathead Forest Plan. Amendment 19 to the Forest Plan directs us to restrict and in some cases to decommission roads to achieve specific road density levels (open and total motorized access and security core) within areas called "grizzly bear subunits." There are two subunits within the project area. Alternative 2 proposed wheeled motorized access restrictions on 21 miles of open road; and 57 miles of road decommissioning. All stream-aligned culverts on decommissioned roads would be removed in this alternative. Amendment 19 ten-year objectives would be fully met with this alternative. Refer to pages 2-19 through 2-30 in the FEIS for the full text of this alternative.

See Table 1 for features of this alternative.

### Alternative 3

This alternative was developed to address issues regarding salvage in inventoried roadless areas; wildlife security; public motorized access; Road 316; and road decommissioning conflicts with continued snowmobile use. It includes similar actions as the other alternatives (e.g. salvage, fuels reduction, road management, pheromone/funnel traps/baited trees). This is also the alternative I have decided to implement with modifications to salvage units due to further field reconnaissance, and changes to road management as a result of terms and conditions in the Biological Opinion received from U.S. Fish and Wildlife Service (further detail is provided in the decision section of this document).

This alternative would meet Amendment 19 ten-year objectives in the Lower Big Creek subunit, and would meet total motorized access density objectives in the Werner Creek subunit. This alternative would also include two project specific amendments to the Forest Plan to allow a portion of the Big Creek Road 316 (directly behind Big Mountain) to re-open seasonally for wheeled motorized access, and to retain 10 stream-aligned culverts in roads to be decommissioned. Details of these project-specific amendments are provided in the description of Alternative 3 in the FEIS, and in the decision section of this Record of Decision.

See Table 1 for features of this alternative.

## Alternative 4

Alternative 4 was designed to address concerns that some people have regarding the effects of tree salvage in inventoried roadless areas and the Wild and Scenic River corridor; the need for more snags and downed wood material; the need to increase the width of riparian habitat conservation areas; the need to provide more wildlife security during hunting seasons; the need to provide effective use of winter range by wildlife; and a need to decommission and restrict more roads than what Amendment 19 specifies. Alternative 4 proposed salvage on 1793 acres, excluding inventoried roadless areas and the Wild and Scenic River corridor; alternative bark beetle management treatments (non-salvage) on 281 acres; and fuels treatments on 189 acres.

Road closures and road decommissioning actions were included in this alternative to address Forest Plan requirements (Amendment 19) to provide secure habitat for grizzly bears. This alternative provided a greater level of habitat security (lower access density and higher security core) than required under the Forest Plan. Alternative 4 proposed wheeled motorized access restrictions on 25 miles of open road; and 87 miles of road decommissioning. All stream-aligned culverts on decommissioned roads would be removed in this alternative. This alternative also seasonally closed motorized use in the majority of the Big Creek drainage during the spring hunting season, increased the number of snags and downed woody material, and allowed no winter logging. Amendment 19 ten-year objectives were fully met with this alternative. Refer to pages 2-43 through 2-54 in the FEIS for the full text of this alternative.

See Table 1 for features of this alternative.

## Alternative 5

Alternative 5 was designed to address issues related to wildlife security during hunting seasons, and public access on Big Creek Road 316. It contained the same vegetation treatments as Alternative 2. Road closures and road decommissioning actions were included in this alternative to address Forest Plan requirements (Amendment 19) to provide secure habitat for grizzly bears. The development of this alternative addressed concerns about providing more wildlife security during hunting seasons (as in Alternative 4) and also responded to a concern that the upper reaches of Road 316, closed in the Big Mountain Ski Resort Expansion Project, should be reopened to accommodate recreational opportunities. The road strategy proposed in Alternative 5 is similar to Alternative 2, but Alternative 5 would have restricted motorized access on Hallowat Creek Road 315 and the Kletomus Creek Road 5207 (to Moose Lake), allowing Big Creek Road 316 to be open for part of the year. Access to Moose Lake would be converted to a 9.3-mile trail, and the campground would be removed. Approximately 21 miles of open road would be restricted to wheeled motorized access and 56 miles of road would be decommissioned. All stream-aligned culverts on decommissioned roads would be removed. Amendment 19 ten-year objectives were fully met with this alternative. Refer to page 2-55 through 2-60 in the FEIS for the full text of this alternative.

See Table 1 for features of this alternative.

Table 1: Comparison of Features of the Alternatives

Features of the Alternatives	Alternative 1 (No Action)	Alternative 2	Alternative 3	Selected Alternative (Alternative 3 with modifications)	Alternative 4	Alternative 5
<b>Acres of trees removed</b>	0	<b>2428 acres</b> Helicopter – 1520 (62%) Skyline – 266 (11%) Skidder – 255 (11%) Skid/winter or Heli – 387 (16%)	<b>2266 acres</b> Helicopter – 1344 (59%) Skyline – 266 (12%) Skidder – 263 (12%) Skid/winter or Heli – 393 (17%)	<b>2015 acres</b> Helicopter – 1175 (58%) Skyline – 185 (9%) Skidder – 270 (14%) Skid/winter or Heli – 385 (19%)	<b>1793 acres</b> Helicopter – 1462 (81%) Skyline – 123 (7%) Skidder – 208 (12%)	<b>2428 acres</b> Helicopter – 1520 (62%) Skyline – 266 (11%) Skidder – 255 (11%) Skid/winter or Heli – 387 (16%)
		<i>Common to All Action Alternatives:</i> All units would have many trees remaining after harvest to provide for desired forest structure, snag habitat for wildlife, shade on more exposed sites, soil erosion protection, and long-term soil productivity (see “Live and Dead tree retention” below).				
<b>Tree Planting</b>		1182 acres	1086 acres	1065 acres	738 acres	1182 acres
<b>Timber Volume</b>	0	15.0 mmbf	14.6 mmbf	14.7 mmbf	11.9 mmbf	15.0 mmbf
<b>Acres with trees removed in inventoried roadless areas</b>	0	151 est. treated acres (across a total unit area of about 470 acres)	0	0	0	151 est. treated acres (across a total unit area of about 470 acres)
		<i>Common to All Action Alternatives:</i> Only Douglas-fir and spruce trees infested with bark beetles would be removed.				
<b>Acres with trees removed in Wild and Scenic River corridor</b>	0	15	15	12	0	15
		<i>Common to All Action Alternatives:</i> Only Douglas-fir and spruce trees infested with bark beetles would be removed.				
<b>Winter logging</b>	N/A	Yes Winter logging required on 387 acs (heli log is an option)	Yes Winter logging required on 393 acs (heli log is an option)	Yes Winter logging required on 385 acs (heli log is an option)	No winter logging allowed in order to avoid wildlife disturbance	Yes Winter logging required on 387 acs (heli log is an option)
<b>Live and dead tree retention within salvage units</b>	N/A	All ponderosa pine would be left, live or dead. All larch >18” dbh, live and dead, would be left.	All ponderosa pine would be left, live or dead. In seven units (est. 359 acs), all larch >20” dbh, live and dead, would be left. In all other units, larch >18” dbh would be left.	All ponderosa pine would be left, live or dead. In seven units (est. 349 acs), all larch >20” dbh, live and dead, would be left. In all other units, larch >18” dbh would be left.	All ponderosa pine would be left, live or dead. All larch (all sizes) live and dead, would be left. All more severely burned Douglas-fir > 18” dbh would be left (bole deeply blackened, small branches of tree crown burned up)	All ponderosa pine would be left, live or dead. All larch >18” dbh, live and dead, would be left.
		<i>Common to All Action Alternatives:</i> Trees most likely to survive the effects of the fire would be left within salvage areas, following the Post Fire tree mortality guidelines (Appendix B of the FEIS). Dead trees that do not make a merchantable product would also remain in all salvage areas. In most units, these trees far outnumber those that would be salvaged, and include large diameter and small diameter trees. Slash treatments would minimize impacts to soils and strive to avoid excessive slash accumulations.				

Features of the Alternatives	Alternative 1 (No Action)	Alternative 2	Alternative 3	Selected Alternative (Alternative 3 with modifications)	Alternative 4	Alternative 5
<b>Treatments within 200-250 feet of open roads</b>		Marking of >18" dbh larch snags to leave, both in areas inside and outside salvage units.	In areas outside the salvage units, all 18"+ DBH larch snags would be marked. Within salvage units, only the high quality wildlife snags (defined below) would be marked. All other trees that meet removal criteria (merchantable fire-killed or dying trees) would be removed during salvage harvest. This prescription would involve 20 harvest units, affecting roughly 250 acres.	In areas outside the salvage units, all 18"+ DBH larch snags would be marked to leave. Within salvage units, only the high quality wildlife snags (defined below) would be marked. All other trees that meet removal criteria (merchantable fire-killed or dying trees) would be removed during salvage harvest. This prescription would involve up to 20 harvest units.	Marking of >18" dbh larch and Douglas-fir snags to leave, both in areas inside and outside salvage units.	Marking of >18" dbh larch snags to leave, both in areas inside and outside salvage units.
<p><i>Common to All Action Alternatives:</i>                      Marking of the high quality wildlife snags to leave would occur along open roads, and are defined as larch, ponderosa pine, cottonwood or Douglas-fir; typically larger diameter; usually show signs of decay, broken tops, woodpecker use, other animal use. In areas normally off limits to firewood cutting under the permit requirements, area closure signing would be done (such as streamsides and the Wild and Scenic River corridor).</p>						
<b>Temporary and permanent road construction</b>	0	0	0	0	0	0
<b>Total acres of fuels reduction treatments (Coal Creek, Glacier Institute, Big Cr Campground)</b>	0	208 (all three sites)	208 (all three sites)	141 (two sites – eliminates site adjacent to private property)	189 (two sites - eliminates Big Creek campground area)	208 (all three sites)
<b>Methods of spruce beetle mgmt. tools other than salvage harvest</b>	0	Spruce beetle funnel traps: 272 acs Possible peeling/torching of a few beetle infested trees	Spruce beetle funnel traps: 272 acs Possible peeling/torching of a few beetle infested trees	Spruce beetle funnel traps: 272 acs Possible peeling/torching of a few beetle infested trees	Spruce beetle funnel traps: 281 acs. Possible peeling/torching of a few beetle infested trees	Spruce beetle funnel traps: 272 acs. Possible peeling/torching of a few beetle infested trees
<b>Methods of Douglas-fir bark beetle mgmt. tools other than salvage harvest</b>	<p><i>Common to all Action Alternatives:</i></p> <ul style="list-style-type: none"> <li>o <i>Application of anti-attractant pheromone MCH to individual live Douglas-fir trees in the Glacier Institute site, Big Creek campground and within the Wild &amp; Scenic River corridor, to protect them from beetle attack.</i></li> <li>o <i>The felling of up to an estimated 100 Douglas-fir trap trees, within up to 8 of the proposed salvage units, to more effectively manage and contain the potential growth and spread of Douglas-fir bark beetles in regions of higher beetle concentrations, where salvage is expected to be delayed, and reduce mortality of the many remaining live Douglas-fir in these areas.</i></li> </ul>					

Features of the Alternatives	Alternative 1 (No Action)	Alternative 2	Alternative 3	Selected Alternative (Alternative 3 with modifications)	Alternative 4	Alternative 5
Miles of roads to be decommissioned in Big Creek watershed	0	57	56	56	87	56
Closure of motorized use on Elelehum Trail 194 and Deadhorse Trail 255 from April 1 to November 30.	No	Yes	Yes	Yes	Yes	Yes
Snowmobile consideration on decommissioned roads	N/A	Stream-aligned culverts would be removed on decommissioned roads.	Ten stream-aligned culverts would be upsized to meet INFISH standards and retained on decommissioned roads.	Ten stream-aligned culverts would be upsized to meet INFISH standards and retained on decommissioned roads.	Stream-aligned culverts would be removed on decommissioned roads.	Stream-aligned culverts would be removed on decommissioned roads.
Project-specific amendment to Forest Plan	N/A	No	Yes, to Forest Plan Amend. 19 (grizzly bear security): 1) to allow some stream-aligned culverts to remain in place on decommissioned roads (see above). 2) to modify open road density and grizzly bear security core 10 yr standards in Werner Creek Subunit. Refer to Decision section of this ROD for more details.	Yes, to Forest Plan Amend. 19 (grizzly bear security): 1) to allow some stream-aligned culverts to remain in place on decommissioned roads (see above). 2) to modify open road density and grizzly bear security core 10 yr standards in Werner Creek Subunit. Refer to Decision section of this ROD for more details.	No	No

<sup>1</sup> While the intent is to retain all ponderosa pine, larch of certain diameters and live trees, it must be noted that some of these trees may be cut to accommodate landings, skid trails, and skyline corridors to reduce safety hazards.

## VII. ALTERNATIVES NOT CONSIDERED IN DETAIL

The planning team considered and I approved five alternatives that were subsequently dropped from detailed study. The FEIS on pages 2-61 through 2-65 provides detailed rationale for eliminating these alternatives from further study.

- **A restoration and rehabilitation alternative with no salvage harvest, and bark beetle management methods that would involve non-salvage methods only.**
- **An alternative that would salvage more acres within the fire area to address resource concerns.**
- **An alternative that would include salvage harvest in riparian areas.**
- **An alternative that would create no openings through harvest that are greater than 40 acres.**
- **An alternative that would alter the post-fire mortality guidelines to retain more trees.**

## VIII. DECISION

As the responsible official for this project, I have selected the vegetation, road management, and associated actions displayed in **Alternative 3** in the FEIS with some modifications. I modified Alternative 3 in order: 1) to respond to changes identified through more detailed field reconnaissance and monitoring; and 2) to address grizzly bear management changes identified during formal consultation with U.S. Fish and Wildlife Service. These modifications are discussed in more detail in the next several pages. I have reviewed the modifications and determined these changes in Alternative 3 are within the scope of the analysis documented in the FEIS.

Details about the treatments in Alternative 3 are provided in the FEIS on pages 2-31 to 2-42. I have summarized some of these treatments (both vegetation and road management actions) on the next several pages of this Record of Decision.

I also have incorporated into my decision the following items in Chapter 2 of the FEIS: *III. Design Criteria (Features Common to all Action Alternatives) (pages 2-9 through 2-14) and V. Monitoring (pages 2-65 through 2-67)*. I am also incorporating in my decision the following appendices found in Volume 2 of the FEIS: *Appendix A: Salvage Units Lists, Appendix B: Post-Fire Mortality Analysis and Guidelines, Appendix C: Best Management Practices, and Appendix E: Monitoring Plan for Fish, Soil, and Water*. Some of these sections of the FEIS are summarized in Appendix B of this Record of Decision. A few of the items within these sections have been edited for clarification. In addition, corrections to *Appendix C: Best Management Practices* and the Design Criteria in Chapter 2 of the FEIS have been made and are documented in the Errata sheet provided in Appendix A of this Record of Decision.

### **Vegetation Management Actions**

#### **Salvage Harvest**

I have made some changes to the salvage treatments in Alternative 3 based on public comment, field verification, and monitoring. These changes and the reasons for the changes are detailed in the table below.

Table 2. Changes to the vegetation treatments from Alternative 3

Units	Acres affected	Changes to the selected alternative (Alternative 3) and reasons why
16, 17	Reduced 138 acres (an estimated 50 treated acres)	These units have been dropped in their entirety. The treatment in these units specifies removal of beetle-infested trees only, because these areas are designated in the Forest Plan as winter range unsuitable for timber management (MA 13A). Beetle monitoring in summer of 2002 indicates very low level of beetle infestation, with an estimated 40-50 Douglas-fir beetle-infested trees scattered across 138 acres (about 0.3 trees per acre), and with nearly all trees displaying fewer than 6 beetle attacks per tree. Due to the high fire severity, few to no live, beetle susceptible Douglas-fir remain within these units. This condition substantially reduces concerns related to the expected contribution of these units to current or future beetle population levels.
13, 50	Reduced 24 acres	These units in their entirety have been dropped from treatment to better provide for the values associated with larger diameter snag and downed wood. Past shelterwood harvest in these units and in surrounding areas raised concerns with adequacy of current and future large snag and downed wood habitat.
34	Reduced 69 acres	This unit was dropped in its entirety due primarily to overwhelming lack of any merchantable value in the burned trees. Stand experienced 100% tree mortality, and is dominated by smaller diameter trees (many subalpine fir) which have severely deteriorated. In addition, very few beetle infested trees were found in surveys.
69	Reduced 3 acres	This unit was dropped in its entirety due to presence of very few trees suitable for removal. It is located in the Wild & Scenic River Corridor, and treatment specifies removal only of beetle infested trees to address the purpose and need for reducing potential beetle populations and tree mortality. During surveys in the summer of 2002, only 6 infested trees were found that are accessible for salvage.
59, 59A, 61	Reduced 37 acres	These units have been reduced in size (9 acres in Unit 59A and 28 acres in Unit 61) to reflect field verified conditions that indicate preponderance of small diameter unmerchantable trees, lack of large snags in surrounding past harvested area, and low level of beetle infestation.
25	Reduced 25 acres	Dropped an estimated 25 out of 29 total unit acres, to better provide for the values associated with larger diameter snag and downed wood. Most of this unit was a past seedtree/ shelterwood harvest, and the low density of overstory trees raised concerns with adequacy of snag and downed wood habitat. The 4 acres remaining is on the gentle slope at the bottom of the unit, immediately adjacent to the road, and composed of Douglas-fir and larch.
38	Reduced 68 acres	This 84 acre unit was reduced in size from that disclosed in Alternative 3, due to preponderance of live trees in portions of the unit and concerns with adequate snag habitat due to past harvest within and surrounding the unit. Salvage will be limited to 16 acres in the lower end of the unit, in an area dominated by dead/injured Douglas-fir trees heavily infested with bark beetles. Salvage would remove dead and dying trees as guided by the post fire mortality guidelines (Appendix B of the FEIS).
55	Reduced 13 acres	Changed from skyline system to helicopter, due to field verification that indicates inaccessibility to cable system.
9	Reduced 10 acres	10 acres of this 31 acre unit were changed from helicopter logging to ground based system, due to adjacency to open road. These 10 acres consist of about a 200 foot wide strip along the Coal Creek road, where most trees will likely be dropped into or winched to the road. These 10 acres are referred to as Unit 9A.
46	Added 25 acres	This unit is included in the decision, though it was evaluated as part of Alternatives 2 & 5 in the FEIS, rather than Alternative 3. Field verification has found that the area included within this unit has burned at high severity, with 80+% mortality of trees, and contains both Douglas-fir beetle and spruce beetle infested trees. Salvage treatment meets the purpose and need of both recovering the value of wood fiber and reducing potential mortality of live trees due to beetle spread.
<b>TOTAL</b>	<b>364 total salvage acres dropped (276 treated acres) but 25 acres added (Unit 46) NET of 339 total salvage acres dropped (251 treated acres)</b>	
Fuels reduction treatment adjacent to private property	Reduced 67 acres	This unit was dropped because of its relative isolation from all other ground disturbing actions, which are concentrated within the Big Creek watershed.

In addition, I have decided to add a timing restriction for salvaging based on our consultation with U.S. Fish and Wildlife Service. One of their terms and conditions in the Moose Post-Fire Project Biological Opinion is related to timing of salvage harvest. Salvage logging activities will only be allowed from May 16 to March 31 in the salvage units west of the junction of Big Creek Road and Coal Creek Road in order to allow grizzly bears important spring habitat during project implementation in the lower elevations of the Big Creek drainage.

After these modifications, my decision will authorize salvage harvest on an estimated 2015 acres in the Moose Fire area (refer to Map 2). An estimated 14.7 million board feet will be generated with the implementation of this decision. No new permanent or temporary roads will be constructed to facilitate logging systems. Snow roads will be used in units 3 and 26. Where possible, existing stable roadbeds found within and adjacent to units will be used for hauling and skidding to minimize effects to soils and vegetation.

