



SUMMARY

Moose Post-Fire Project DEIS Findings

I. INTRODUCTION

In August 2001, a lightning storm started the Moose Fire near the old Forks Lookout site located on the Glacier View Ranger District, Flathead National Forest. This area is located just above Big Creek Road 316, which is about 10 miles north of Columbia Falls, Montana. By October, the fire had burned over 71,000 acres of land within the Flathead National Forest, the Coal Creek State Forest, private lands, and Glacier National Park. This included about 35,750 acres of lands administered by the Flathead National Forest within the Big Creek and Coal Creek drainages.

While the fire still burned, rehabilitation began. At the same time, a review took place by a team of resource specialists to see what new conditions the fire created on national forest system lands. The *Wildfires of 2001 Post Fire Assessment* contains reports describing their findings. It also includes recommendations for post-fire opportunities beyond the initial rehabilitation. These recommendations triggered a planning effort, resulting in the *Moose Post-Fire Project* discussed in the draft environmental impact statement, as well as numerous other rehabilitation and recovery projects (*Wildfires of 2001 Post Fire Assessment, 2001*). The project area includes all national forest system lands affected by the fire plus the unburned portion of the Big Creek drainage, for approximately 68,000 acres.

This summary describes the project proposals presented in the *Draft Environmental Impact Statement (DEIS)*.

Copies of the DEIS are available from the Flathead National Forest Supervisor's Office (1935 3rd Avenue East, Kalispell, MT 59901), and at the Hungry Horse Ranger Station (8975 Hwy 2 East, P.O. Box 190340, Hungry Horse, MT 59919). Copies can also be requested by calling (406)-758-5200, or (406)-387-3800. In addition, copies are available for review at the Flathead County Library branches in Kalispell, Whitefish, and Columbia Falls, MT. The project planning record located at the Three Forks Zone Office in Hungry Horse, Montana includes additional information and more detailed analyses of project area resources. These records are available for public review.

II. PURPOSE AND NEED AND THE PROPOSED ACTION

The *Moose Post-Fire Project* is proposed at this time to respond to goals and objectives of the Flathead National Forest Land and Resource Plan (Forest Plan). The proposed action for this project would begin to change current resource conditions and trends towards meeting some of the desired future conditions for resources as described in the *Moose Post-Fire Assessment* summary document and the Forest Plan. Managing within the desired range of future conditions would achieve a balance on the landscape between resource values and human needs, and allow for healthy functioning of the ecosystem in the future. These desired conditions include:

- A healthy, diverse, and productive forest
- Forests that provide wood products on a sustainable basis to help support local communities
- Areas with high values (such as wildland/rural interface, old growth, and managed stands) protected by zones where risks to these values from wildfire are low.

The Moose Fire changed much of the area within the burn, not only in looks but also in effects to wildlife, fisheries, recreation, plants, and other resources. Some changes no longer meet the desired condition for the area. These differences formed the basis for the purpose of and need for taking action (also called the "purpose and need"). From there, the project planning team writing the DEIS developed the proposal, or proposed action, for this project.

The proposed action is the initial proposal developed early in the planning process to reach the goals in the purpose and need. It starts the scoping process, where we ask the public, other agencies, and our own specialists for input. This input brings forth issues or concerns that provide alternatives to the original proposal.

The proposed action first sent to the public for review in January 2002 was changed in the DEIS in two ways. The first change dropped all logging units directly next to Big Creek and other streams. Many people and other government agencies expressed a high level of concern about logging in sensitive streamside areas, especially considering that Big Creek is an important bull trout fishery. Also, further field review revealed that there were fewer acres in these streamside areas at high risk to spruce beetle outbreaks than our original estimates. We now feel more confident in our ability to effectively reduce the possible growth and spread of spruce beetles in these riparian areas by using pheromones and placing beetle traps. We have also added other methods of beetle control to the proposed action that do not involve salvage of trees. These methods are described in the following paragraphs.

Second, many people were concerned about logging within inventoried roadless areas – areas first identified about 25 years ago in a nationwide review process and refined in 1985 as part of the development of the Flathead Forest Plan. These lands may possess features, such as naturalness and outstanding scenery that may qualify them for eventual inclusion into the National Wilderness Preservation System. Roadless areas were included in the initial proposal due to their potential contribution to bark beetle infestation. However, further refinement of the bark beetle risk assessment indicated that some areas within proposed roadless treatment units were, in fact, low risk for beetle infestation. In response to concerns over salvage harvest on these roadless lands, all areas within inventoried roadless areas rated as low risk to bark beetle attack were dropped, leaving about 483 acres of proposed salvage areas at moderate or high-risk to bark beetles.

Purpose Of And Need For Action

1. There is a need to decrease potential mortality caused by bark beetles to remaining live Douglas-fir and spruce trees within and outside of the Moose Fire area.