Because of the extensive use of helicopter logging and my concerns for public safety, I will restrict public use of Big Creek Road 316 in the Moose Fire area from its junction with the Coal Creek Road and as needed with area closures during the period logging operations are occurring. Depending upon the progress of the logging operation, this closure period could potentially extend through the year 2005.

I am authorizing the use of logging systems which will minimize impacts to soils. Furthermore, due to the effects of past management actions in Units 19 and 26, I am implementing restoration actions which will improve soils quality. These restoration actions will take place after harvest and will include the rehabilitation of landings and skid trails by either ripping or shrub planting as appropriate for the site.

I am also restricting public firewood cutting in the Moose Fire area (on National Forest System lands) during salvage sale operations.

Table 3 below describes the selected salvage treatments. Map 2 displays the salvage treatments.

Table 3. Salvage harvest units included in my decision.

Unit	Treated Acres	Fire	Severity	Estimated % Dead	MA	Logging System	Regeneration Treatment
1	10		L-M	50%	13	G	NR
2	23		M-H	60%	9	G	NR
3	67		H	95%	9	GW/H	PLANT WP,L, DF
3A	106		H	98%	9	GW/H	PLANT-WP,L, DF
4	27		H	98%	9	GW/H	PLANT-WP,L, DF
5	166		H	100%	13	H	NR
6	71		H	95%	13	H	PLANT-PP,DF
8	22		H	90%	13	GW/H	PLANT- WP,L, PP
9	21		H	95%	15	H	PLANT- WP,L, PP
9A	10		H	95%	15	G	PLANT- WP,L, PP
10	45		H	100%	15	G	PLANT- WP,L, PP
11	5		H	100%	9	GW/H	NR
12	7		M-H	80%	15	H	NR
14	20 (total unit area = 71 acs)		L-H	60%	13A	H	NR
15	15 (total unit area = 43 acs)		L-H	25%	13A	H	NR
18	63		H	100%	15	H	PLANT- PP,L
19	23		H	95%	15	GW/H	PLANT- L,WP
20	31		M	50%	15	GW/H	NR
21	5		H	95%	15	GW/H	PLANT- PP,L
22	39		M-H	70%	15	H	NR
23	32		M-H	70%	15	H	PLANT-PP,DF
24	11		M	60%	15	H	NR
25	4		M-H	80%	15	H	PLANT-PP,DF
26	48		M-H	80%	15	GW/H	PLANT-PP
27	40		M-H	80%	15	G	PLANT- L,WP
28	29		H	98%	15	GW/H	PLANT- L,WP
29	16		H	98%	15	G	PLANT- L
30	7		H	90%	15	H	NR
31	15		H	90%	15	H	NR
33	8		H	95%	15	H	NR
35	22		H	95%	15	GW/H	PLANT- L,WP
37	30		M-H	75%	15	G	NR
37A	11		M-H	75%	15	H	NR
38	16		L-M	50%	15	S	NR
40	18		M-H	80%	15	H	NR
41	124		M-H	75%	15	H	NR

Unit	Treated Acres	Fire Severity	Estimated % Dead	MA	Logging System	Regeneration Treatment
43	18	M-H	80%	15	G	PLANT- L,WP
44	56	M-H	80%	15	G	PLANT- L,WP
46	25	M-H	85%		H	NR
48	94	H	95%	15	H	PLANT- L,DF
49	16	H	98%	15	H	PLANT- L,DF
50	16	M	50%	15	H	NR
52	20	M-H	60%	15	S	PLANT- L
53	22	H	98%	15	S	PLANT- L,DF
54	8	M-H	80%	15	H	NR
55	13	M-H	80%	15	H	NR
56	59	L-H	60%	15	H	NR
57	72	L-H	50%	15	H	NR
58	34	M-H	75%	15	H	NR
58A	20	H	85%	15	S	NR
59	21	M-H	80%	15	H	PLANT- L,DF
59A	27	M-H	80%	15	H	PLANT - L,DF
61	39	H	95%	15	H	PLANT- L
62	10	H	100%	15	G	PLANT-L
63	28	M	60%	15	S	NR
63A	34	M	60%	15	H	NR
64	10	H	90%	15	H	NR
65	91	H	98%	15	H	PLANT- L,DF
66	79	M-H	75%	15	S	NR
67	7	M-H	75%	18	G	NR
68	5	M	60%	18	G	NR
<b>TOTAL</b>	<b>2015 treated acres</b> (total unit area = 2094 acs)					

**Notes to table:**

Fire severity: L – low, M – medium, H – high

MA: Flathead Forest Plan management area

Logging systems: G – ground (skidder); S – skyline cable; H – helicopter; GW – ground winter/ or helicopter

Regeneration: NR – natural regeneration; L - larch; DF – Douglas-fir; PP – ponderosa pine; WP – white pine

Under my decision, the following logging systems will be used:

Ground skidder, summer or winter = 270 acres (14% of salvage acres)

Ground skidder winter only, or helicopter = 385 acres (19%)

Skyline = 185 acres (9%)

Helicopter = 1175 acres (58%)

All salvage units apply treatments to manage post-harvest residual standing, dead and down trees within the salvage units and in areas along open roads.

**Slash Treatment and Downed Wood Material after Harvest:**

Treatment of logging slash will be limited to only those areas where fuel loadings pose other resource concerns (such as regeneration of conifers or fire risk). Logging practices are expected to leave most unmerchantable trees standing, minimize excessive slash concentrations, and avoid or minimize soil impacts. Under my decision, slash will be reduced by excavator piling and burning across portions of 9 units (248 acres) that are accessible in the summer with ground-based (skidder) logging systems; and by jackpot burning (burning of scattered slash concentrations) across portions of 4 units (90 acres) of skyline logged units. Another 12 units (366 acres) of ground-based (skidder) units have no planned post-salvage slash treatment except what is accomplished through the logging operation with removal of the trees. These are mostly those units where winter logging is required to protect soils. Some limited hand piling of slash concentrations along open roads may occur in these units. In the remaining 35 units (1311 acres), no post-salvage slash treatment activities are planned. Most of these are helicopter-logged units and relatively isolated and inaccessible. Upon completion of logging operations, all units will be individually evaluated for slash conditions, potential concerns, and confirmation of site-specific treatment needs.

**Retention of Large Snags and Live Trees:**

Because of tree densities, variation in size classes, and the rapid deterioration of burned trees, most units will have many more dead trees per acre that will not be removed (mostly unmerchantable trees of all sizes and species, but also the designated retention trees) than trees that will be salvaged. These trees will be left standing wherever possible, considering logging safety and accessibility to salvaged trees.

Live trees determined to have high probability of surviving the effects of the fire will be left on the site. The "Post-Fire Mortality Report" (FEIS Appendix B) will be applied to all units to aid in determining these trees. If felling of these trees were necessary for logging access or safety requirements, they will be left on site as downed wood material, except in landing areas.

Within all units, ponderosa pine (all sizes, whether live or dead) will be left on the site.

Within Units 2, 3, 9, 10, 33, 48, and 65, larch (live or dead) >20" DBH will be left (total of about 349 acres). These six units have an abundance of larger larch snags. In all other units, all larch (live or dead) > 18" DBH will be left. These units either have fewer larger diameter larch within or adjacent to the unit, or have many large larch, but nearly all are alive or are greater than 20" DBH. Some of these units are immediately adjacent to an open road and thus would be treated with the special roadside treatment prescription described in the next paragraph. If felling any of these designated leave trees were necessary for logging access or safety requirements, they will be left on site as downed wood material, except if located on landing site.

My decision will implement the following treatment prescription within a strip 200-250 feet wide along all open roads within the fire area:

- If the area is within a salvage unit, only the high quality wildlife snags will be marked to leave and signed as wildlife trees, to protect from firewood cutting. These trees are defined as larch, ponderosa pine, cottonwood or Douglas-fir; typically larger diameter; usually show signs of decay, broken tops, woodpecker use, other animal use, etc. Other trees that meet removal criteria (merchantable fire-killed or dying trees) will be removed during salvage harvest.
- If the area is outside a salvage unit, 18"+ DBH larch snags will be marked and signed as wildlife trees. In addition, the high quality wildlife trees (as defined above) will also be marked to leave and signed.
- Some areas outside salvage units are already off limits to firewood cutting under the firewood permit requirements (such as in streamside areas and in the Wild and Scenic River corridor). I will place area closure signs in some of these areas for further protection.

**Reforestation:**

Following salvage activities, each unit will be reviewed on the ground to verify possible reforestation needs. Many of the units already contain newly regenerated tree seedlings. Other areas may benefit from planting of native conifer species (larch, Douglas-fir, spruce, western white pine and ponderosa pine), to ensure more rapid reforestation of

the site and/or improve species diversity. The best currently available information anticipates planting needs on approximately 1065 acres.

### **Beetle Funnel Traps/Use of Pheromones/Trap Trees**

#### ***Spruce beetle:***

My decision will place pheromone-baited beetle funnel traps across an estimated 272 acres of spruce stands (refer to Map 2). The funnel traps contain an attractant pheromone (chemicals naturally released by the beetles) which draws in and traps emerging adult spruce beetles before they have a chance to attack and kill live spruce trees. These treatment acres were confirmed by monitoring spruce beetle infestations in the summer of 2002, which found high infestation levels across most of the area that was identified as susceptible to spruce beetle infestation (project record J-32). Nearly all of the treatment sites are within the riparian areas of Big Creek and its tributaries.

My decision will also allow the limited use of burning (torching) or debarking beetle-infested trees within riparian areas. These methods kill beetle brood under the bark before it has a chance to emerge. They may be applicable in certain site-specific situations, such as where a beetle infested spruce tree is immediately next to one or more unburned, non-infested trees that are considered particularly important to protect. Ground verification prior to the spring of 2004 (when the spruce beetle adults will emerge from currently infested trees) will identify specific sites and trees where these methods may be suitable.

#### ***Douglas-fir beetle:***

Under my decision, the anti-attractant pheromone called MCH will be used across an estimated five to ten acres to protect the few remaining live Douglas-fir trees in the area immediately around the buildings of the Glacier Institute, the Big Creek campground, and in portions of the Wild and Scenic River corridor. Keeping these particular large trees alive is considered important for their visual and aesthetic values, as potential seed sources, and for wildlife habitat. This pheromone sends the chemical message of "no vacancy" to the flying bark beetles, indicating the tree is at maximum capacity and the beetle should look elsewhere for breeding sites. MCH is approved for this use by the Environmental Protection Agency, and its use is effective and feasible on a limited geographic basis. Under the selected alternative, MCH will continue to be applied for as long as bark beetle populations remain high (somewhere between 2 to 5 years).

Under my decision, as few as 20 or as many as 100 trap trees or trees baited with pheromone attractants will be used in some of the salvage units to increase the effectiveness of salvage treatments, particularly where salvage is delayed until after the adult beetles emerge in the spring of 2003. I will use baited trees in most situations rather than trap trees, because of the relatively high value on remaining live trees within this burned landscape. Baited trees are not felled at the time of baiting, and would only be removed from the site if they become infested with beetles. The combination of conditions where use of trap/baited trees would be effective occurs primarily on the edge of the fire area in the Hallowat Creek drainage (in the vicinity of Units 37 to 41), and in portions of the Elelehum and upper Lookout Creek drainages (in the vicinity of Units 22 to 24, and Units 56, 57, 63 and 66). These are areas that currently have higher beetle populations and where significant numbers of remaining, beetle susceptible live Douglas-fir exist. Exact locations and numbers of either trap or baited trees will be verified with field surveys prior to implementation. Felling of trap trees or baiting of trees will occur within the salvage units before beetle flight begins in the spring of 2003. These trees will then be subsequently removed in the salvage operation.

### **Fuels Reduction**

Two areas will be treated specifically to reduce current fuel loads and lower future fire risk and hazard in the Big Creek Campground and Glacier Institute area (refer to Map 2). Treatment will occur on approximately 141 acres. I have decided not to include within this decision the 67 acres of fuel treatment adjacent to the private property boundary near the mouth of Coal Creek, because of its relative isolation from all other ground disturbing actions, which are concentrated within the Big Creek watershed. My decision does not preclude the implementation of this fuel reduction treatment at some future time.

**MAP OF SELECTED VEGETATION TREATMENTS – MAP 2**

**Travel Management Actions (includes 2 project-specific amendments to the Forest Plan)**

I have decided to select and implement the road strategy from Alternative 3 with some modifications that resulted from the formal consultation process with U.S. Fish and Wildlife Service (this is elaborated further below). I am changing existing travel management within the Lower Big Creek grizzly bear subunit (the eastern portion of the project area) to meet the ten-year motorized access standards specified in Amendment 19 to the Flathead Forest Plan. This means that this subunit will attain 19% open motorized access density, 19% total motorized access density and 68% security core when my decision is fully implemented (refer to Table 4). My decision also includes actions to modify travel management within the Werner Creek grizzly bear subunit (the western portion of the project area) to meet the ten-year total motorized access density standards (19%). Improvements in open motorized access density and security core over the existing situation will also occur.

**Table 4. Decision and Amendment 19 Standards**

Werner Creek Subunit	Existing Amendment 19 percentages	Decision percentages
Open Motorized Access Density (< 1mi/mi <sup>2</sup> )	31%	29%
Total Motorized Access Density (< 2mi/mi <sup>2</sup> )	41%	19%
Security Core (>2500 acres)	41%	63%
<b>Lower Big Creek Subunit</b>		
Open Motorized Access Density (< 1mi/mi <sup>2</sup> )	25%	19%
Total Motorized Density (< 2mi/mi <sup>2</sup> )	34%	19%
Security Core (>2500 acres)	50%	68%

These motorized access standards will be accomplished through road restrictions using gates, berms, and road decommissioning to increase grizzly bear security. Road decommissioning will include actions that will minimize the potential for future sedimentation of streams and noxious weed development (Flathead National Forest Noxious and Invasive Weed Control EA/DN, project record exhibit V-21). These actions will include placement of numerous waterbars, culvert removals, grass seeding, slash or debris placement on roads, straw mulching or erosion netting, planting shrubs, and physical alteration of the road template. Culvert removals and stream restoration will occur where roads to be decommissioned intersect streams except at ten specific locations on snowmobile routes (see below). To reduce the amount of ground disturbed, cross-drain culverts will typically not be removed but waterbars will be placed nearby to ensure adequate drainage. The amount of physical altering of the road template from culvert removal or waterbar creation will vary according to the sites involved. Berms will be placed at the beginning of decommissioned roads to effectively restrict wheeled motorized vehicle access.

Approximately 4 and 7 miles of open yearlong/seasonally open road that were open in some fashion to wheeled motorized access prior to the Moose Fire will be restricted yearlong in the Werner Creek and Lower Big Creek grizzly bear subunits, respectively. In addition, approximately 56 miles of road will be decommissioned in both grizzly bear subunits (refer to Table 5).

**Table 5. Number of miles of open, closed, and decommissioned roads after full implementation of my decision.**

Grizzly Bear Subunit	Total Number of Miles of Road		
	Open to Motorized Access <sup>1</sup>	Closed to Motorized Access <sup>2</sup>	To be Decommissioned
Werner Creek Subunit	27	19	18
Lower Big Creek Subunit	18 <sup>3</sup>	25	38
<b>Total</b>	<b>45</b>	<b>44</b>	<b>56</b>

<sup>1</sup> Includes year-round and seasonally open roads

<sup>2</sup> Includes roads closed by gates and berms

<sup>3</sup> Does not include the North Fork Road which is a county road (approximately 8 miles traverses thru project area)

In response to public comments received on the DEIS, I reviewed the motorized use of the Elelehum Trail 194 and Deadhorse Trail 255. I discovered an oversight not disclosed in the DEIS: these trails are in grizzly bear security core areas. Grizzly bear security core areas allow no motorized use during the non-denning season (see Amendment 19 or Appendix TT of the Forest Plan). As a result, I modified the FEIS to close these trails to motorized use in all action alternatives during the non-denning season to comply with Amendment 19 requirements. According to the 1998 NCDE Access Management Rule Set (page 2 – project record exhibit Rt-35), the non-denning period is generally from April 1 through November 30. I have decided to carry forward these motorized closures on these two trails in this decision.

#### Project-specific amendments to the Forest Plan

With this decision, I am authorizing two project-specific amendments to the Flathead Forest Plan related to the road strategy from Alternative 3. The first will amend the open motorized access density and security core standards in the Werner Creek grizzly bear subunit to 29% and 63%, respectively (from 19% and 68%). Road closures and road decommissioning included in this decision will meet the amended standards. This project-specific amendment will remain in place pending revision of the Flathead Forest Plan. The revision process is currently in progress, with a decision is anticipated in late 2006. During the revision process, grizzly bear standards will be reviewed and possibly modified to reflect the results of ongoing and planned population studies.

The second project-specific Forest Plan amendment included in this decision allows the retention of 10 specific stream-aligned culverts on Road 316E and its adjoining roads, the upper portions on Road 315, and Road 1692 (project record exhibit Q-74), while still considering these roads as “reclaimed” under the Forest Plan. Appendix TT of the Forest Plan currently states that a road must have all stream-aligned culverts removed to be “counted” as a reclaimed road for the purposes of calculating total road density.

#### Snowmobile routes/decommissioned roads

There are approximately 9 miles of decommissioned road included in my decision that also serve as snowmobile access routes to high-use snowmobile play areas. Snowmobile use of these routes has occurred for many decades. It is important to note that these snowmobile routes were identified to remain open in a recent settlement agreement from a lawsuit challenging snowmobile access across the Flathead National Forest. As part of the settlement agreement, snowmobile access has been prohibited within much of the Glacier View Ranger District (Montana Wilderness Association vs. Barbouletos, CV-99-142-M-LBE). The Flathead National Forest is currently preparing an EIS to amend its Forest Plan to address winter-motorized recreation. The settlement agreement is the basis for the proposed action that was scoped to the public in July-August 2002. A decision on the amendment is expected in the spring or summer of 2003.

All stream-aligned culverts will be removed on these decommissioned roads/snowmobile routes, except at one stream crossing on Road 1692, two stream crossings on the upper portions of Road 315, and at seven stream crossings on the Skookoleel road system (Road 316E and its adjoining roads) (refer to map in project record exhibit Q-74). The Skookoleel road system is currently undergoing decommissioning activities as part of the Big Mountain Ski Area Expansion Project, for which the Record of Decision was signed in 1995.

The streams at these ten crossings are deeply incised and water runs even in the winter. If culverts were removed at these sites, safe and reasonable snowmobile use would effectively be blocked unless there are unusually large amounts of snow. The culverts that will remain in place will have one of the following actions taken: (1) They will be appropriately sized to meet INFISH 100-year flow capacity requirements with a maximum of 1.5 to 3' of fill on top of the culvert. The remaining portion of the road prism material above the culvert will be removed from the stream channel and streamside management zone. To minimize any sediment potential (if the culvert were to plug), armoring with large rocks on the upstream and downstream areas of the culvert will occur if the overburden material contains fine soil particles; or (2) the existing culvert will be removed and an arch pipe installed to replace the culvert. The replacement of the overburden material will be the same as described under (1). The purpose of the arch pipe will be to ensure fish passage where appropriate.

These culverts will be monitored annually for the first two years with subsequent frequently depending on monitoring results (more information on the monitoring plan on culverts left in on decommissioned and bermed roads is described in Appendix E in the FEIS and in Appendix B of this Record of Decision). Routine hand maintenance (non-motorized) will be conducted as needed to ensure the culverts are functioning properly.

Where culverts are removed on these snowmobile routes/decommissioned roads, slopes will be flattened as much as possible into and out of culvert removal areas. Wheeled motorized access will be restricted by a berm (physical barrier) and closure orders on these roads.

#### Consultation with U.S. Fish and Wildlife Service

The project area did not meet the five-year Amendment 19 motorized access density standards at the onset of the Moose Post-Fire Project EIS. Therefore, I requested formal consultation with the U.S. Fish and Wildlife Service (USFWS) several months ago. I provided biological assessments (BA) for threatened and endangered fish and wildlife species regarding the effects with Alternative 3; these BAs included a road management implementation schedule (refer to Appendix C in this ROD) which displays all of the road work I plan to do on an annual basis in order to attain the access density standards in each of the two grizzly bear subunits that was discussed above. According to this schedule, road decommissioning will be contracted by 2005 and 2009 in the Werner Creek and Lower Big Creek grizzly bear subunits, respectively. I recently received the USFWS's Biological Opinion (refer to project record I-9 and Rt-34) which included terms and conditions (refer to Appendix D in this ROD) to implement reasonable and prudent measures necessary to minimize the impacts of incidental take resulting from the project. I have incorporated these terms and conditions fully into this decision.

I am extending the existing emergency road restrictions implemented in the spring of 2002 prior to commercial mushroom harvest in the fire area with new closure orders under my decision until the salvage harvest activity is completed. The roads that were restricted under the emergency closure order included:

**Werner Divide Road (1658):** Restricted for one year by a gate at the divide and by the Road 316 gate at the junction with Nicola Creek Road 1692. Snowmobile access available December 1 thru April 14.

**Werner Creek Road (5261), Nicola Creek Road (1692), and Upper Nicola Road (1655):** All restricted by a yearlong gate. Snowmobile access available December 1 thru April 14.

**Big Creek Road 316 (upper portions):** Restricted by a yearlong gate at the junction with Nicola Creek Road 1692 and Werner Divide Road 1658 (the remaining portions of the upper portion of Big Creek Road 316 from its junction with the Werner Divide Road to the junction with Road 316C (South Fork Canyon Creek) are restricted yearlong to wheeled motorized vehicles due to the decision on the Big Mountain ski area expansion project). Snowmobile access available December 1 thru April 14.

**McGinnis Creek Road 803 (includes the Lookout Creek drainage):** Restricted by yearlong gate from the junction with Road 803L to the junction with Road 5290 at the divide. Snowmobile access available December 1 thru April 14.

After salvage harvest is completed, most of these closed roads will remain closed to wheeled motorized access to address open motorized access density objectives specified in Alternative 3 except that the Werner Divide Road 1658 will be restricted seasonally. Further discussion about the Werner Divide Road is provided below.

I have also changed the travel management proposal for the upper portions of Big Creek Road 316 included in Alternative 3 as a result of the USFWS's Biological Opinion. Alternative 3 originally proposed to allow wheeled motorized access from July 1 through October 14 on a portion of the Big Creek Road from its junction with the Werner Divide Road 1658 to the junction with the Lakalaho Road 1696. In order to provide to provide a secure area for grizzly bears while salvage harvesting and road decommissioning activities occur in Werner Creek and Lower Big Creek subunits, this portion of Road 316 (from Werner Divide Road to Lakalaho Road) will remain closed to wheeled motorized use until the Werner Creek subunit reaches 63% core and salvage harvest activity is completed in both the Lower Big Creek and Werner Creek subunits. Once these conditions are met, this portion of the Big Creek Road 316 will be open to wheeled motorized access from July 15 through September 14.

It is important to note that the remaining portions of Big Creek Road 316 towards Canyon Creek will remain closed yearlong to wheeled motorized access as it currently exists due to the decision signed on the Big Mountain Ski Area Expansion Project in 1995. This portion of the road is outside the Moose Post-Fire project area and is located in an

entirely different grizzly bear subunit – Canyon/McGinnis - and was not addressed in the Moose Post-Fire Project EIS.

In addition, I have chosen to implement a seasonal motorized access restriction on the Werner Divide Road 1658 from the Whitefish Divide to the junction of Big Creek Road 316. Wheeled motorized access will be available from July 15 through October 14. In addition, a seasonal motorized access restriction will also be designated for a portion of the Big Creek Road 316 from its junction with the Hallowat Road 315 to its junction with the Werner Divide Road 1658. Wheeled motorized access will be available from July 15 through November 30. These restrictions are designed to compensate for the impacts of reopening a portion of the Big Creek Road 316 discussed above.

Another seasonal motorized access restriction will be implemented on the Hallowat Road 315 beyond mile 3.0, the junction with Werner Creek Road 5261, and on Kletomus Creek Road 5207 (to Moose Lake). Wheeled motorized access will be available from July 1 through November 30

Table 6 displays my decision regarding what will happen to the major road segments within the two grizzly bear subunits. Also refer to Map 3, which displays existing road management and Map 4 which displays road management after my decision is fully implemented.

**Table 6. Summary of my decision for travel management on major road segments in the Werner Creek and Lower Big Creek grizzly bear subunits**

Road Segment	Existing Situation Prior to Temporary Special Order	Selected Actions
<b>WERNER CREEK GRIZZLY BEAR SUBUNIT</b>		
<b>Werner Divide Road 1658</b>	Restricted seasonally; conventional vehicle motorized access available from April 15 thru November 30 from the junction with Big Creek Road 316 to the divide. Snowmobile access available December 1 thru April 14.	<u>DURING SALVAGE ACTIVITIES:</u> Restricted by a yearlong gate at the divide and by the Road 316 gate at the junction with Nicola Creek Road 1692. Snowmobile access available December 1 thru April 14.  <u>AFTER SALVAGE ACTIVITIES ARE COMPLETED:</u> Restricted seasonally; wheeled motorized access available July 15 thru October 14 from the junction with Big Creek Road 316 to the divide. Snowmobile access available December 1 thru April 14.
<b>Big Creek Road 316 (middle portions)</b>	Open yearlong from the junction with the North Fork Road to the berm at the junction with Werner Divide Road 1658.	<u>DURING SALVAGE ACTIVITIES:</u> Open yearlong from the junction with the North Fork Road to the gate at the junction with Nicola Creek Road 1692. Then restricted by the yearlong Road 316 gate at the junction with Nicola Creek Road 1692 and by the yearlong gate at the Whitefish Divide on Road 1658. Snowmobiles allowed from December 1 thru April 14.  <u>AFTER SALVAGE ACTIVITIES ARE COMPLETED AND 63% CORE IS MET IN THE WERNER CREEK GRIZZLY BEAR SUBUNIT:</u> Restricted seasonally from the junction with Hallowat Road 315 to the junction with the Werner Divide Road 1658; wheeled motorized access available from July 15 to November 30. Snowmobile access available December 1 thru April 14.
<b>Big Creek Road 316 (upper portions)</b>	Restricted all year by a berm at the junction with Werner Divide Road 1658 and by a gate at the junction with South Fork Canyon Creek Road 316C.	<u>DURING SALVAGE ACTIVITIES:</u> Restricted all year by a berm at the junction with Werner Divide Road 1658 and by a gate at the junction with South Fork Canyon Creek Road 316C. Snowmobiles allowed December 1 thru April 14.

Road Segment	Existing Situation Prior to Temporary Special Order	Selected Actions
		<u>AFTER SALVAGE ACTIVITIES ARE COMPLETED AND 63% CORE IS MET IN THE WERNER CREEK GRIZZLY BEAR SUBUNIT</u> ; Restricted seasonally by a gate at the junction with Werner Divide Road 1658; wheeled motorized access available from July 15 thru September 14 to the junction with Lakalaho Road 1696. Snowmobiles allowed from December 1 thru April 14.
Hallowat Creek Road 315 (to jct with Road 5207)	Open all year	Restricted seasonally with a gate beyond mile 3.0, the junction with Werner Creek Road 5261; wheeled motorized access available from July 1 thru November 30. Snowmobile access available December 1 thru April 14.
Kletomus Creek Road 5207 (to Moose Lake)	Open all year	Restricted seasonally by gate on Hallowat Creek Road 315; wheeled motorized access available from July 1 thru November 30. Snowmobile access available December 1 thru April 14.
Werner Creek Road 5261, Nicola Creek Road 1692, and Upper Nicola Road 1655	Open all year	Restricted all year to motorized vehicles except snowmobiles from December 1 thru April 14; Includes Werner Creek Road 5261 for its entire length by a berm at the junction with Hallowat Creek Road 315. A berm on Nicola Creek Road 1692 at the junction with Big Creek Road 316 controls Road 1692 as well as remaining access to Road 5261. Road 1655 is controlled by berms on Road 5261 and Road 1692.
Lakalaho Road 1696 (warming hut)	Restricted all year by a gate	Restricted all year by a gate for 3.3 miles to motorized vehicles except snowmobiles from December 1 thru April 14. The remaining portions of the road is decommissioned
Forks Westside Road 5220	Restricted all year by a gate	Restricted all year by a gate to motorized vehicles except snowmobiles from December 1 thru April 14.
<b>LOWER BIG CREEK GRIZZLY BEAR SUBUNIT</b>		
Big Creek Road 316 (lower portion)	Open all year (from the junction with the North Fork Road to Hallowat Road 315)	Open all year to motorized access (from the junction with the North Fork Road to Hallowat Road 315)
Elelehum Creek Road 5272 (to mile 3.6)	Restricted seasonally by a gate; motorized access available from July 1 thru August 31.	Restricted seasonally by a gate; motorized access available from July 1 thru August 31. Snowmobile access available December 1 thru March 31.
Langford Road 5222	Restricted all year by a berm	Restricted all year by a berm. Closed to all motorized vehicles except snowmobiles from December 1 thru March 31.
McGinnis Creek Road 803 (includes the Lookout Creek drainage)	Open to motorized access all year.	Open all year from Road 316 across Big Creek to the junction with Road 803L. It is then closed to all motorized vehicles yearlong, except snowmobiles from December 1 thru March 31, with a gate to the junction with Road 1656, and then with berms to the junction with Road 5290 at the divide between Lookout Creek and McGinnis Creek.
Roads 1656 and 1664 in Lookout Cr.	Restricted all year by a berm. Snowmobiles allowed December 1 thru March 31.	Restricted all year by a berm; closed to all motorized vehicles yearlong except snowmobiles from December 1 thru March 31.

I also entered into formal consultation with the U.S. Fish and Wildlife Service due to effects to bull trout as a result of the road work and salvage harvest. In order to not jeopardize bull trout, I have incorporated the terms and conditions within their bull trout Biological Opinion (refer to project record exhibit I-9) into this decision. Some of these terms and conditions were already incorporated into the monitoring plan for Alternative 3 (Appendix E, FEIS). For instance,

we will monitor roads closed yearlong by gates or berms within the project area annually for 2 years beginning in the spring of 2003 or 2004. Knowledge of site conditions and information gathered during the first 2 years of culvert monitoring will be used to determine specific culverts that require monitoring on a more frequent basis to assure that drainage is functioning appropriately. These specific culverts will be monitored at least annually. Culverts identified at high risk during monitoring will either be replaced or fill shall be removed to the extent practicable and an overflow design will be implemented prior to high water the following year. Information from the monitoring actions will be provided to the USFWS annually.

I will remove fill to the extent practicable on those ten culverts on decommissioned roads (Roads 315, 1692, 316 and adjoining spur roads, and 5286) and to design an overflow design for those culverts. These roads will also be monitored in the same fashion as the gates yearlong/bermed roads in the fire area and will be reported back to the USFWS.

Prior to salvage harvest treatments, along perennial, intermittent and ephemeral streams within areas of moderate and high fire intensity, I also shall verify that riparian habitat conservation areas (RHCAs) of an appropriate width have been identified on the ground in a visible manner and that landslide prone areas, areas with high potential to deliver excessive sediment to occupied bull trout streams and other sensitive areas have been incorporated into RHCAs. I also will submit to the USFWS a monitoring report each year salvage harvest activities occur.

As a result of formal consultation with the U.S. Fish and Wildlife Service, their grizzly bear Biological Opinion concluded that "the effects of the proposed action and cumulative effects, it is the Service's biological opinion that the proposed Moose Post Fire Project is not likely to jeopardize the continued existence of the NCDE grizzly bear population." The bull trout Biological Opinion concluded that "as implementation of Alternative 3 is not likely to reduce appreciably the likelihood of survival or recovery of the subpopulation encompassing the action area, it is unlikely that the proposed action would jeopardize the continued existence of the Columbia River bull trout DPS." The grizzly bear and bull trout determinations are based on the compliance with term and conditions described in the two Biological Opinions.

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MAP 3 – Existing Roads

MAP OF DECISION ROAD TRAVEL STATUS – Map 4

## IX. RATIONALE FOR THE DECISION

In selecting Alternative 3 modified, I have determined that my decision is consistent with all laws, regulations, and agency policy. I have considered the potential cumulative effects and reasonably foreseeable activities. I believe that my decision provides the best balance of management activities to respond to the purpose and need and issues. My decision also balances competing interests for such things as motorized access and wildlife security; and reducing the risk of bark beetle infestation or providing wood products versus allowing nature to take its course.

The criteria I used to make my decision on this project included:

- Achievement of the project's purpose and need (FEIS, pages 1-6 through 1-9)
- Relationship to environmental and social issues, and public comments (FEIS, page 2-4 through 2-8)

### A. Meeting the Purpose and Need

The purpose and need for action and desired conditions for the Moose Post-Fire project area are based on Forest Plan goals, objectives, and standards. With the exception of Alternative 1 (No Action), all alternatives result in "movement" toward desired conditions described in the Forest Plan. All action alternatives respond in various ways to the purpose and need for action, but I believe Alternative 3 with modifications best achieves the purpose and need while responding to several issues better than Alternatives 1, 2, 4, and 5. I will discuss in the next section how issues influenced my decision. Alternative 3 decreases potential mortality caused by bark beetles to remaining live Douglas-fir and spruce trees within and outside the Moose Fire area. It also recovers merchantable wood fiber affected by the Moose Fire in a timely manner to help support local communities and contribute to the long-term yield of forest products. In addition, it reduces the hazard and severity of future fires by reducing future fuel accumulations caused by the Moose Fire on specific sites adjacent to administrative areas.

#### **Decrease potential mortality caused by bark beetles to remaining live Douglas-fir and spruce trees within and outside the Moose Fire area.**

In making my decision, I weighed the need to reduce the risk of bark beetle infestation against the environmental impacts of actions to reduce those risks.

As compared to pre-fire conditions, both spruce and Douglas-fir bark beetle populations are notably elevated within the Moose Fire area, with infested trees found throughout the areas surveyed in the summer of 2002 (project record J-32). I am aware there are those that feel increased levels of bark beetles after a wildland fire is a normal natural event and as a result we should not be attempting to reduce their populations. In addition, there are those that believe that our estimation of potential mortality in remaining live trees within and outside the fire area is inaccurate. I acknowledge bark beetles play an important role in ecosystem development and that wide-spread beetle infestations are naturally occurring events that have taken place for thousands of years. In my opinion, the beetle analysis documented in the FEIS and in the project record used the best scientific information that is currently available to provide a very complete risk analysis of potential tree mortality losses within and outside the fire area. The beetle analysis does acknowledge that epidemic infestation levels of bark beetles may not come to fruition; however, I believe that the FEIS has provided me information to understand the resource values at risk from increased levels of beetle populations. These resource values at risk include old growth, water quality, timber, and fuels found on National Forest System lands as well as nearby state, corporate, and private lands. I have heard concerns from these landowners that we need to take prompt actions to reduce risk that building populations of bark beetles in the fire area could spread to their lands and affect the aforementioned resource values, including property land values.

My decision (Alternative 3 with modifications) will treat 336 acres of spruce beetle infested stands through both salvage (64 acres) and pheromone-baited funnel traps (272 acres). Though I recognize that salvage removal of beetle-infested trees is considered the most effective method to reduce beetle populations, most of the spruce beetle infested trees occur within riparian areas adjacent to Big Creek and its tributaries. In other sections of this document I explain why I chose not to salvage harvest in these sensitive riparian areas.

The 336 acres of spruce beetle-infested acres I will treat equates to about 92 percent of all the known acres within the fire area at a high level of spruce beetle infestation. The acres treated are very similar among all the action alternatives evaluated in the FEIS, because funnel trap treatment areas are essentially the same under all alternatives. I recognize that some unidentified and untreated areas of spruce beetle infestation probably exist within the fire area, and not all beetles will be captured in the traps or removed in the salvage harvest. Thus there will likely be some spruce beetle infestation and mortality to remaining live spruce trees within the fire area, and perhaps minor amounts of mortality immediately outside and adjacent to the fire area as well. I believe overall that my decision has a high probability of successfully containing a potential spruce beetle outbreak, limiting mortality of live spruce, and maintaining the currently low spruce beetle populations outside the fire area.

My decision also will treat 2015 acres of Douglas-fir beetle-infested and susceptible stands through salvage, including the creation of up to 100 trap or pheromone baited trees across limited portions of the salvage area. In addition, an anti-attractant pheromone (MCH) will be applied to protect live trees near the mouth of Big Creek. With these actions, my decision will effectively treat about 54% of the total 3656 known acres of Douglas-fir beetle infestation on National Forest System lands within the Moose Fire area. This is the second largest treatment proportion of the alternatives as displayed in the FEIS, treating a relatively large proportion of the known infested acres, while also allowing for increased flexibility and effectiveness of salvage efforts by including winter logging options and use of pheromones and baited or trap trees. I recognize that many acres that we know to be currently infested with Douglas-fir beetles, and many other acres not surveyed but believe to be infested, will remain untreated. In making my decision, I have considered the many other resource concerns and values associated with these lands (such as inventoried roadless and riparian area values, and retention of large diameter snags) with the current and expected level of Douglas-fir beetle infestation. I have also considered the limitation of many of these lands related to logging access and feasibility, and the impacts that would be associated with road construction. I believe my decision provides the best balance between these factors, and would reduce beetle populations and risk of mortality to live Douglas-fir trees both within and outside the fire area.

My decision to treat 2015 acres with salvage harvest is a net reduction of about 251 treated acres from that shown under the preferred Alternative 3 in the FEIS. My decision includes the addition of salvage Unit 46 (25 acres), which was evaluated in the FEIS as part of Alternatives 2 and 5. This unit was burned at high severity, with high tree mortality, and contains both Douglas-fir and spruce beetle infested trees. However, I have chosen to drop six units in their entirety from the preferred Alternative 3 in the FEIS (about 146 treated acres) and reduce acreage across another five units (130 acres). My reasons for dropping these acres vary, and include concerns related to large diameter snag conditions and severe deterioration of the trees to the point of being unmerchantable (refer to Table 2). I describe these reasons more fully later in the paragraphs below and under the next section *Consideration of the Issues*. As documented in the Douglas-fir beetle survey summary report (project record J-32), across nearly all of these acres that I have dropped from salvage, current Douglas-fir beetle infestation levels are very low, with well under one tree per acre infested. Also, because these areas burned at high severity, nearly all of the Douglas-fir are dead, leaving few to no trees that beetles will be able to infest next year or in future years. Thus, I believe that my decision still maintains the effectiveness of the salvage treatments in reducing Douglas-fir beetle populations and future mortality to live trees.

I have decided to drop Units 16 and 17 in my decision because they will contribute very little to current or future Douglas-fir beetle populations in the Moose Fire area (there is no spruce beetle in these units). The treatment in these units specified removal of beetle-infested trees only, because these areas are designated in the Forest Plan as winter range unsuitable for timber management (MA 13A). Surveys in 2002 found a very low density of current beetle infestation across this area (0.3 infested trees per acre) and because they burned at high severity, very few live, beetle-susceptible Douglas-fir trees exist that might be infested in future years. I have decided to keep Units 14 and 15 within the decision, though they are also within MA 13A and have very low levels of current beetle infestation. However, there are many remaining live but underburned, beetle susceptible Douglas-fir within these units, and there is a potential that beetle populations could rise within the fire area, and as a result future infestation in these units may increase. I plan on deferring these units from immediate salvage, due to relatively low current levels of infested trees. Should continued bark beetle monitoring show increased levels of beetle activity in this area, I will take action to implement removal of infested trees in these units at a later date.