An integrated beetle management approach was developed in the proposed action to address this concern. This involves removing dead trees or trees expected to die from bark beetle outbreaks, the use of pheromones, traps and trap trees, and extensive monitoring. Both Douglas-fir and spruce trees killed or weakened in the fire provide the perfect place for beetles to live or breed. During outbreaks and under the right conditions, beetles can kill thousands of trees. This project would remove the infested trees and those at risk before beetle populations can expand and infest other trees.

In streamside areas, we would use beetle traps to lure and capture as many spruce beetles as possible emerging from the fire-injured trees before the beetles have a chance to spread into live trees outside the fire area. An anti-attractant chemical would be used in areas of unique values to protect remaining live Douglas-fir trees from attack by bark beetles. These areas include the Glacier Institute site, Big Creek campground, and portions of the Wild and Scenic River corridor.

We may also use the “trap tree” method in parts of the project area to help control the spread of Douglas-fir bark beetles and focus our tree removal efforts. This method involves dropping about 2-4 green Douglas-fir trees per acre, perhaps baiting them with an attractant chemical as well. These trees are extremely attractive to beetles searching for new breeding sites and can draw in many times the number of beetles that might normally infest a tree. We would remove these trees before the larvae have a chance to mature and fly out of the tree.

2. There is a need to 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.

Because of the large number of trees that died in the fire, the second part of the proposed action involves removing trees for forest products. Most of the trees proposed for removal as wood products are the same trees included in the project because of beetle concerns. These products would benefit the local economy, one of the goals in the Flathead National Forest Plan.

3. There is a need to reduce future fire risk and hazard by reducing future fuel accumulations caused by the Moose Fire on specific sites adjacent to private property or administrative sites.

Fire-killed trees have already started falling and will continue to come down over the next 15-20 years. They can land on each other like jackstraws. If a future fire burns through such areas, fire suppression would likely fail and buildings and homes would be threatened, along with risks to human safety. By reducing the amount of dead trees and logs in these areas and spacing out remaining live trees, a future wildfire should be less intense and should remain on the ground. This would provide a greater chance of safe fire suppression before a wildfire affects these high value resources. This also agrees with the National Fire Plan objectives to protect community values at risk and brings us closer to the desired condition for these areas.

The third part of the proposed action includes reducing fuels that may feed a future fire by thinning out areas of dense burned trees in the region around the Glacier Institute (Big Creek administrative site) and next to private land just west of the North Fork Road near Coal Creek.

Thinning would also occur in portions of the Big Creek campground, in both burned and unburned areas. The objective here is to create areas of widely spaced trees, reducing the chance of a fire leaving the ground and reaching into the tops of the trees. It would also allow more light to reach the ground around picnic areas and campsites.

The last part of the project proposes road access management activities (seasonal and yearlong closures, road decommissioning) to meet Forest Plan requirements designed to provide secure habitat for grizzly bears. Amendment 19 (A-19) to the Forest Plan directs the Forest Service to restrict motorized access, or in some cases to *decommission* roads. A decommissioned road no longer functions as a road, because natural debris placed in the road or planted shrubs or trees make the road no longer drivable. However, some decommissioned roads will still be open to snowmobiles.

The proposed action meets the A-19 ten-year access density objectives for the two grizzly bear subunits within the project area (Werner Creek and Lower Big Creek). Proposed roadwork would:

- Reduce the number of roads open either all year or seasonally
- Reduce the number of roads closed all year with gates, berms, or natural revegetation
- Decommission roads

III. PUBLIC INVOLVEMENT

The public involvement process was formally started on January 6, 2002, when a legal notice was published 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 Statement was also published in the Federal Register on January 10, 2002. Also, *The Daily Inter Lake*, *Hungry Horse News*, and *Whitefish Pilot* published news articles about the proposal. At the same time, we also mailed approximately 310 letters to the public, government agencies, and other groups or individuals possibly interested in or affected by the project. We asked them to review and comment on the project. Also, we received letters and phone calls from about 20 more people wanting information on the project and wishing to be placed on our mailing list.

People had 30 days to comment during this “scoping” process, resulting in nearly 160 letters, phone calls, and e-mails. Some comments responded directly to the project itself. For example, the *Moose Post-Fire Project* was designed to respond to needs found in the aftermath of the Moose Fire. Relevant comments included such things as how the proposal may affect water quality or grizzly bear habitat; if, where, and when tree removal should occur in dead and dying trees; and so forth.

Because projects are site-specific, comments not related to this project were deemed outside the project scope, and not included in the analysis. For example, remarks related to opening more snowmobile trails, adding more roadless

or wilderness areas, or asking Congress to change analysis requirements may be important to some people, but this site-specific project cannot accomplish them.