I also dropped Unit 69, which was located in the Wild and Scenic River Corridor, because of the scarcity of beetle infested Douglas-fir trees in the area actually accessible for salvage logging. This is the narrow, flat bench immediately adjacent to the North Fork Road. Again, the treatments in these units were only to remove currently beetle-infested trees. When monitoring took place this past summer, only six infested trees were found in this accessible area. The other two units (units 67 and 68) in the Wild and Scenic River Corridor have higher levels of current Douglas-fir beetle infestation. These units remain in my decision.

My decision allows winter logging, beginning immediately this winter of 2002-2003, which will substantially increase the effectiveness of Douglas-fir beetle management efforts by removing many of the trees harboring the first generation of beetles before they have a chance to emerge in the spring of 2003. The use of trap trees or pheromone baited trees also increase the effectiveness of our beetle management efforts. Trap trees are live Douglas-fir that are felled, which make them extremely attractive to bark beetles in the vicinity searching for breeding sites. They act as very effective “decoys” to reduce losses in standing, live trees, and can draw in 8 to 14 times the number of beetles than a comparable standing tree. They help to focus and contain beetle populations on fewer numbers of trees and within areas where these trap trees (which are infested with beetles) can then be removed. Pheromone baited trees work in exactly the same way, except the trees are not felled at the time of baiting and will only be removed if they become infested. As explained earlier, I will use baited trees in most situations, because of the large number of trees that have already been killed across this burned landscape, and the relatively high value of remaining live trees. Though baited trees are slightly less effective than felled trap trees, they allow for the possibility that a decline or lower level of beetle population than expected might occur, and the baited/trap tree may not become infested.

In order to improve the effectiveness of actions to reduce the risk of continued and expanded bark beetle infestation, I requested and the Chief of the Forest Service approved an emergency exemption from appeal stay. This will allow removal of beetle-infested trees during the winter of 2002-2003 before the beetles emerge. Further details on the emergency exemption are located later in this Record of Decision and in the project record (project record exhibit V-20).

After reviewing the results of the effects analysis in the FEIS and project record, I believe that my decision balances the need to reduce the risk of bark beetle infestation while protecting important resource values such as threatened, endangered and sensitive species, water quality and fisheries habitat.

**Recover merchantable wood fiber affected by the Moose Fire in a timely manner to help support local communities and contribute to the long-term yield of forest products.**

In making my decision, I weighed the need to utilize some fire-affected trees for timber products against the environmental impacts of those actions.

As Forest Supervisor, my responsibility is to help ensure that this Forest is managed under the sustainable multiple-use management concept using ecological principles to meet the diverse needs of people. The Forest Plan provides me direction on how to do this through goals, objectives, and standards. One of the goals of the Forest Plan is to “provide a predictable and sustainable supply of timber products that is responsive to local industry and economies, consistent with other Forest management goals, objectives and standards” (Forest Plan, page II-5). In addition, the Forest Plan specifically designated many portions of the fire area as suitable for timber management. At the initiation of the project back in January 2002, I recognized an opportunity to salvage dead and dying trees before they lost their merchantability. Many people have expressed support for salvage actions in the fire area – many have indicated their desire for further salvage than proposed in the alternatives. I address this issue later on in this Record of Decision.

One of the most effective tools to deal with my concerns with expanding beetle populations as discussed above is through salvage. These same trees that harbor bark beetles or which are susceptible to bark beetles will be removed under my decision which will also meet the second purpose of the project. The interdisciplinary planning team, composed of highly experienced and trained resource specialists, has provided me excellent and timely analyses of effects of the project to help me make sound resource decisions for the project area. I believe that we

have followed all laws, regulations, policy, and Forest Plan standards designed to protect the variety of resources found in and near the project area including threatened and endangered species, soils, and water.

I expect that approximately 14-15 MMBF of timber could be made available under my decision depending on how quickly harvest activities occur and the material loses its value. My decision does not salvage as many acres or recover as much merchantable wood fiber as Alternatives 2 or 5. However, Alternatives 2 and 5 both proposed to salvage approximately 470 additional acres in inventoried roadless areas. Our purpose for entering into these additional areas were solely to address bark beetle concerns and not to recover merchantable wood fiber. I have outlined my reasons for not entering into inventoried roadless areas in other sections of this Record of Decision.

After reviewing the results of the effects analysis in the FEIS and project record, I believe that my decision balances the need to recover merchantable wood fiber while protecting important resource values such as threatened, endangered and sensitive species, water quality and fisheries habitat.

### **Reduce the hazard and severity of future fires by reducing future fuel accumulations caused by the Moose Fire on specific sites adjacent to private property or administrative sites**

In making my decision, I weighed the need to modify fire behavior near specific sites against the environmental impacts of those actions.

My decision will reduce current fuel loads and lower future fire risk and hazard in the Big Creek Campground and Glacier Institute over about 141 acres. Thinning of dense areas of dead standing trees will occur at the Glacier Institute site, with piling and burning of the slash, or removal of the dead trees if they make a merchantable product. Dead and live trees will be thinned in the stands within the Big Creek Campground. These treatments will dramatically reduce the current and future standing and downed fuel loadings in these areas. In addition, the fuels reduction treatments will modify the fuels so that the primary fuel carrier is light grass, brush, or shrubs. As a result, if a fire does start in these areas in the next 10 to 20 years, it should be a low intensity fire, which is easier to suppress and save these values at risk.

After reviewing the results of the effects analysis in the FEIS and project record, I believe that my decision balances the need to reduce hazard and severity of future fires while protecting important resource values such as threatened, endangered and sensitive species, water quality and fisheries habitat.

## **B. Consideration of the Issues**

My interdisciplinary planning team considered a variety of issues in the process of preparing the proposed action, developing alternatives to respond to those issues, and identifying the consequences of the alternatives in the FEIS. The following section will address how I believe my selection of Alternative 3 modified responds to these issues.

### Inventoried Roadless

In making my decision, I weighed the social desires to see inventoried roadless areas remain untouched against the need to reduce the risk of continued bark beetle infestation.

Management of inventoried roadless lands across this country is very controversial and it was no different in this project. I heard from people who believed that we were using beetles as an "excuse" to log inventoried roadless areas. They also expressed desires to allow natural processes to take place in these areas. I also heard from people that said we should have proposed more salvage in the fire area including inventoried roadless areas. About 12,224 acres of inventoried roadless area burned in the Moose Fire. This is about 1/3 of the fire area that burned on National Forest System land. Current Forest Service policies allow salvage to take place in inventoried roadless areas but not for economic reasons. My only reason for proposing salvage across about 470 acres of the inventoried roadless areas in some of the alternatives was to remove those trees that were infested with spruce or Douglas-fir bark beetles and thus reduce the potential for beetle population growth and future mortality to live trees. My decision does not salvage in any inventoried roadless area because I don't believe that there is a high enough beetle risk.

Douglas-fir beetle is more of a concern in the inventoried roadless areas than spruce beetle because, as the bark beetle surveys completed in 2002 confirm, infested and beetle-susceptible Douglas-fir is found in greater quantities than infested or susceptible spruce. The immediacy in dealing with Douglas-fir beetle is also more a concern because the first generation of these beetles is expected to emerge from trees this spring (2003). Units found in inventoried roadless areas have varying levels of Douglas-fir beetle infestation. About half of the 470 acres proposed for salvage in inventoried roadless areas were found to have very low levels of Douglas-fir beetle infestation, with most of those acres containing few remaining live trees that might be infested in future years. This situation substantially reduces my concerns about how much these areas might contribute to beetle population levels and any subsequent future mortality of live trees (page 3-71, FEIS).

The remaining salvage units in inventoried roadless areas (Units 75, 76 and 77) have relatively high levels of Douglas-fir beetle infestation. Unit 75 in particular has high numbers of infested trees, in addition to having many remaining live, but underburned and beetle-susceptible, Douglas-fir trees. My selected alternative will create trap trees or trees baited with pheromone attractants within Unit 41 (outside inventoried roadless), immediately adjacent to Unit 75, to attract adult beetles emerging from infested trees in Unit 75, in order to manipulate and contain to the best of our ability the spread of these beetles. These trap or baited trees would then be removed when Unit 41 is harvested. Though not as effective as salvage harvest, where infested trees are actually removed, use of the trap tree method has proven to be an effective tool to manage beetle populations. The other two roadless units with relatively high beetle infestation (Unit 76 and 77) are more isolated, with difficult access. Use of trap or baited trees is not suitable or feasible in these areas. However, I will consider the use of pheromone/funnel traps in these two units if funding permits. I recognize that these units are likely to contribute to increased beetle populations in the area, with the degree depending primarily upon weather conditions, which will have a major influence on future beetle population levels.

After considering all treatments to reduce bark beetle risk along with the possibility of removing beetle-infested trees before beetles emerge, I have determined a substantial reduction in the risk of continued and expanding bark beetle infestations will occur without timber salvage treatments in inventoried roadless areas.

#### Wild and Scenic River

In making my decision, I weighed the need to protect the values associated with Wild and Scenic River designation against the need to reduce the risk of continued bark beetle infestation.

My decision will salvage about 12 acres (in 2 units – Units 67 and 68) in the Wild and Scenic River Corridor along the North Fork Flathead River. Both these units have exceptionally high levels of Douglas-fir beetle infestation, with an estimated 150-180 trees infested. Nearly all of the infested trees have already been killed by the fire. We are allowed to salvage in the Wild and Scenic River Corridor particularly when it is deemed necessary to manage epidemic outbreaks of insects and disease (page III-93, Forest Plan) . Salvage will remove currently beetle-infested trees. Removal of these beetle-infested trees will help keep the other remaining trees alive. Both of these units are narrow strips of land high above the level of the river and immediately adjacent to the North Fork Road. Neither of these units is visible from any viewpoint on the river. I have dropped one of the proposed salvage units (Unit 69) because, as I explained earlier under the section on *Meeting the Purpose and Need*, very few infested beetle trees were found in the area accessible for timber salvage.

In addition to salvaging the beetle infested trees, the selected alternative will continue to apply the anti-attractant pheromone MCH to remaining live trees within parts of the Wild and Scenic River Corridor, as explained earlier in this document. This will protect these trees from future beetle attack and mortality.

After reviewing the results of the effects analysis in the FEIS and project record, I believe that my decision balances the need to reduce the risk of bark beetle infestation while protecting wild and scenic river values.

### Snags and downed woody material retention

In making my decision, I weighed the need to provide adequate snag and down woody material against the need to reduce the risk of continued bark beetle infestation and recover merchantable wood fiber.

My decision will maintain high levels of snags and downed woody material across the Moose Fire area, with salvage harvest and removal of dead trees across only about 6% of the 35,750 acres of National Forest System lands burned. Much of the 33,000+ acres I am not salvage harvesting is composed of small diameter snags and downfall, but many other areas have considerable numbers of large trees killed by the fire. These areas include all the riparian habitat conservation areas, which contain some of the largest trees within the project area. Snags and downed material across the 12,224 acres of inventoried roadless areas will also remain untouched. Within the salvage units, there will also be abundant dead trees remaining after harvest, including the many smaller diameter trees that do not make a merchantable product, as well as larger trees designated for retention, as I describe in the next paragraph.

I recognize that larger diameter snags and downed wood have many values, including those associated with wildlife habitat, soil productivity and forest structural diversity. Salvage harvest will remove some of these larger diameter snags. To balance the purpose and need for this project with the values associated with large diameter snag and downed woody material, my decision has several elements that will be followed. First, in most salvage units larch trees (live or dead) that are greater than 18" diameter at breast height (DBH) will be left on the site and not salvaged. In seven units (about 350 acres), larch trees greater than 20" DBH will be left. In addition, ponderosa pine (live or dead and all sizes) will be left within the units, though this species is much more rare than larch. Second, trees designated for retention will be left standing wherever possible, and logging practices will be used that encourage this condition (such as the use of feller/bunchers). I recognize that some of these trees may have to be felled for safety reasons or in landing areas and skid trails. Third, along open roads high quality snags will be marked and signed as wildlife trees to protect them from firewood cutting. In addition, in the areas along the roads between the salvage units, larch greater than 18" DBH will also marked and signed as wildlife trees, as well as signing of areas such as streamside zones that are off limits to firewood cutting. Fourth, treatment of logging slash will be limited to only those areas where fuels concentrations are high and pose serious concerns related to other resources, such as fire risk or regeneration potential. Downed unmerchantable trees within the units will be left as intact as possible, rather than bucking into short pieces. And finally, my decision has dropped all or portions of six salvage units (154 acres within Units 13, 25, 38, 50, 59A, and 61) from the preferred Alternative 3 in the FEIS because of concerns with the lack of larger diameter snags within and adjacent to these units.

After reviewing the results of the effects analysis in the FEIS and project record, I believe that my decision provides adequate levels of snags and down woody material while reducing the risk of continued bark beetle infestation and recovering merchantable wood fiber in an economically feasible and environmentally acceptable manner.

Riparian habitat conservation areas (RHCA) as described in the Native Inland Fisheries Strategy (INFISH) may not be large enough to compensate for the combined effects of the Moose Fire and proposed management activities.

In making my decision, I weighed the need to protect water quality and fisheries habitat against the need to reduce the risk of continued bark beetle infestation and recover merchantable wood fiber.

My decision will implement the Inland Native Fish Strategy's (INFISH) required buffer distances along all wetlands and stream courses. These RHCAs create buffer zones around streams within which fish habitat protection and enhancement receive primary emphasis. I have reviewed both the fisheries and hydrology sections in the FEIS as well as supporting documentation in the project record and believe that these RHCAs will adequately protect water quality, and aquatic and fish habitat. I chose not to exceed the required INFISH distances as was proposed in Alternative 4 because I did not see any measurable change in the reduction of sediment to streams and wetlands. I have reviewed project record material, particularly Q-28, which displays WEPP estimates for RHCA effectiveness and have noted there is very little erosion difference between the buffer widths indicated for Alternatives 3 and 4.

After reviewing the results of the effects analysis in the FEIS and project record, I believe that my decision protects water quality and fisheries habitat while reducing the risk of continued bark beetle infestation and recovering merchantable wood fiber in an economically feasible and environmentally acceptable manner. The activities in my

decision comply with the Clean Water Act and Endangered Species Act and would not jeopardize threatened bull trout.

The fire may have affected wildlife security particularly during hunting seasons.

In making my decision, I weighed social desires for motorized access against the need to provide wildlife security.

My decision improves wildlife security during the spring and fall seasons (hunting seasons) because of the seasonal and yearlong motorized access restrictions I have imposed in the project area. I am restricting wheeled motorized access in the spring on a portion of the Hallowat Creek Road 315 and Kletomus Creek Road 5207 (to Moose Lake)(refer to Table 6). These roads access important avalanche chutes on the westerly slopes of the Hallowat drainage and these motorized restrictions will provide meaningful habitat availability and security for grizzly bears during the spring. These roads were previously opened yearlong to motorized access.

I am also restricting wheeled motorized access on the Werner Divide Road 1658 to the east of the divide and the upper portions of the Big Creek Road 316 (from Werner Divide Road 1658 to Lakalaho Road 1696) in the spring and fall to provide security to bears. I am also providing a secure period during the spring on the middle portions of the Big Creek Road (from Werner Divide Road junction to the Hallowat Road 315 junction).

Finally, Werner Creek Road 5261, Nicola Creek Road 1692, Upper Nicola Road 1655, and McGinnis Creek Road 803 (on the Lookout drainage side) will be restricted to wheeled motorized access yearlong. All of these roads were open yearlong to this type of motorized access. As a result of these closures, late spring, summer and fall habitats will be more available to grizzly bears. I have also imposed motorized closures on two trails in the project area that will provide more secure habitat for bears.

My decision also does not allow logging to take place from April 1 to May 15 to allow grizzly bears to utilize spring habitat during project implementation in the lower elevations of the Big Creek drainage.

After reviewing the results of the effects analysis in the FEIS and project record, I believe that my decision balances the need to provide wildlife habitat security and the desire for public motorized access in the area.

The proposed salvage treatments and road strategy may result in ineffective use of winter range areas by ungulate species.

In making my decision, I weighed the need to reduce the risk of continued bark beetle infestation and recover merchantable wood fiber against the potential effects of those actions to ungulate species.

I am allowing winter logging because it addresses my concerns regarding the increasing populations of bark beetles. Based upon my knowledge of the conditions in the Moose Fire area, a review of the Moose Fire Trip Reports and Entomologist Reports (project record exhibits J-27, 28, 29, 32 and 36) and a review of the pertinent literature, I am convinced that the risk of an expanding Douglas-fir bark beetle infestation requires immediate action this winter.

I have reviewed the winter range analysis and have noted that logging in the winter could cause ungulate species to expend higher energy levels due to the disturbance associated with harvest and related activities. These effects could result in less overall habitat use, lowered fitness, or perhaps a very slight loss of animals. It is more likely that wintering animals would temporarily move away from the disturbance areas. It is not expected that population viability will be a concern given that winter logging will be short term (two winters) and that there is other untreated habitat that could serve as displacement habitat. I believe that the tradeoffs of not logging in the winter as I mentioned above in the previous paragraph and under the purpose and need outweigh the potential effects to ungulate species.

After reviewing the results of the effects analysis in the FEIS and project record, I believe that my decision balances disturbance to wintering ungulate species while reducing the risk of continued bark beetle infestation and recovering merchantable wood fiber in an economically feasible and environmentally acceptable manner.

More roads may need to be decommissioned and restricted than what the Forest Plan (Amendment 19) specifies due to accelerated runoff from burned lands, and less cover and security for grizzly bears because of the fire.

In making my decision, I weighed the desire to decrease more motorized access to improve security for bears and protect water quality against the social desire to provide motorized access for recreational pursuits.

Road management was by far the most discussed subject in the vast majority of letters we received commenting on the DEIS. I heard very passionate requests from those people who want to see better protection for wildlife and improvements in water quality and fisheries habitat. I also heard very passionate pleas from those people who wanted to see no further roads closed or wanted to see some of the existing roads open to motorized access. The request to re-open the upper portions of Big Creek Road 316 to wheeled motorized access was a common topic in the letters. I address this particular topic later on.

Alternative 4 included more road restrictions and decommissioning than what the Forest Plan requires. According to the analysis in the FEIS, Alternative 4 has the greatest long term beneficial effects to water quality/fisheries from proposed road decommissioning. However, to get to these long-term benefits, this alternative would result in the most short-term adverse effects to water quality/fisheries than the other alternatives because of the amount of culvert removals. In addition, Alternative 4 would provide a higher level of habitat availability for grizzly bears than the other alternatives.

However, I did not select this alternative because I believe my decision provides a better balance among all the resources that I manage. My decision decommissions 56 miles of road which will improve water quality/fisheries in the long term. My decision also improves habitat availability and security for grizzly bears when compared to the existing situation. My decision also allows for some continued public motorized access on the more heavily used roads in the project area. I have imposed seasonal motorized restrictions on these roads to still provide security for wildlife during the spring and fall while allowing human access during the summer. I believe that this provides a good compromise for wildlife needs and human access needs.

After reviewing the results of the effects analysis in the FEIS and project record, I believe that my decision continues to provide for recovery of the grizzly bear and provides adequate habitat security for other wildlife species, while allowing some public motorized access in the area.

Provide a higher level of public motorized access than Forest Plan standards allow and Big Creek Road 316 should be re-opened because it provides good huckleberry picking and other recreation options.

In making my decision, I weighed the social desire for public motorized access against the need to increase grizzly bear and other wildlife security.

These issues are addressing the opposing point of view on road management as compared to the issue discussed above. My comments regarding the previous issue also fit here as well. I have authorized a project-specific amendment to the Forest Plan which will allow an increase in open motorized access in the Werner Creek grizzly bear subunit than what Forest Plan direction currently allows. In addition, my decision allows a portion of the Big Creek Road 316 directly behind Big Mountain to be open to motorized access during the summer. Big Creek Road 316 was mentioned many times in comments on the DEIS mainly through a form letter. I realize that this road is important to many people, but I also acknowledge that it also provides good habitat for grizzly bears. This is why I am allowing seasonal motorized access for approximately 2 months during the summer to provide spring and fall habitat security. I am also still providing public motorized access on the Hallowat Creek Road 315/Kletomus Road 5207 access route to Moose Lake during the summer. The U.S. Fish and Wildlife Service issued a Biological Opinion on the project and concluded that is not likely to jeopardize the continued existence of the Northern Continental Divide Ecosystem grizzly bear population (project record exhibit Rt-34, page 39).

After reviewing the results of the effects analysis in the FEIS and project record, I believe that my decision continues to provide for recovery of the grizzly bear and provides adequate habitat security for other wildlife species, while allowing some public motorized access in the area.

Road decommissioning activities may not be compatible with snowmobiling on existing snowmobile routes.

In making my decision, I weighed the need to provide for continued recovery of the grizzly bear and to provide adequate security for other wildlife species against the social desire to allow continued snowmobile access to high use play areas.

Allowing ten culverts to remain in place on decommissioned roads will permit snowmobiling to continue on existing snowmobile routes. It is not my intention to change or promote snowmobile use in this area. If these ten culverts were completely removed, I believe that existing snowmobiling use in these areas will become very difficult to an experienced snowmobile rider and likely impassible during most winters to average-skilled riders. I believe that I have mitigated for the potential effects that these culverts may cause to water quality and fisheries/aquatic habitat through the monitoring and routine maintenance actions that are a required component of this decision. The culverts that will remain in place will be appropriately sized to INFISH 100-year flow capacity requirements and I will be directing that as much fill as possible be removed over the top of these culverts. I will also ensure that monitoring of these culvert sites occurs annually for at least two years and perhaps more if conditions warrant it.

After reviewing the results of the effects analysis in the FEIS and project record, I believe that my decision protects water quality and fisheries habitat while allowing existing snowmobile use to continue in the area.

continues to provide for recovery of the grizzly bear and provides adequate habitat security for other wildlife species, while allowing some public motorized access in the area.

There is concern that the project area needs to be rehabilitated and restored through such actions as road decommissioning and reducing sediment sources, which would include little to no salvage logging. Concern was also expressed that bark beetle management measures did not include enough non-salvage techniques.

In making my decision, I weighed the need to implement only restoration actions against the need to reduce the risk of continued bark beetle infestation and recover merchantable wood fiber through salvage harvest.

There is scientific disagreement over how burned landscapes should be managed. Scientific literature exists that could lead the reviewer to conclude either active or passive management may be best, depending on circumstances. My planning team reviewed a large number of scientific studies/reports/literature that provided scientific information on both points of view. A commonly cited commentary used in public comments that advocated passive management was *Wildfire and Salvage Logging: Recommendations for Ecologically Sound Post-Fire Salvage Logging and other post-fire treatments on Federal Lands in the West* produced by Dr. Robert Beschta and other research scientists in 1995. This commentary contained general principles and recommendations for post-fire salvage and other treatments on Federal land in the Interior Columbia and Upper Missouri Basins. A common theme throughout its recommendations is "that most native species are adapted to natural patterns and processes of disturbance and recovery in the landscape and that preventing additional human disturbance (and reducing the effects of past disturbance) generally will provide the best pathway to regional ecological recovery."

I believe my decision incorporated many of the principles and recommendations from this commentary. The FEIS contains several references to Beschta et. al where these principles were addressed. In addition, Appendix D of the FEIS specifically addresses how the planning team considered and tried to incorporate each of the recommendations when the alternatives were developed.

In addition to Beschta et. al, other scientific literature was also reviewed by the planning team. I believe we conducted an outstanding effort to compile the scientific literature cited in scoping letters, reviewed each of them, and addressed their main points. This scientific literature and our related review is provided in the project record.

In addition to road decommissioning, other restoration activities have occurred or are planned within the project area. For instance, 800 acres of planting occurred during 2002. About 1000 more acres are planned in 2003. Approximately 200 acres of shrub planting in winter range is expected in 2003. Improvement in road drainage structures throughout the project area began in 2002 and will continue in 2003. These and other activities were not proposed in the FEIS because I believed they could be implemented faster if they were considered as separate

projects since the scope of effects is much less than the effects from road decommissioning or salvage harvest. These activities were considered in the cumulative effects analysis covered by the FEIS.

I did consider other non-salvage methods to address the management of bark beetles. These were discussed on page 2-62 of the FEIS and in project record exhibit J-23. These methods included burning, debarking, or application of pesticide to bark beetle infested trees. I do not believe that these methods are feasible or useful tools to be used on a widespread basis, such as in the Moose Fire situation. My decision does include non-salvage methods to manage beetles on a limited basis by the use of anti-attractant or attractant pheromones.

After reviewing the results of the effects analysis in the FEIS and project record, I believe that my decision balances restoration actions such as road decommissioning (while still having other restoration actions continue in the project area) while reducing the risk of continued bark beetle infestation and recovering merchantable wood fiber in an economically feasible and environmentally acceptable manner.

There is concern that the proposed action does not salvage log enough of the project area to address beetle concerns, economic opportunities, and fuel hazards resulting in a reburn potential.

In making my decision, I weighed the need to salvage more of the project area against other resource values.

I believe my decision provides the best possible balance between my concerns related to bark beetle population growth, recovery of merchantable wood fiber, and the many other resource values in the burned area to consider and protect. The entire burned area was evaluated for its potential beetle risk and for opportunities to salvage harvest. I realize that many people do not believe that we included enough salvage areas in our alternatives in comparison with the fire size. I did consider an alternative that would involve more salvage logging in the burned area and included the reasons why I did not address it as a full alternative with detailed study in the FEIS on pages 2-63 and 2-64.

Apart from the proposed treatment areas, few other areas within the fire either contain burned forest at high risk of beetle infestation, or burned forest that contain trees of merchantable value that could be harvested for wood fiber in an economically viable manner. Some of these areas had environmental concerns that precluded salvage, such as soils that burned at high intensity, and high elevation, marginal or rocky sites. Many acres were within inventoried roadless areas. These areas currently have special prohibitions against logging, and I chose to propose salvage only in stands that were at highest risk of beetle infestation. A large portion of the burned area is dominated by small diameter trees that are far from existing roads. My decision in this *Moose Post-Fire Project* does not preclude the potential future removal of some of these smaller diameter trees for post and pole material in areas that may be better accessible, such as stands adjacent to the North Fork Road, if it was so desired.

After reviewing the results of the effects analysis in the FEIS and project record, I believe that my decision reduces the risk of continued bark beetle infestation, recovers merchantable wood fiber in an economically feasible and environmentally acceptable manner, and protects administrative sites from future fires.

There is concern that deferring salvage in riparian areas results in a fuel hazard causing a reburn potential, debris jams causing channel instability, breeding habitat for bark beetles, and increases in nutrient loading.

In making my decision, I weighed the need to salvage in riparian areas against the potential effects to fish, soils, water quality, and aquatic habitat.

I decided not to salvage harvest within riparian areas because intensive field reconnaissance and subsequent analysis has indicated that the spruce beetle infestation (which is the primary reason driving any treatment in riparian areas) can adequately be managed using non-salvage methods, specifically pheromone-baited beetle funnel traps which I describe earlier in this decision. Riparian areas are designated as unsuitable for timber management, and harvest is only allowed under specific situations and only if fish and wildlife habitat values can be maintained or improved. Any proposed salvage within riparian areas would thus need to specifically address concerns related to bark beetle population growth only, and would remove only bark beetle infested trees. There were many complexities associated with salvage in riparian areas also, including the technical difficulties and

feasibility of the logging operation; the protection of the threatened bull trout; and the high level of concern from oversight government agencies, as well as many members of the public, for potential effects of logging on riparian habitat values and bull trout. I recognize that the Moose Fire has created tremendous amounts of dead standing and downed trees in the riparian areas which, while highly beneficial to some wildlife species and to soil processes, also pose risk of higher intensity fire should one occur in the future, with subsequent potential detrimental impacts.

After reviewing the results of the effects analysis in the FEIS and project record, I believe that my decision protects important components of riparian areas such as bull trout, soils, and water quality while still addressing the spruce beetle concern.

There is concern that the salvage harvest should not create any openings greater than 40 acres.

In making my decision, I weighed the need to reduce the risk of continued bark beetle infestation and recover merchantable wood fiber against the potential effects of opening up burned forest to openings greater than 40 acres.

The Moose Fire converted large areas of dense forest cover to large areas of dead trees and little understory vegetation, which while standing provide some level of hiding cover to elk and other wildlife in some areas. Over time, most trees will fall – the majority within the first 10 to 20 years – and little hiding cover will remain. Regeneration of shrubs and conifers will gradually increase the hiding cover values across most of the area, but depending upon the site, this could take several decades to occur. Large openings across this landscape may exist for some time to come, which is a natural and expected consequence of such a large, high severity fire.

My decision will harvest across areas of burned forest larger than 40 acres, removing a portion of the standing dead trees, which will create a somewhat more open appearance in most units in the immediate future. It may change the rate, but does not change the inevitability that these areas are or will become part of large fire-created openings that will exist across this landscape for a number of years. However, the selected alternative will plant conifer seedlings across some of the harvested areas. This will promote the reforestation process and accelerate the return to a “non-open” condition.

There is concern that the post-fire mortality guidelines allow the removal of trees that would otherwise live.

In making my decision, I weighed the need to reduce the risk of continued bark beetle infestation and recover merchantable wood fiber against the potential that we may remove some trees that were injured but not immediately killed by the fire, and might otherwise live.

The post-fire mortality guidelines (Appendix B of the FEIS) provide the background information, analysis and guiding direction to identify the fire-injured trees most likely to die from the effects of the fire (including subsequent mortality from bark beetle attack) and to be removed during the salvage operation. Numerous variables influence tree mortality following fire, and though much has been learned, and continues to be learned, from research and practical experience, I recognize that post-fire mortality prediction is more an educated and informed judgment than an exact science. I believe the post-fire mortality predictions incorporated into this decision accurately reflect and integrate the available research literature; professional experience and observations of specialists; and the site-specific considerations in the Moose Fire area (specifically the elevated bark beetle populations). They provide a reliable estimate of the likelihood of mortality based on parameters that we can measure and observe. I do acknowledge that because this is not an exact science and 100% accuracy of post fire mortality predictions is not possible, we may remove some trees that might otherwise live. However, the guidelines and their implementation are designed to be conservative for most species, and I believe we will be erring on the side of leaving trees that may well die, rather than removing trees that might live.

### **C. Consideration of Public Comments**

During the decision process for this project, I realized that I would not be able to fully satisfy all public concerns, as many of them are mutually exclusive. However, I believe that I have made a decision that does the best to balance competing interests. Some of the major concerns that I heard during the project (these are also addressed in the issues above) and considered as I was evaluating my decision included:

### Inventoried Roadless

There were many people who were concerned that removing trees in inventoried roadless areas would compromise the values of these areas, create habitat fragmentation, impact recreational opportunities, and cause the loss of unique ecological values. I also heard from people who said we should be harvesting additional acreage found in inventoried roadless areas to provide jobs and income to the local community.

### Public Access

My proposed road management actions received the most comment of any topic in this project. There were some who cited the need to close roads to meet Amendment 19 standards as the single most important aspect of this project. Others expressed equal concerns over a cumulative loss of motorized recreational opportunities and the increasing inability of people who cannot or do not want to hike, bike, or ride horseback to reach favorite recreation areas, such as huckleberry sites or camping spots. Likewise, there were those that wanted to improve watershed health through road decommissioning.

### Salvaging trees

Many of the comments expressed support for salvaging some amount of fire-affected trees to address future fuel hazards, to provide revenues and jobs for the local economy, and to reduce threats from beetle epidemics to remaining trees in and adjacent to the project area. However, I received some comments that advocated allowing nature to take its course and to only conduct restoration actions. Many comments also wanted to know why we identified only a maximum of 4,300 acres in which to salvage trees, when over 35,000 acres burned on National Forest System lands.

### Threatened and endangered species/wildlife security

Some comments said I should leave large live trees or large dead trees on site as habitat for birds, bears, ungulates, and other wildlife species. Others said I should provide more security for wildlife than normal during hunting season because of the large amount of burned areas that have less hiding cover, making animals more vulnerable. In addition, I also heard concerns that fisheries habitat, particularly bull trout, and related water quality needed to be maintained or enhanced. There were those also who believed that the burned forest would no longer provided good grizzly bear habitat for many years and so therefore additional road closures were not necessary.

### Bark beetles

I heard many varied comments about bark beetles. I heard from people who believe that beetles are a natural consequence of fire and we shouldn't be trying to influence natural processes. I also heard from people who stressed that we should be aggressively attempting to reduce the risk of increasing bark beetle populations within the fire area because of effects to important resource values within and outside the fire area.

### Post-fire mortality guidelines

I also heard from people who believed that our post-fire mortality guidelines should leave more trees with a higher degree of fire damage.

### Snags

There were those that felt that snags are important elements on the landscape and we should be leaving more of them and there were those that felt there are more than enough snags, particularly after the fire, and we should be removing more of them since we are salvaging less than 10% of the fire area.

## X. FINDINGS REQUIRED BY LAWS, REGULATIONS, AND POLICIES

I have determined that my decision is consistent with the laws, regulations, and agency policies related to this project. The following summarizes findings required by major environmental laws:

### **Consistency with Forest Plan Standards, Goals, and Objectives:**

The Flathead Land and Resource Management Plan (Forest Plan) establishes management direction for the Flathead National Forest. This management direction is achieved through the establishment of Forest goals and objectives, standards, and guidelines, and Management Area goals and accompanying standards and guidelines. Project implementation consistent with this direction is the process in which desired conditions described by the Forest Plan are achieved. 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 and guidelines applicable to the Moose Post-Fire project area (FEIS, Chapters 2 and 3). The alternative development process is detailed in the FEIS, Chapter 2, and the project record, while the management goals of the alternatives and the environmental consequences of the alternatives in relation to the Forest Plan standards and guidelines are described in the FEIS, Chapter 3. After reviewing the FEIS, I find that my decision is consistent with Forest Plan standards, goals, and objectives as amended.

### **Project-specific Amendments to the Forest Plan**

The Forest Plan states on page II-20, "A project-specific amendment of a Forest Plan standard may be undertaken if it is demonstrated during project analysis that it will fulfill the objective of the standard and related goals." With this decision, I am approving two project-specific amendments to the Forest Plan related to Amendment 19.

The first will temporarily amend the open motorized access density and security core standards in the Werner Creek grizzly bear subunit to 29% and 63%, respectively (from 19% and 68%). Road closures and road decommissioning included with Alternative 3 will meet the amended standards. This project-specific amendment will remain in place pending revision of the Flathead Forest Plan. The revision process is currently in progress, and a decision is anticipated in late 2006. During the revision process, grizzly bear standards will be reviewed and possibly modified to reflect the results of ongoing population studies.

The second project-specific Forest Plan amendment included in Alternative 3 will allow the retention of 10 specific stream-aligned culverts on Road 316E and its adjoining roads, the upper portions on Road 315, and Road 1692, while still considering these roads as "reclaimed" under the Forest Plan. Appendix TT of the Forest Plan currently states that a road must have all stream-aligned culverts removed to be "counted" as a reclaimed road for the purposes of calculating total road density.

### **Finding of Nonsignificant Amendment**

The FSH 1909.12, Land and Resource Management Planning Handbook, 5.32, process to amend the Forest Plan, identifies four factors to consider in determining whether a change to the Forest Plan is significant or non-significant, based on NFMA planning requirements. The following paragraphs document how these factors are considered for the proposed amendment.

#### 1. Timing.

This project-specific amendment would be short-term in nature. The proposed changes for security core and open road density standards in the Werner Creek grizzly bear subunits, and retaining 10 stream-aligned culverts in place on Road 316e and its adjoining roads, the upper portions on Road 315, and Road 1692 will remain in effect pending revision of the Forest Plan. The Flathead Forest Plan revision is currently underway, with a decision anticipated in 2006 – 2007.

I have included additional actions in my decision to minimize or reduce displacement effects to grizzly bears from the increased activity during project implementation and deviations from Amendment 19. I am extending the existing emergency road restrictions implemented in the spring of 2002 prior to commercial mushroom harvest in the fire area with new closure orders under my decision until the salvage harvest activity is completed.

I also decided to continue keeping a portion of the Big Creek Road closed to wheeled motorized access until all salvage harvest is completed and until we achieve 63% security core in the Werner Creek grizzly bear subunit. Once these conditions are met, this portion of the Big Creek Road 316 will be open to wheeled motorized access from July 15 to September 15. I have also chosen to implement a seasonal motorized access restriction on the Werner Divide Road 1658 from the Whitefish Divide to the junction of Big Creek Road 316. Wheeled motorized access will be available from July 15 through October 14. In addition, a seasonal motorized access restriction will also be designated for a portion of the Big Creek Road 316 from its junction with the Hallowat Road 315 to its junction with the Werner Divide Road 1658. Wheeled motorized access will be available from July 15 through November 30. These restrictions are designed to compensate for the impacts of reopening a portion of the Big Creek Road 316.

Another seasonal motorized access restriction will be implemented on the Hallowat Road 315 beyond mile 3.0, the junction with Werner Creek Road 5261, and on Kletomus Creek Road 5207 (to Moose Lake). Wheeled motorized access will be available from July 1 through November 30.

In addition, to mitigate for allowing 10 culverts to remain on decommissioned roads, I have decided to remove fill to the extent practicable on those ten culverts on decommissioned roads (Roads 315, 1692, 316 and adjoining spur roads, and 5286) and to design an overflow design for those culverts. These roads will also be monitored in the same fashion as the gates yearlong/bermed roads in the fire area and will be reported back to the USFWS (Biological Opinion - project record exhibit I-9).

## 2. Location and size.

These project-specific amendments apply to specific roads and culvert locations in the Big Creek drainage. This project approval affects only 2 out of the 54 grizzly bear subunits on the Flathead National Forest. This is the only amendment to that has changed open road density and security core area standards, or for retaining stream-aligned culverts in place on reclaimed roads on the Flathead National Forest. As previously mentioned, consultation with the U.S. Fish and Wildlife Service resulted in a non-jeopardy opinion regarding grizzly bears, as well as other threatened and endangered species.

## 3. Goals, objective, and outputs.

The overall goal of the standards that are modified with these project-specific amendments is to facilitate recovery of grizzly bears. The goal would not change with this amendment. By allowing increased open road density and lower security core area in the Werner Creek subunit, grizzly bear security in this subunit will be slightly reduced. However, this is a minor reduction because it affects only one of 40 subunits and would not appreciably diminish productivity of the Northern Continental Divide Ecosystem (NCDE) grizzly bear population to levels that would affect the survival and recovery of bears in the NCDE (page 40 of the grizzly bear biological opinion from the USFWS). Allowing 10 stream-aligned culverts to remain in place on decommissioned roads will have no effects on grizzly bear. A slightly increased risk of culvert failure will result in potential effects to bull trout would result. However, monitoring and routine maintenance activities will reduce this risk by identifying and repairing potential problems before they threaten the integrity of the culvert structure (Biological Opinion - project record exhibit I-9).

Timber outputs would be unaffected since these modifications would allow for timber to be removed in a timely, cost-effective manner. Also, as noted in the last Amendment 19 monitoring report, while open road density and security core area across the Forest as a whole has not been met, the trend is improving.

## 4. Management prescription.

This modification is only for the Werner Creek and Lower Big Creek grizzly bear subunits only; it does not apply to other areas on the Flathead National Forest.

Based on a review of the four factors, I considered the project-specific amendments to be non-significant.

**Suitability for Timber Harvest:**

The selected action includes timber salvage on lands allocated to MA 18 (Wild and Scenic River) and 13A (non-forest mule deer/elk winter range) in the Flathead National Forest Plan. These lands are classified as not suitable for timber production. However, salvage harvest is consistent with management area direction stated in the Forest Plan (page 3-61 and 3-93, Forest Plan) and with 36 CFR 219.27c(1). All other salvage authorized by this decision is located on lands deemed to be suitable for timber production in the Flathead Forest Plan.

Analysis of current and historical regeneration data for the post-burn area supports the conclusion that adequate stocking of the proposed harvest units is assured (project record exhibits O-36, O-39). Low impact logging methods such as helicopter and winter logging provide greater protection to naturally regenerated seedlings. Planting will be implemented over an estimated 1065 acres. Monitoring of regeneration will ensure that reforestation progresses at a desirable rate.

**Clearcutting and Even-aged Management:**

The National Forest Management Act of 1976 (NFMA) directs that clearcutting could be used only where "it is determined to be the optimum method". Other methods could be used where "determined to be appropriate." No clearcutting or even-aged management is proposed in the Moose Post-Fire Project. Harvest will involve the removal of trees killed and severely injured by the fire.

**Vegetative Manipulation:**

All proposals involving vegetative manipulation of tree cover for any purpose must comply with the seven requirements found in 36 CFR 219.27(b).

1. Management prescriptions shall be best suited to the multiple-use goals established for the area with impacts considered in the determination.
  - All proposed treatments meet a portion of the goals and objectives in the Flathead Forest Plan for designated Management Areas and meet the purpose and need for action.
2. Management prescriptions shall ensure that the lands can be adequately restocked as provided in 36 CFR 219.27(c)(3) ".....assure that the technology and knowledge exist to adequately restock the lands within 5 years after final harvest" (16 USC 1604(g) (E)(ii)).
  - Adequate stocking of the units after harvesting will be provided through natural regeneration or planting of tree seedlings. Previous harvest units in the vicinity of the proposed treatment areas have all regenerated adequately through similar methods. There are no unusual site conditions within the units that would lead me to believe that adequate regeneration would not occur on these sites as well.
3. Management prescriptions shall not be chosen primarily because they would give the greatest dollar return or the greatest output of timber.
  - Chapter 3 economics section in the Moose Post-Fire FEIS describes the economic effects by alternative.
4. Management prescriptions shall consider the effects on residual trees and adjacent stands.

- Management prescriptions were chosen primarily because they would result in desired environmental and social effects, as defined by the Purpose and Need for Action and Key Issues in the FEIS.
- The analysis considered the effects of management activities and practices on residual trees and adjacent stands as shown in Chapter 3 of the FEIS. I find the potential stand treatments and the design criteria as listed in Appendix B of this decision document and in the FEIS on pages 2-11 and 2-33 through 2-34 that are designed to protect the reserve trees and adjacent stands. There were a number of design requirements included in the FEIS (page 2-11, page 2-33 and 2-34 FEIS) that

5. Management prescriptions shall avoid permanent impairment of site productivity and ensure conservation of soil and water resources.

- The effects of Alternative 3 on soil and water resources are disclosed in Chapter 3 of the FEIS. I find the thinning unit locations, silvicultural systems, riparian protection, logging technology, and post harvest activities, in relationship with the soil and water conservation practices planned, will minimize impairment of site productivity and ensure conservation of soil and water resources. The Best Management Practices (BMPs) to be followed in the project are identified in Appendix C of the FEIS.

6. Management prescriptions shall provide the desired effect on water quantity and quality, wildlife and fish habitat, regeneration of desired tree species, forage production, recreation use, and aesthetic values.

- Desired resource conditions for the project area are described in the post-fire assessment completed immediately after the Moose Fire (*"Wildfires of 2001: Post-fire assessment"*, project record V-7). Other desired conditions are provided in the Forest Plan. Environmental effects are described in Chapter 3 of the FEIS. Alternative 3 with the described modifications for vegetation treatments would have the desired effects on the resources stated above. The features common/design criteria described in Chapter 2 of the FEIS provide an additional measure of assurance that the above resources will be protected.
- The selected action complies with the Clean Water Act, Clean Air Act, Endangered Species Act, and with the Flathead Forest Plan, as amended.

7. Management prescriptions shall be practical in terms of transportation and harvesting requirements, and total cost of preparing, logging, and administration.

- The specified transportation and harvesting systems to be used in the implementation of this decision have been analyzed in combination with the other requirements of the management prescriptions. Equipment and technology that are commonly available are prescribed. The preparation, logging, and administration are practical for achieving the resource objectives and progress toward the desired future condition in the project area. A summary of the economic analysis included in the FEIS on pages 3-335 through 3-346 along with its supporting documentation in the project record demonstrates this finding.

#### **NFMA Viability:**

The Forest Plan contains an array of components that contribute to the wildlife/fisheries habitat capability of the Flathead National Forest. Each of these components reduces the risk to wildlife and fish viability. Based upon a consideration of these components of the Forest Plan, as amended, monitoring and design criteria of the selected alternative, as well as an analysis of effects of the Moose Post-Fire Project at the Forest and Regional Scale (project record exhibits Rg-5 and I-7) I concluded that my decision poses little risk to the viability and distribution of native species.

**Clean Water Act and Montana State Water Quality Standards:**

Upon review of the Moose Post-Fire FEIS (Chapters 2 and 3, Appendix C – BMPs and Appendix E – Monitoring Plan for fish, water, and soils), I find that activities associated with Alternative 3 and its modifications will comply with state water quality standards, with application of the Best Management Practices as outlined and associated monitoring requirements. According to the Montana Department of Environmental Quality, the selected actions will cause no further impairment of designated beneficial uses (project record exhibit F-483). As a result, the selected actions will not be in conflict with any of the TMDL goals for the Big Creek watershed.

**Clean Air Act:**

Upon review of the FEIS (Chapter 3), I find that the selected activities in my decision will be coordinated to meet the requirements of the State Implementation Plans, Smoke Management Plan, and Federal air quality requirements.

**National Historic Preservation Act, American Indian Religious Freedom Act, and Native American Graves Protection and Repatriation Act:**

Cultural resource reviews have been completed on all areas to be impacted by ground-disturbing activities. No cultural resources are expected to be affected by this action. Recognizing that the potential exists for unidentified sites to be encountered or disturbed during project activity, special provisions for their protection will be included in all contracts used to implement this project. These provisions will allow the Forest Service to unilaterally modify or cancel a contract to protect cultural resources, regardless of when they are identified. This provision will be used if a site were discovered after a harvest operation had begun. This project is in compliance with the Region 1 programmatic agreement (1995) with the State Historic Preservation Office and the Advisory Council on Historic Preservation.

**Government-to-Government Relations:**

The Forest Service consulted the Confederated Salish and Kootenai Tribes during the analysis process. The intent of this consultation was to remain informed about Tribal concerns regarding the American Indian Religious Freedom Act (AIRFA) and other tribal issues. In addition, the Salish and Kootenai Tribes reserved rights under the Hellgate Treaty of 1855. These rights include the "right of taking fish at all usual and accustomed places, in common with citizens of the Territory, and of erecting temporary buildings for curing; together with the privilege of hunting, gathering roots and berries, and pasturing their horses and cattle upon open and unclaimed land." The federal government has trust responsibilities to Tribes under a government-to-government relationship to insure that the Tribes reserved rights are protected. Consultation with the tribes during project planning helps insure that these trust responsibilities are met.

**The Endangered Species Act (16 USC 1531 et. seq.)**

Since the project area does not currently meet the Forest Plan Amendment 19 five-year access density objectives designed to improve grizzly bear security and because of the project's effects to bull trout, I requested formal consultation with the U.S. Fish and Wildlife Service. In order to not jeopardize grizzly bear and bull trout, I have incorporated the terms and conditions within their grizzly bear Biological Opinion and bull trout Biological Opinion (refer to project record exhibits Rt-34 and I-9 and refer to Appendix D of this decision). The U.S. Fish and Wildlife Service concluded that the project would not jeopardize the continued existence of the NCDE grizzly bear population or the continued existence of bull trout in the Columbia River system as long as the terms and conditions of the Biological Opinions are met. Those terms and conditions have been incorporated into my decision.

The U.S. Fish and Wildlife Service also concurred with our determination that the project would have "no effect" on the threatened water howellia or threatened Spaulding's catchfly. The Service also concurred with our determination that the project is "not likely to adversely affect" the endangered gray wolf or threatened Canada lynx or bald eagle (project record exhibit C-28).

Under provisions of this Act, Federal agencies are directed to seek to conserve endangered and threatened species and to ensure that actions are not likely to jeopardize the continued existence of any of these species. Upon review of the Moose Post-Fire Project FEIS Chapter 3, the Biological Assessments, and the Biological Opinions from the U.S. Fish and Wildlife Service, I find that Alternative 3 complies with this Act.

**Roadless Area Conservation - Final Rule (Enjoined by Court Order):**

This Rule has been enjoined by court order and therefore never took effect. However, the Chief of the Forest Service has signed interim directives to the Forest Service Manual which sets forth direction regarding delegation of authority and interim protection of inventoried roadless areas. The inventoried roadless analysis documented in the FEIS (pages 3-327 to 3-329) and the project record (exhibits K-4 and K-5) provides further background on these interim directives as well as displays potential effects of the alternatives and my decision on roadless area characteristics and values. My decision does not include any salvage treatments in inventoried roadless areas.

**Administration of the Forest Development Transportation System – Roads Policy – 36 CFR Part 212 et al. (published in the Federal Register on January 12, 2001):**

This project does not include any road construction on public lands. I find that this project is in compliance with the terms of this new rule and policy.

**Migratory Bird Treaty Act:**

On January 10, 2001, President Clinton signed an Executive Order outlining responsibilities of federal agencies to protect migratory birds. Upon review of the information regarding neotropical migratory birds in the project record (project record exhibit Rn-1), I find that Alternative 3 complies with this Executive Order.

**Environmental Justice:**

The Selected Alternative was assessed to determine whether it would disproportionately impact minority or low-income populations, in accordance with Executive Order 12898 (FEIS, page 3-346 and project record exhibit Rn-1). No impacts to minority or low-income populations were identified during scoping or effects assessment.

Compliance with other laws, regulations, and policies are listed in various sections of the FEIS, the Project Record, and the Forest Plan.

**Environmentally Preferred Alternative:**

It is also required by law that one or more environmentally preferred alternatives be disclosed. The environmentally preferable alternative is not necessarily the alternative that will be implemented and it does not have to meet the underlying need of the project. It does, however, have to cause the least damage to the biological, and physical environment and best protect, preserve, and enhance historical cultural, and natural resources (Section 101 NEPA: 40 CFR 1505.2(b)).

Alternative 4 has been identified as the environmentally preferred alternative. Alternative 4 will cause the fewest short-term adverse effects to water quality, aquatic habitat, and fisheries habitat as a result of timber salvage. This alternative also provides a higher level of habitat security for grizzly bears. This alternative would also result in the most short-term adverse effects to water quality/fisheries than the other alternatives because of the amount of culvert removals. However, this alternative has the most long-term benefits to these resources because fewer culverts on roads would remain on the landscape. I did not select this alternative because it did not address the risk of continuing and expanding beetle infestations as well as my selected alternative nor does it provide the level of public access that I believe is needed and desired for the project area.

## **XI. APPEAL PROVISIONS AND IMPLEMENTATION**

Copies of the Moose Post-Fire Project FEIS are available for review at the Three Forks Zone Offices in Hungry Horse, Montana, and at the Forest Supervisor's Office in Kalispell, Montana. The supporting Project Record, which includes the internal scoping, public involvement, specialist reports, and road management plan, is available for review at the Three Forks Zone Offices.

This decision is subject to appeal pursuant to 36 CFR 215.7. As stated in 36 CFR 215.11, an appeal may be filed by any person or non-Federal organization (Federal Agencies may not appeal). A written Notice of Appeal must be submitted within 45 days after the date that notice of this decision is published in the *Daily Inter Lake*, Kalispell, Montana.

Appeals should be sent to:

USDA, Forest Service, Northern Region  
ATTN: Appeals Deciding Officer  
PO Box 7669  
Missoula, MT 59807

Appeals must meet content requirements of 36 CFR 215.14. Detailed records of the environmental analysis are available for public review at the Three Forks Zone Offices (8975 Hwy 2 East, P.O. Box 190340, Hungry Horse, MT 59919).

An exemption from stay of activity has been granted by the Chief of the Forest Service for a portion of this project. Exempted activities may occur during the appeal period. Specifically, salvage and associated road maintenance activities will be implemented during this exemption period. Removing dead, dying, and at-risk trees before the spring beetle flight in 2003 should effectively suppress bark beetle populations in these areas while they are still manageable, thereby reducing the potential for future bark beetle population build-up and subsequent tree mortality within and outside of the Moose Fire area.

If no appeal is received, implementation of the portions of this decision that are not exempted from stay may occur on, but not before, five business days from the close of the appeal filing period. If an appeal is received, implementation on the non-exempted actions may not occur for 15 days following the date of appeal disposition.

For further information on this decision, contact Jimmy DeHerrera, District Ranger, at 387-3800 or Michele Draggoo, Project Leader, at 387-3827.

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**CATHY BARBOULETOS**  
Forest Supervisor

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**Date**

## APPENDIX A

### Errata to the FEIS

- The second paragraph on page 3-287 of the FEIS should read:

“The design of these 10 structures greatly reduces the risk to fisheries if they should fail. Sediment modeling indicates that the amount of sediment that would reach a stream if one of these structures fail would be significantly less than the sediment that would result from the failure of a typical road-grade culvert. The regular monitoring of these stream crossings coupled with the design upgrades greatly reduces the risk of failure of these structures. See the hydrology section of the FEIS for further discussion on the risk associated with stream crossing structures in general and these structures in particular.”

- An additional sentence should be added to the end of the first sentence in the second paragraph under Practice 14.02, 13.06, and 13.02 on page C-3 in Appendix C of the FEIS:

“Other resource concerns may determine which of the options presented would be chosen. Because of this fact, they may not all be available to those who implement the project.”

- Move Unit 37 from the > 35 % slopes to < 35% slopes on page C-3 in Appendix C to the FEIS.
- Add this paragraph to the Final EIS, Chapter 2, Design Criteria, under the section on *Slash Reduction*, referring to sites with low to moderate severity fire, where fines may remain in the slash. This paragraph will also be added to item b) on page C-4 in Appendix C to the FEIS:

“Areas with the opportunity to whole tree yard (and thus potentially remove much of this fine material) will be evaluated on a site-specific basis to determine whether whole tree yarding is acceptable. Factors that may influence this decision include period of time since the fire during which needle fall and leaching from rainfall have occurred; the expected amount of breakage of dried out branches when the trees are felled; the abundance of unmerchantable dead trees that will remain on the site which, over time, will deteriorate and fall, providing additional ground cover and nutrients; and the number of live trees left on the site, primarily larch that survived the fire, that will contribute to the nutrient cycling processes in the proposed units.” Note: This last addition matches what is stated in the soils analysis on 3-195 of the FEIS.

- Add the following sentence after the last bullet item under Soils on page 2-12 of the FEIS:

“Slash mats are not required when logging occurs in winter conditions.”

- Add the following sentence to the last paragraph under Soils on page 2-13 of the FEIS:

“All existing historic roads used during salvage operations would be brought up to BMP standards during use and rehabilitated after use.”

- The project record reference in the second to last paragraph on page 3-119 of the FEIS should have stated exhibit I-8 instead of Rt-24.
- The project record reference in the last paragraph on page 3-229 of the FEIS should have stated exhibit Q-78 instead of Q-80.
- The project record reference in the first paragraph on page 1-3 of the FEIS should have stated exhibit V-7 instead of U-1.
- The Alternative 3 vegetation map on page 2-39 in the FEIS has a unit that is mislabeled. Unit 59 in the Lookout drainage is broken up into two portions. The northern portion of the unit should be labeled as 59 instead of 57.

- In Appendix B, Post-fire Mortality Guidelines, page B-6, in the FEIS the second to the last paragraph should read:

“Because its needles are shed in the fall, in units that might be winter logged, the live larch that meet the retention criteria (i.e. >10% green crown) will be marked with paint to ensure they would not be mistaken for a dead tree. Also in Appendix B, page B-6, last paragraph, 3<sup>rd</sup> sentence, should read: “Western larch with >10% of live, green crown would be left, in addition to live or dead larch >18” DBH or >20” DBH (depending upon unit and alternative chosen).”

- On page 4-43 of the FEIS (response to comments) comment #117 and the response were not copied clearly. The comment and response is read as follows:

**#117 Public Concern: The Flathead National Forest should conduct thorough plant and wildlife surveys in the burn area.**

Thorough wildlife surveys, over an appropriate period of time, should take place. Thorough plant surveys, over an appropriate period of time, should take place. These surveys should be conducted by appropriately trained personnel and should take place at times of the year when applicable plant [and wildlife] species are likely to be detectable and identifiable. The analysis should disclose whether any factors could have affected the ability of surveyors to detect applicable species and should disclose whether any species could have been present, but may have been undetected.

**Response:** Surveys for sensitive plant species and noxious weeds have already occurred within the fire area, concentrating on those areas proposed for salvage, road decommissioning, or any other potentially ground disturbing activity. Trained personnel have conducted these surveys, and they were conducted during appropriate seasons. Monitoring of wildlife use within the fire area has occurred, and will continue to occur, as deemed appropriate and necessary.

## APPENDIX B

Appendix B includes the following components:

- **Design Criteria for the Selected Action**
- **Monitoring Plan for the Selected Action**

### Design Criteria for the Selected Actions

Referenced from: pages 2-9 to 2-14 of the FEIS.

#### ***Heritage Resources***

If previously unknown heritage resources are encountered during implementation of the project, activities at the site would be halted and the forest archaeologist would be notified immediately. Activities would not resume until adequate protective measures are developed and specified in the field.

A contractual provision would be included in any timber sale contract that requires identification and protection of known resources and allows modification or cancellation of the timber sale or other contracts if necessary to protect resources discovered while project implementation is in progress.

#### ***Wildlife/Fish***

Biological assessments for this project were completed for any threatened or endangered species potentially inhabiting the project area.

The following contract provisions would be included in any timber sale contract:

- Use of Roads by Purchaser - Specifies conditions under which purchaser may use roads for hauling.
- Closure to Use by Others - Prohibits hunting, discharging of firearms, transportation of hunters or big game animals by the purchaser within closed areas.
- Protection of Habitat of Endangered Species - For protecting any listed threatened, endangered, or sensitive species encountered during project implementation.
- Conduct of Logging - Sets forth methods of felling, skidding, and yarding required to implement silvicultural prescriptions and meet other land management objectives.

Surveys for wolf presence would be conducted each March, April, and May to determine whether wolves are using the project area. If wolves are detected and it is determined that denning is occurring, no logging activities would be allowed within a one-mile radius of the den and/or rendezvous sites during March 15 – July 1 (Forest Plan, p. II-44).

Salvage harvest in units 37, 37A, 38, 40, 41, 75, and 76 would be restricted to the time period of May 15 to September 1 to protect bull trout spawning. The removal of any stream-aligned culverts above bull trout spawning areas would be carried out between May 15 and September 1. Culvert removals from streams inhabited by westslope cutthroat trout would be limited to the period of July 15 to April 30. Culvert removals from streams meeting both criteria would be carried out from July 15 to September 1 each year.

Any “moist sites” located during layout of salvage units would be protected and provided with an appropriate riparian buffer (Forest Plan, p. II-35).

### ***Duration of Activities***

Timber sale contracts would be awarded for a 3-year term, beginning in the fall of 2002 or spring of 2003. Fuels reduction activities within salvage units, if needed, would be conducted within two years of completion of salvage operations. Tree planting would occur within two years of completion of salvage or fuels reduction activities, assuming adequate availability of trees. Road decommissioning work would be completed by late autumn of 2009. These dates are tentative, based upon anticipated budgets, work force availability, weather and other considerations. Actual dates for implementation and accomplishment could vary.

### ***Threatened, Endangered and Sensitive Plants***

Proposed activities have been modified to avoid potential impacts to three occurrences of one sensitive plant, pink corydalis, found during pre-salvage surveys (see write up in FEIS Chapter 3 under *Vegetation: C. Threatened and Sensitive Plants*). If unknown populations of sensitive plants were found during project implementation, they would be evaluated and protected as necessary to retain population viability. A contract clause would incorporate this into any timber sale contract. This clause specifies that the contract would be modified to protect these plants if located.

### ***Air Quality***

Excavator pile burning and jackpot burning are the only prescribed burning actions proposed with this project. Prior to prescribed burning, a burn plan would be prepared for each prescribed burn proposed with the action alternatives. Air quality sensitive areas, such as the Bob Marshall Wilderness Complex, Glacier National Park, and the Flathead Valley would be identified in each specific burn plan. Prescribed burning resulting from this project would be scheduled when smoke would not accumulate in unacceptable concentrations. Burn timing would also be planned to minimize effects on these smoke sensitive areas. Extended meteorological and spot weather forecast on mixing height, atmospheric stability and wind speed would be required prior to burning to ensure that federal and state ambient air quality standards are met.

Prescribed burning would use effective firing techniques to minimize smoke output per unit area and appropriate fuel moisture conditions to remove only those fuels needed to meet the prescribed burn objectives. The prescribed burn plan would contain the appropriate mop-up category to ensure actions taken reduce impacts of residual smoke on visibility and health.

The Flathead National Forest cooperates with the State Air Quality Bureau and is a member of the Montana/Idaho State Airshed Group. This coordination ensures that, during project implementation, burning only occurs under conditions that would protect air quality and meet state and national standards.

### ***Removal of Trees***

All action alternatives focus on removing trees that were affected by the fire and exhibit the conditions specified in the Post-Fire Mortality Analysis and Guidelines contained in Appendix B of the FEIS. It is acknowledged that in following these guidelines, there may be some trees that are removed that would otherwise live, and some trees that are left that may die. The guidelines as developed are generally conservative, erring on the side of leaving trees that might die, rather than taking trees that might live. This recognizes the value that live trees can hold across a burned landscape.

For the purpose of brevity in the remaining portions of the FEIS, the trees that exhibit these conditions discussed in Appendix B of the FEIS and are proposed for salvage removal will be referred to as "dead and dying." Please note that the trees proposed for removal also include Douglas-fir and spruce trees that are infested with bark beetles.

### ***Retention of Live Trees***

All salvage units require that trees of all species uninjured by the fire would be left within the units. Depending upon management objectives and tree species, additional trees with varying degrees of fire injuries would be left within all units as well. The post-fire mortality guidelines (Appendix B of the FEIS) provide criteria for leave tree selection that would be followed in all salvage units except those within the inventoried roadless areas, Wild and Scenic River corridor, and in Management Area 13a (winter range unsuitable for timber management). In these latter areas, only trees infested with beetles would be salvaged; therefore, there would be many other trees of all species, sizes and degrees of fire injury remaining on the site after salvage is complete. Please note that some live trees would likely be cut for logging access or safety reasons. These trees would be left on the ground except where felled to create landing areas. All ponderosa pine, whether live or dead, would be left within all salvage units.

### ***Downed Wood and Snags***

Dead, larger-diameter larch trees (i.e. >18" DBH or >20" DBH, depending upon alternative and unit) would be left within all salvage units as per the site specific prescriptions. These DBH sizes ("Diameter at Breast Height) equate to 24" and 26" at a 6" stump height as measured on the uphill side of the tree. These dead residual trees will provide primarily for wildlife snag habitat, long-term soil productivity, and forest structural diversity objectives. Dead ponderosa pine of all sizes would be left within all salvage units in all alternatives. Please note that incidental trees meeting these criteria would likely be cut to accommodate landings, skid trails, skyline corridors, snow road locations, or for safety reasons. If these trees are tipped over or felled for safety reasons during the logging operation, they would not be removed but left for downed wood habitat (except if on a landing site).

Larger-diameter high value wildlife snags within 200 feet of an open road (either inside or outside a salvage unit) or within riparian habitat conservation areas would be designated/signed to protect from firewood cutters. Definition of these wildlife trees generally refers to larch, ponderosa pine, cottonwood or Douglas-fir; typically larger diameter; usually showing signs of decay, broken tops, woodpecker use, other animal use, etc. Each alternative also has additional snag marking/signing that would occur along open roads, as described under the alternative descriptions in the FEIS.

In most units, abundant unmerchantable trees would remain within the unit, standing where possible. Trees felled during the logging operation but not removed from the site would be left as intact as possible, with only tree limbs removed to get slash closer to the ground if necessary and hasten its decomposition.

### ***Slash reduction***

Treatment of logging slash (i.e. piling and burning, or jackpot burning) would be limited to those units where fuel loadings pose other resource concerns (such as regeneration potential or fire risk). Though some amount of downed wood is of value to protect soil surfaces from erosion and provide nutrients, a post-harvest condition that minimizes heavy slash concentrations is more desirable to meet other resource concerns (such as regeneration and fuel loading). In all alternatives, logging practices that create conditions where most unmerchantable trees are left standing, excessive slash concentrations are minimized, and soil impacts are avoided or minimized, would be encouraged and used. Use of low impact logging methods (i.e. helicopter, skyline, ground based winter logging), whole tree yarding, designation of skid trails and placing slash on skid trails (for summer logged areas) are some of the ways that will be used to achieve these objectives. Downed unmerchantable trees would be left as intact as possible, rather than bucking into short pieces. In areas where fire severity was low to moderate, the logging slash may be composed of mostly fine needles and branches. This material is important for providing ground cover that reduces soil erosion rates and, if needles remain, provides nutrients to the soil. Areas with the opportunity to whole tree yard (and thus potentially remove much of this fine material) will be evaluated on a site-specific basis to determine whether whole tree yarding is acceptable. Factors that may influence this decision include period of time since the fire during which needle fall and leaching from rainfall have occurred; the expected amount of breakage of dried out branches when the trees are felled; the abundance of unmerchantable dead trees that will remain on the site which, over time, will deteriorate and fall, providing additional ground cover and nutrients; and the number of live trees left on the site, primarily larch that survived the fire, that will contribute to the nutrient cycling processes in the proposed units.

### ***Tree Planting***

All salvage units would be reforested through either natural regeneration or tree planting of native conifer species (primarily larch, Douglas-fir, western white pine or ponderosa pine). This would restore the productive capacity of the land in a timely manner and ensure desired species diversity in the future forest. Refer to Table 3 of this Record of Decision for projected planting areas.

### ***Scenic/Visual Resources***

In order to reduce the short-term visual impacts of slash residue in units in close proximity to “foreground viewing areas” or “middle-ground viewing areas,” the following actions would be taken:

- Dispose of burn piles along open roads within two years.
- Low cut or angle cut stumps in the immediate foreground (100') along the North Fork, Coal Creek, and Big Creek roads (maximum stump height – 6”).
- Rehabilitate landing areas next to open roads. Dispose of slash and scarify as necessary to establish new vegetation.

### ***Riparian***

To reduce potential impacts on soils, water quality, wetland, and riparian areas, the following would occur:

- Requirements of the Montana Streamside Management Zone (SMZ) Law and the Inland Native Fish Strategy (INFISH) would be followed for all treatments within or adjacent to wetland or riparian areas.

Timber sale contracts contain standard clauses that provide protection for riparian areas, stream management zones and riparian habitat conservation areas.

### ***Public Firewood Gathering***

Currently, a temporary closure order (up to 1 year) is in place that restricts firewood cutting within the national forest portion of the Moose Fire area. All alternatives would continue this closure order restricting public firewood cutting in the Moose Fire area during proposed salvage sale operations.

### ***Water***

All timber sale contracts would require dust abatement measures to minimize the airborne delivery of sediment to streams.

The timing of culvert removals and application of “Best Management Practice” (BMP) measures can minimize the effects of road decommissioning activities. When possible, the staggering of culvert removals over more than one season in a single watershed would reduce the amount of sediment entering a stream at any given season. Following a culvert removal, the use of erosion control matting and shrub planting for streambank stabilization would reduce additional erosion and sedimentation.

### ***Soils***

Management practices to protect soil from erosion and maintain soil productivity include the following. These requirements would be incorporated in to any timber sale contract through the inclusion of the contract clauses.

- Minimize ground disturbance by using helicopters, skyline cable systems, and ground-based mechanized equipment that has proven capability to be “light on the land” (ground-based equipment that is light on the land could include excavators and log forwarders).
- Use ground-based mechanized equipment (such as skidders and feller-bunchers) only on areas where terrain and soil conditions would cause minimal impact to soils (slopes generally less than 35%).
- Operate equipment only when soils are at an acceptable level of dryness, as determined by the timber sale administrator based on site-specific sampling.
- Designate main skid trails and temporary access roads and/or lay down treetops and limbs on these trails to protect the soil during skidding operations, except for winter logged units.
- Winter logging would be done when the ground has enough snow or is frozen enough to protect soils.
- In most units of low to moderate fire severity, where fine needles and branches remain on the trees, yarding of tops (i.e. whole tree yarding) would be evaluated on a site specific basis to determine the need to retain this material on the site. Refer to discussion under *Slash Reduction* section above.
- To minimize erosion and other detrimental impacts to the soil resource, salvage harvest would be completed using BMPs or Soil and Water Conservation Practices (SWCPs). The practices are described in detail in the Forest Service Soil and Water Conservation Handbook (FSH 2509.22), the Soil Management Handbook (FSH 2509.18) and the Forest Plan (pages II: 40-46). Included are such practices as providing for sufficient road drainage, limiting tractor logging operations to periods when soils are dry or under winter snow and less subject to compaction, seeding of landings and cut and fill slopes of roads, and maintaining vegetative buffer strips between cutting units and streams for sediment filtration. Each harvest unit and all proposed road work would be reviewed and applicable SWCPs identified on a site-specific basis for protection of the soil and water resource. Refer to the FEIS *Appendix C: Best Management Practices* included in this Record of Decision.
- All skyline corridors would have waterbars installed and slash placed on bare soils as needed, to provide ground cover and reduce soil erosion. All skid trails would have waterbars installed and slash placed on the trails as needed.
- If mechanical fuel treatments were deemed necessary, they would be accomplished with excavators to reduce soil disturbance (Land and Resource Management Plan Annual Monitoring Report, 1992 page 131-139).
- Required mitigation: All salvage units where levels of detrimental soil disturbance exceeds 15% post-harvest would require measures be implemented to reduce detrimental disturbance to 15% or below. Slash mats are not required when logging occurs in winter conditions.

Dry soils are determined using the hand squeeze method. If a sample of soil does not form a sturdy clump or ball when squeezed and does not leave a wet muddy coating on one’s fingers, then it is at the proper moisture level to put equipment on the ground.

A slash mat would be thick enough to prevent deformation of the soil surface by the equipment tracks or wheels. In other words, no tracks would be visible in the soil. The depth of the slash mat would vary with the type of material available for the slash mat.

Winter logging requires that there be enough snow so muddy water does not mix into or bleed into the snow where equipment operates. The depth of snow varies with the snow conditions. It takes more dry powder snow than wet dense snow to protect the soil surface. Soils must be frozen enough to prevent deformation of the soil surface where equipment operates.

Additional design measures to minimize soil erosion and compaction based on burn severity ratings (the fire’s effect on soil), and slope (which relates to erosion hazard) were developed. In addition, special management practices were developed for units where the fine branches and needles were completely burned. These practices are specific to individual salvage units, and are described in detail in the FEIS Appendix C - Best Management Practices, included within this Record of Decision.

All existing historic roads used during salvage operations would be brought up to BMP standards during use and rehabilitated after use.

## **Noxious Weeds**

Features listed under the *Soils* section above would also serve to reduce the risk of noxious weed establishment and spread. Specific actions related to noxious weed concerns include the following:

- Wash all off-road equipment before entering the fire area.
- Reestablish vegetation on bare ground created by road decommissioning or timber harvest activity, as determined by evaluation of site-specific conditions. Focus will be on the most vulnerable areas created by road decommissioning activities, and on landings and skid trails created by the salvage logging operation. Use native material where appropriate and available.

## **Recreation**

All trails would be protected during salvage harvesting. No skidding would occur down any trail. In addition, crossing a trail with heavy equipment would be minimized and trees would be felled away from the trail. Any damage that might occur during logging and associated site preparation activities would be repaired. Activities at developed recreation sites would be timed to accommodate public use to the extent practical.

In response to public comments received during the comment period on the draft EIS, we reviewed the motorized use of the Elelehum Trail 194 and Deadhorse Trail 255. We discovered an oversight not disclosed in the DEIS: these trails are in grizzly bear security core areas. Grizzly bear security core areas allow no motorized use during the non-denning season (see Amendment 19 or Appendix TT of the Forest Plan). As a result, we have modified the FEIS to close these trails in all action alternatives during the non-denning season (generally, from March 16 to November 14) to comply with Amendment 19 requirements. Monitoring of these trails has shown that they receive little motorized use.

## **Public Safety / Roads**

Other than a minor amount of snow road in Alternatives 2, 3, and 4, no new road construction or reconstruction would occur with any alternative. This includes construction of any new temporary roads.

Contractors would be required to post signs along Forest Service haul roads warning the public of truck traffic and activities. Warning signs and public announcements would be used to notify the public of logging/site preparation/road management activities in the area.

Grading may be needed in order to maintain road drainage during project activities. Dust abatement on open roads and blading would occur as needed on the main haul routes. Dust abatement, using non-petroleum based products, would minimize delivery of airborne sediment to streams.

Warning signs and public announcements would be used to notify the public of logging/site preparation/road management activities in the area.

Roads may be restricted for safety purposes during logging operations. Portions of the project area may be restricted to the public during helicopter operations.

On roads closed to motorized use that are needed to access salvage units, public access would remain restricted. Timber sale contracts would contain clauses to insure that roads remain closed to public motorized use.

## **Helicopter Landings**

An estimated 10 to 15 areas covering approximately 1 to 2 acres each would be used for helicopter landings. Landings would not be located on problematic soils, in riparian habitat conservation areas, inventoried roadless

areas, or other areas determined as “sensitive” by an interdisciplinary review. In addition, they would be located in generally level areas. In some cases, roads may be used as landing areas. Landings also would avoid areas with concentrations of live trees.

### **Monitoring Plan for the Selected Actions**

**Referenced from:** pages 2-65 to 2-67 of the FEIS, and excerpted from Appendix E, Monitoring Plan for Fish, Water, and Soils, in the FEIS.

#### **Implementation Monitoring**

Routine implementation monitoring is part of the administration of all project contracts. They monitor performance relative to contract requirements. Input by resource staff specialists (such as fisheries biologists, soil scientists, hydrologists, and engineers), is regularly requested during this implementation monitoring process. These specialists provide technical advice when questions arise during project implementation.

#### *Fisheries/Soils/Water*

The monitoring plan for fisheries, soils, and water is found in more detail in Appendix E of the FEIS and is summarized here.

- The McNeil Core procedure would be used to measure amounts of fine sediments in the stream. This monitoring procedure is currently being done annually on sampling reaches in Big Creek near Skookoleel and Hallowat, by the Montana Department of Fish, Wildlife and Parks. The Forest Service would continue to support this effort on an annual basis.
- A combination of channel cross-sections, Wolman pebble counts, Bank Erosion Index, and bank profile monitoring (using bank erosion pins per the Rosgen technique) would be used to quantify the amount of streambank erosion occurring in the most sensitive reaches of Big Creek. Monitoring sites would be located above, below, and within sensitive stream reaches. The Forest Service would monitor these sites on an annual basis.
- The R1/R4 stream inventory procedure follows a standardized protocol developed at the Forest Service's Intermountain Research Station. The data gathered using this protocol “.....helps the user observe and contrast fish population and habitat status and condition across multiple landscape scales.” The R1/R4 inventory data provides Forest Service fisheries biologists a comprehensive record of stream condition and fish habitat availability, potentially encompassing the entire length of a given stream.
- R1/R4 inventories include information on pool size and abundance, the amount of large woody debris, substrate size, and channel stability, as well as numerous other aspects of stream structure. This procedure also provides estimates of fish population size and composition. Because it is a comprehensive inventory, it is the best source of information available to fisheries biologist to determine the status of fish habitat relative to INFISH Riparian Management Objectives (RMOs).
- A R1/R4 survey will be completed in at least 2-3 miles of the most sensitive stream reaches. These reaches will be resurveyed every 3-4 years with each site being surveyed at least 3 times to document changes occurring in the watershed. Past R1/R4 data has been collected but it is spotty and mostly located in the headwater streams of Big Creek. The initial R1/R4 surveys completed under this monitoring plan will establish the baseline for future comparisons.
- The effectiveness of the BMP/erosion control practices would be reviewed by the Forest Service during the second year following implementation of the control practices. Additional monitoring of Streamside Management Zones and INFISH RHCA buffers would also be completed as a portion of the BMP audits. In

addition, if the Moose Post-Fire Project is implemented it would be eligible to be selected for inclusion in the State BMP audits in the Summer of 2004.

- The amount of detrimental soil disturbance would be determined by following the procedures outlined in the Proposed Soil Resource Condition Assessment by Steve Howes, located in the project record exhibit N-22. This process was used to determine the existing condition of proposed units that had undergone previous management activities.
- Two helicopter units and 2 cable harvest units would be monitored. All literature indicates that these logging systems have low impact on soils as supported by past monitoring on the Flathead National Forest. These logging systems are low priority for monitoring. Therefore, a representative sample of units would be monitored.
- All units proposed for ground-based logging that were previously managed would be monitored. These units have the greatest risk of exceeding 15 percent detrimental soil disturbance. Therefore, we will monitor all of them.
- Four units logged in winter with ground-based equipment would be monitored and four units logged with slash mats and ground based equipment would be monitored. Past monitoring on the Flathead National Forest indicate these logging systems protect the soil if conditions are right. Therefore, we will sample them to see if they meet the 15 percent guideline. If any of the sample does not meet the 15 percent guide we will look at the rest of the units to determine their condition.
- Monitoring would occur once following complete implementation of the project. During implementation, the sale administrator would monitor site and soil characteristics to ensure that the terms of the contract are met as it relates to design features that protect soil quality.
- The monitoring data would be used to determine the extent of detrimental soil disturbance within the completed cutting units.
- As an additional margin of safety to ensure full support of beneficial uses, the MDEQ will also do macroinvertebrate and periphyton sampling once every five years to ensure that there are not any other indicators of aquatic life support problems associated with sediment. Also, Montana Fish, Wildlife and Parks will continue to do annual bull trout redd counts and juvenile abundance estimates within the index reaches of the Big Creek watershed.
- Other ongoing monitoring includes the Post-Fire Emergency Revegetation monitoring in the Moose Fire area as well as the Erosion Control Revegetation Monitoring in Upper Big Creek.
- It is also expected that some of the State of Montana BMP audits on the Flathead National Forest will include timber sales included in the Moose Post-Fire Project.

The following is additional information regarding culvert monitoring on bermed roads:

- All culverts on bermed roads on National Forest System lands in the Moose Fire project area will be monitored annually for 2 years, beginning in the spring of 2003. Upsizing of culverts to accommodate 100-year flows is currently in progress. For culverts that are replaced in the summer of 2002, the first year of this 2-year annual monitoring will begin in 2003. For culverts that are replaced in the summer of 2003, the first year of this 2-year annual monitoring will begin in 2004. Monitoring will consist of a field visit to each culvert by personnel that have been trained to evaluate culvert conditions, routine maintenance needs, and recognize developing problems.
- Knowledge of site conditions and information gathered during the first 2 years of culvert monitoring will be used to determine specific culverts that require monitoring on a more frequent basis to assure that drainage is functioning appropriately. These specific culvert sites will be monitored at

least annually. Information that will be considered in making frequency determinations will include such things as debris accumulation potential, slope stability upstream of and in the vicinity of culverts, erosion, channel changes, etc.

- Significant events, such as 50-year or greater precipitation events or wildfires, will trigger a field monitoring visit to each culvert as soon after the triggering event as is practical.
- All monitoring of culverts on bermed roads will occur without the use of motorized vehicles.
- Routine maintenance needs will be identified during monitoring and, to the extent possible, carried out at the time of culvert inspection. Routine maintenance is expected to consist of actions such as removal of accumulated debris from culvert inlets and outlets, removal of accumulated sediment that may restrict flows, and repair of minor erosion. All routine maintenance will be accomplished with hand tools and will not require motorized vehicle access.
- For the bermed roads in grizzly bear core areas that will retain culverts, we anticipate that motorized vehicle access would primarily be used to repair critical culvert problems requiring motorized vehicle access (typically a backhoe or excavator) once per decade or less for each road system. In this context, a road system is defined as that network of roads located behind a berm closure and within a core area. This motorized entry schedule into core areas to repair critical culvert problems (failure occurring or imminent without repair requiring motorized vehicle access) should be considered part of the Moose alternative on which we are consulting.
- While the need for motorized vehicle access for culvert repair is difficult to predict, we feel that one trip per road system per decade probably overstates the actual need. Stream crossing culverts on roads within the Moose Fire Area are currently being upsized to accommodate 100-year flow events with the ongoing BMP Project (refer to the Moose BMP Project Biological Assessment and Biological Opinion for detailed information). A culvert risk assessment was conducted with the BMP project, and highest risk culverts are being replaced. Completion of work on this project is expected by the autumn of 2003. Once completed, the risk of culvert failure will be significantly reduced. The monitoring and routine maintenance program described above will further reduce the risk of culvert failure or problems that would require motorized access for repair.
- Motorized access to repair a culvert on a bermed road in core areas during non-denning season that is outside the scope of the Biological Opinion would trigger consultation with U.S. Fish and Wildlife Service. In an emergency situation, repair work would be commence and consultation initiated as soon as feasible according to applicable regulations governing emergency consultation. Should other motorized vehicle needs that are beyond the scope of the Biological Opinion be identified (non-emergency in nature), consultation would be initiated prior to motorized vehicle access.

### *Best Management Practices*

Flathead National Forest personnel conduct an annual review of BMP implementation and effectiveness. The results of this and other monitoring are summarized in a *Forest Plan Annual Monitoring and Evaluation Report*. This report provides information about how well management direction for the forest is being carried out and measures the accomplishment of anticipated outputs, activities, and effects.

### *Sensitive Plants*

Sensitive plant field surveys were conducted in the summer of 2002 in proposed treatment areas. The findings and determination calls for the effects on all species listed as sensitive for the Flathead National Forest have been documented in chapter 3 and the project record for this project. One sensitive plant was found, and appropriate mitigation measures have been incorporated into the final design of the project.

### *Noxious Weeds*

Extensive monitoring of the Moose Fire area for the presence of noxious and invasive weed species began in the summer of 2002. Some of this monitoring was identified and was approved for funding under the Burn Area Emergency Rehabilitation Plan (BAER). Survey information would be used to determine needs for weed control before any activity.

Surveys would be conducted following vegetation and road treatments to identify any spread of weeds caused by the fire or this action. Weed treatments would be prioritized and scheduled where appropriate. Goals are to prevent any new infestations and to control any existing infestations to the pre-fire level. Weed treatments fall under the authority and guidance of the Flathead National Forest Noxious and Invasive Weed Control EA (March 2001).

Surveys of roads to be decommissioned have been conducted to determine the status of noxious weed infestation and assess appropriate treatments. Any treatments conducted for noxious weeds would be monitored and evaluated for success.

### *Bark Beetle Activity*

Surveys were conducted in all areas at risk to bark beetles within the fire perimeter to monitor beetle populations and spread, beginning in the summer of 2002. Monitoring would continue in succeeding years until the point that beetle populations have diminished to levels that pose little concern. This information would help determine the effectiveness of control activities and to design any continuing or future beetle control actions.

### *Fire*

District fire personnel would monitor moisture conditions to insure that post harvest slash burning is done when soil and duff moisture content would promote fires that maintain organic matter and nutrients on the burned areas.

### *Wildlife*

Snag and downed log quantities would be monitored to determine if timber sale activities maintained expected and prescribed levels of these components. This would be done after the first several units are harvested.

The timing and effectiveness of road closures would be monitored and closure structures maintained.

Monitoring of big game use would focus on understanding ungulate use of post-fire habitat, including locating heavy use areas, forage use, and animal counts. Monitoring would occur during January, February, and March and for at least three winters.

## **Effectiveness Monitoring**

### *Vegetation treatment areas*

Surveys would be conducted on all treatment areas after salvage activity is completed to determine whether treatment objectives were effective and met the desired vegetation conditions (including retention of snags and other trees, downed wood amounts). Using this information, sites would be evaluated for fuel reduction and reforestation needs, or other post-harvest actions. In those areas where planting or natural regeneration is prescribed, surveys would be conducted during the five years following completion of regeneration efforts to monitor survival and growth of the seedlings.

## APPENDIX C

Moose Post-Fire EIS Road Implementation Schedule  
(Project record exhibit M-7)Changes from existing situation

## 2003 – Contract award &amp;/or ground work

WERNER CREEK SUBUNIT				
Road Number	Existing Condition	Action	Road Miles Affected	Comments
10908	Berm	Decommission	0.20	Big Mountain ROD
10907	Berm	Decommission	1.33	Big Mountain ROD
5396	Berm	Decommission	1.57	
5287	Berm	Decommission	1.53	
5262	Yearlong Gate	Decommission	2.52	
5223	Vegetation	Decommission	0.71	
1667	Berm	Decommission	0.96	
315A	Vegetation	Decommission	1.00	
<b>Total Decommission</b>			<b>9.82</b>	
5261	Open Yearlong	Berm	2.07	
5220B	Vegetation	Berm	0.20	
1692	Open Yearlong	Berm	2.39	
1655	Open Yearlong	Berm	6.16	
1655B	Open Yearlong	Berm	0.09	
<b>Total Berm</b>			<b>10.91</b>	
315	Open Yearlong	Seasonal Gate	1.87	
5207	Open Yearlong	Seasonal Gate	4.56	
<b>Total Seasonal Gate</b>			<b>6.43</b>	
LOWER BIG SUBUNIT				
Road Number	Existing Condition	Action	Road Miles Affected	Comments
10896	Yearlong Veg	Berm	0.13	
10899	Open Yearlong	Berm	0.20	
1656	Yearlong Gate	Berm	2.84	
1664	Yearlong Gate	Berm	2.20	
648D	Open Yearlong	Berm	0.15	
648E	Open Yearlong	Berm	0.10	
803	Open Yearlong	Berm	3.28	
<b>Total Berm</b>			<b>8.90</b>	
1656	Open Yearlong	Yearlong Gate	0.06	
648	Open Yearlong	Yearlong Gate	1.08	
803	Open Yearlong	Yearlong Gate	3.11	
<b>Total Yearlong Gate</b>			<b>4.25</b>	

## 2004 – Contract award &amp;/or ground work

WERNER CREEK SUBUNIT				
Road Number	Existing Condition	Action	Road Miles Affected	Comments
5261	Berm	Decommission	1.13	
5261A	Berm	Decommission	1.00	
5207	Berm	Decommission	0.90	
1692	Yearlong Gate	Decommission	3.13	Snowmobile route – 1

315	Yearlong Gate	Decommission	3.84	culvert will remain Snowmobile route - 2 culverts will remain
		<b>Total Decommission</b>	<b>10.00</b>	
<b>LOWER BIG SUBUNIT</b>				
<b>Road Number</b>	<b>Existing Condition</b>	<b>Action</b>	<b>Road Miles Affected</b>	<b>Comments</b>
NONE				

## 2005 – Contract award &amp;/or ground work

<b>WERNER CREEK SUBUNIT</b>				
<b>Road Number</b>	<b>Existing Condition</b>	<b>Action</b>	<b>Road Miles Affected</b>	<b>Comments</b>
1696A	Yearlong Gate	Decommission	1.78	Big Mountain ROD
5220 D	Yearlong Gate	Decommission	0.50	
1696	Yearlong Gate	Decommission	2.71	Big Mountain ROD
		<b>Total Decommission</b>	<b>4.99</b>	
<b>LOWER BIG SUBUNIT</b>				
<b>Road Number</b>	<b>Existing Condition</b>	<b>Action</b>	<b>Road Miles Affected</b>	<b>Comments</b>
316E	Yearlong Gate	Decommission	4.37	Big Mountain ROD – 5 culverts will remain
5286	Yearlong Gate	Decommission	1.70	Big Mountain ROD – 2 culverts will remain
		<b>Total Decommission</b>	<b>6.07</b>	

## 2006 – Contract award &amp;/or ground work

<b>WERNER CREEK SUBUNIT</b>				
<b>Road Number</b>	<b>Existing Condition</b>	<b>Action</b>	<b>Road Miles Affected</b>	<b>Comments</b>
316 (Up. portions) <sup>1</sup>	Yearlong Gate/ Berm	Seasonal Gate	6.87	See footnote
316 (Mid. portions) <sup>2</sup>	Open Yearlong	Seasonal Gate	8.53	See footnote
<b>LOWER BIG SUBUNIT</b>				
<b>Road Number</b>	<b>Existing Condition</b>	<b>Action</b>	<b>Road Miles Affected</b>	<b>Comments</b>
5233	Yearlong Berm	Decommission	2.25	
5272	Yearlong Berm	Decommission	0.14	
5272	Vegetation	Decommission	0.81	
5272A	Vegetation	Decommission	0.20	
5272B	Vegetation	Decommission	0.27	
5273	Vegetation	Decommission	0.60	
5283	Yearlong Berm	Decommission	1.66	
5288	Yearlong Berm	Decommission	2.12	
5288A	Yearlong Berm	Decommission	0.07	
5293	Vegetation	Decommission	0.50	
5299	Vegetation	Decommission	0.40	

<sup>1</sup> The upper portions of Big Creek Road 316 are currently restricted to wheeled motorized vehicles yearlong. This portion of the road will be made available to wheeled motorized access from July 15 thru September 14 after salvage activities are complete and 63% seasonal core is met in the Werner Creek subunit. We estimate that this road could then open up to seasonal wheeled motorized access in 2006 or 2007.

<sup>2</sup> The middle portions of Big Creek Road 316 (between junctions with Nicola Creek Road 1692 and Hallowat Creek Road) is currently open yearlong and will remain open yearlong until the upper portions of Big Creek open to seasonal wheeled motorized access. Then middle portions of Big Creek Road (between junctions with Werner Divide Road 1658 and Hallowat Creek Road) will then be available to wheeled motorized access from July 15 thru November 30.

		<b>Total Decommission</b>	<b>9.02</b>	
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2007 – Contract award &/or ground work

<b>WERNER CREEK SUBUNIT</b>				
<b>Road Number</b>	<b>Existing Condition</b>	<b>Action</b>	<b>Road Miles Affected</b>	<b>Comments</b>
NONE				
<b>LOWER BIG SUBUNIT</b>				
<b>Road Number</b>	<b>Existing Condition</b>	<b>Action</b>	<b>Road Miles Affected</b>	<b>Comments</b>
1694A	Yearlong Berm	Decommission	1.80	
1694 B	Yearlong Gate	Decommission	.35	
5280	Open	Decommission	.02	
5280	Yearlong Berm	Decommission	1.98	
5290	Open	Decommission	0.05	
5290	Yearlong Gate	Decommission	2.13	
5304	Yearlong Berm	Decommission	1.20	
5316	Yearlong Gate	Decommission	1.70	
		<b>Total Decommission</b>	<b>9.23</b>	

2008 – Contract award &/or ground work

<b>WERNER CREEK SUBUNIT</b>				
<b>Road Number</b>	<b>Existing Condition</b>	<b>Action</b>	<b>Road Miles Affected</b>	<b>Comments</b>
NONE				
<b>LOWER BIG SUBUNIT</b>				
<b>Road Number</b>	<b>Existing Condition</b>	<b>Action</b>	<b>Road Miles Affected</b>	<b>Comments</b>
1694	Open	Decommission	.06	
1694	Yearlong Gate	Decommission	6.14	
1694C	Yearlong Gate	Decommission	1.80	
1694 D	Yearlong Gate	Decommission	1.90	
		<b>Total Decommission</b>	<b>9.9</b>	

2009 – Contract award &/or ground work

<b>WERNER CREEK SUBUNIT</b>				
<b>Road Number</b>	<b>Existing Condition</b>	<b>Action</b>	<b>Road Miles Affected</b>	<b>Comments</b>
NONE				
<b>LOWER BIG SUBUNIT</b>				
<b>Road Number</b>	<b>Existing Condition</b>	<b>Action</b>	<b>Road Miles Affected</b>	<b>Comments</b>
5268	Yearlong Gate	Decommission	1.94	
5292	Yearlong Gate	Decommission	3.90	
5292A	Yearlong Berm	Decommission	1.0	
803 K	Yearlong Berm	Decommission	.53	
803 M	Yearlong Berm	Decommission	1.10	
		<b>Total Decommission</b>	<b>8.47</b>	

## APPENDIX D

### U.S. Fish and Wildlife Service Terms and Conditions <sup>3</sup>

#### Grizzly Bear

1. Implement the Flathead LRMP Amendment 19 10-year objectives following the Moose Fire EIS Road Implementation Schedule for the Lower Big Creek Subunit (Appendix D in U.S. Forest Service 2002d).
2. Implement the Moose Fire EIS Road Implementation Schedule to attain 29 percent open motorized access density, 19 percent total motorized access density and 63 percent security core in the Werner Creek Subunit (Appendix D in U.S. Forest Service 2002d).
3. Extend the existing emergency road restrictions implemented under the Moose Fire Commercial Harvest project decision until the harvest activity is completed, then implement the next two conditions.
4. To provide a secure area for grizzly bears while salvage harvest and road decommissioning activities occur in Werner Creek and Lower Big Creek Subunits, road 316 shall remain closed to public use until the Werner Creek Subunit reaches 63 percent security core and harvest activity is complete in both the Lower Big Creek and Werner Creek Subunits.
5. Once term and condition 4 is attained, road 316 shall be opened from July 15 to September 15.
6. In order to compensate for the impacts of reopening road 316, implement a motorized access restriction from Werner Creek Divide, road 1658 from the divide between Big Creek and Swift Creek to the junction of road 316 and 315 from April 1 to July 15.
7. In order to allow grizzly bears to utilize important spring habitat during project implementation in the lower elevations of the Big Creek drainage, do not allow logging activities from April 1 to May 15 in the proposed salvage units west of the junction of Big Creek Road (315) and Coal Creek Road.
8. Provide to the Service products of the information program developed and implemented by the Forest to include maps of proposed road closures and public information handouts, brochures, and related materials. These products shall be provided as part of the annual Amendment 19 Monitoring Report as described below or upon request by the Service.

#### Bull Trout

1. During all road management and timber harvest activities, the Forest shall implement soil and water Best Management Practices (BMPs) and the specific minimization measures identified for each activity as developed in the *Biological Assessment of Road Related Actions on Western Montana's Federal Lands that are Likely to Adversely Affect Bull Trout* (USDA 2001b). The Forest shall monitor these activities at a frequency adequate to ensure state and Forest Service BMPs are being met during implementation using a qualified staff biologist or technician.
2. The Forest shall assure the consistent implementation of measures and standards specified in the aquatic conservation strategies as indicated in the *1998 Biological Opinion for the Effects to Bull Trout from the Continued Implementation of Land and Resource Management Plans and Resource Management Plans as Amended by the Interim Strategies for Managing Fish Producing Watersheds in Eastern Oregon and Washington, Idaho, Western Montana and portions of Nevada (INFISH)* and the Interim Strategy for Managing Anadromous Fish-producing Watersheds in Eastern Oregon and Washington, Idaho, and portions of California (PACFISH; USDI 1998c).
3. The Forest shall ensure that roads closed year-long by gates or berms have properly functioning culverts and effective surface drainage to minimize surface erosion. The Forest shall implement monitoring of culverts on these roads according to monitoring components 1-5 as outlined in the September 19, 2002 letter from the Forest to the Service, "Moose Post-Fire Project EIS, Additional Information Regarding Culverts on Bermed Roads." Additionally, culverts identified as high risk of failure during monitoring shall either be replaced or fill shall be removed to the extent practicable and an overflow design shall be implemented prior to high water the following year. A report of monitoring activities shall be submitted by the Forest fisheries biologist to the Service, in a format agreed upon by the Forest and the Service, by January

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<sup>3</sup> Project record exhibit I-9 and Rt-34

- 31 of each year for the previous year's activities. This report shall include, but is not limited to the size of pipe and amount of fill. If the Forest fails to turn in the monitoring report to the Service, consultation shall be reinitiated.
4. For the 10 culverts to remain on decommissioned roads 315, 1692, 5286 and 316E, fill shall be removed to the extent practicable and an overflow design shall be implemented. The design shall be reported to and agreed upon by the Service prior to decommissioning. These culverts shall be monitored and reported in the same manner established in term and condition 3.
  5. Prior to salvage harvest treatments, along perennial, intermittent and ephemeral streams within areas of moderate and high fire intensity, the Forest shall verify that RHCAs of an appropriate width have been identified on the ground in a visible manner and that landslide prone areas, areas with high potential to deliver excessive sediment to occupied bull trout streams and other sensitive areas have been incorporated into RHCAs.
  6. To the maximum extent practicable, the Forest shall ensure that culvert removals on intermittent streams be conducted when the stream channels are dry.
  7. The Forest shall avoid, to the maximum extent practicable, the use of hard armoring techniques such as riprap where rock, logs and vegetative bank stabilization techniques would be more appropriate to minimize potential bank erosion.
  8. The Forest shall establish, or contract with Montana Fish, Wildlife, and Parks (MFWP) to establish, two additional McNeil core sample sites in areas of spawning habitat. The Forest shall establish the sites in concurrence with MFWP and agreed upon by the Service. These additional sites shall be sampled for at least two years after the completion of all activities above or adjacent to spawning habitat. Sample results shall be included in the report established in term and condition 3.
  9. Following the implementation of road management and timber harvest activities and until such time as the area disturbed by these activities has been stabilized, the Forest shall monitor action areas to ensure reclamation efforts are effective and treated portions of decommissioned roads are not contributing sediment to streams. Should substantial sediment sources be identified, the Forest shall arrest these sources in a timely manner.
  10. During the implementation of salvage harvest treatments, the Forest shall monitor RHCAs to ensure they are not compromised by management activities or climatic events influencing buffer efficacy.
  11. Upon locating dead, injured or sick bull trout or upon observing destruction of redds, notification must be made within 24 hours to the Service's Montana field office at 406-449-5225. Record information relative to the date, time and location of dead or injured bull trout when found, and possible cause of injury or death of each fish and provide this information to the Service.
  12. The Forest shall record those watershed improvement projects that include road management activity types as described in the *Biological Opinion of the Effects to Bull Trout From Road Management Activities on National Forest System and Bureau of Land Management Lands in Western Montana* (USDI 2001) on the *Annual Road Maintenance Summary* as provided by that process. This report shall be provided to the Service on March 1, annually for the prior year's work as well as a schedule of activities expected to be carried out in the current year. If the Forest fails to turn in the monitoring report to the Service, consultation shall be reinitiated.
  13. The Forest shall prepare and submit a monitoring report to the Service on March 1 for each year timber harvest activities occur. The report shall include, but is not limited to, an updated list of what activities took place the previous year, including the harvest unit, the date harvest began and was completed, acreage and a schedule of harvest activities expected to be carried out during the current year. If the Forest fails to turn in the monitoring report to the Service, consultation shall be reinitiated.