Along with public comments, ongoing contact throughout the analysis process included discussions with the U.S. Fish and Wildlife Service, the Environmental Protection Agency, Montana Department of Fish, Wildlife and Parks, and the Montana Department of Environmental Quality. This contact will continue through project completion.

IV. ISSUES

Analysis of public and internal input received through the scoping process resulted in the following list of issues that were key to developing alternatives:

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. The use of temporary roads may cause increased sedimentation into streams.
4. Snag and downed woody material retention should be increased over that in the proposed action to insure that these wildlife habitat and ecosystem components are provided over the landscape over time.
5. Riparian habitat conservation areas (i.e. land adjacent to streams and wetlands) as described in the Native Inland Fisheries Strategy (INFISH) may not be large enough to make up for the combined effects of the Moose Fire and proposed management activities. INFISH (1995) provides direction to protect habitat and resident native fish populations.
6. The fire may have affected wildlife security, particularly during hunting seasons.
7. The proposed salvage treatments and road management may result in ineffective use of winter range areas by elk and deer.
8. More roads may need to be decommissioned and restricted to motorized travel than what the Forest Plan specifies due to increased runoff of water from burned lands and less cover and security for grizzly bears as a result of the fire.
9. A road management strategy should be considered that provides a higher level of public access than would occur when meeting Forest Plan standards for grizzly bear habitat security.
10. Big Creek Road 316 (behind Big Mountain) should be re-opened because it provides good huckleberry picking and other recreation options.
11. Decommissioning road activities may not be compatible with snowmobiling on existing snowmobile routes.

V. ALTERNATIVES

The DEIS has five alternatives. They are a “no action” alternative, the proposed action, and three other “action” alternatives, or alternatives that address the major issues identified during the scoping process.

Alternative 1 (No Action):

The “no action” alternative, required by the National Environmental Policy Act (40CFR 1502.14), or NEPA, looks at what would happen in the project area if the project did not take place. Using this alternative as a base line allows the analyst to see how other alternatives compare to it. It offers future options. Alternative 1 proposes no tree removal, no fuels reduction, no other methods to influence beetle populations, and no change to existing road access.

Action Alternatives 2, 3, 4, and 5:

Some parts of all action alternatives are the same, but each of the alternatives shows a different set of issues or answers different questions. **Table 1** briefly summarizes the main features in each alternative and how they differ from each other. **Table 2** summarizes the differences between alternatives for road management. **Table 3** compares the difference in effects between alternatives based on the significant issues (those issues listed in section IV of this document). **Table 4** compares the difference in effects between alternatives for other concerns.

Table 1: Comparison of Features of the Alternatives

Features of the Alternatives	Alternative 1 (No Action)	Alternative 2	Alternative 3	Alternative 4	Alternative 5
Acres of trees removed	0	3721 acres (3024 treated acres) Helicopter – 2031 Skyline – 886 Skidder -804	3238 acres (2704 treated acres) Helicopter – 1548 Skyline – 886 Skidder - 804	2493 acres (2147 treated acres) Helicopter – 1266 Skyline – 594 Skidder - 613	3721 acres (3024 treated acres) Helicopter – 2031 Skyline – 886 Skidder -804
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 "Snags, Large Diameter Downed Wood" below).					
Larg dead standing and down trees left on site after logging	N/A	All larch >18" diameter, live and dead, would be left.	All larch >18" diameter, live and dead, would be left.	- All larch (all sizes) live and dead, would be left. - All severely burned Douglas-fir > 18" diameter would be left (bole deeply blackened, small branches of tree crown burned up)	All larch >18" diameter, live and dead, would be left.
<i>Common to All Action Alternatives:</i>					
<ul style="list-style-type: none"> o Live and dead trees would be left in all units, in small groups or larger patches several acres in size. Leave groups would cover from 10-75% of the units, but most commonly in the 15-30% range. o Live trees most likely to survive direct and indirect effects of fire would be left. o Trees small or large that do not make a merchantable product would be left on site; o High value standing dead trees within 200 feet of an open road would be signed to protect from firewood cutters 					
Tree Planting		1897 acres	1802 acres	1533 acres	1897 acres
Timber Volume (mbf)	0	27062	23597	13531	27062
Acres with trees removed in inventoried roadless areas	0	483 total acres (320 acres actually have trees removed: about 30% in leave patches) Only Douglas-fir and spruce trees infested with bark beetles would be removed.	0	0	483 total acres (320 treated acres: about 30% in leave patches)
Acres with trees removed in Wild and Scenic River corridor	0	16	16	0	16
Only Douglas-fir and spruce trees infested with bark beetles would be removed.					
May include some winter logging	N/A	Yes	Yes	No winter logging allowed in order to avoid wildlife disturbance	Yes
Temporary road miles (No permanent roads will be constructed)	0	0.9	0.9	0	0.9
Total acres of fuels reduction treatments	0	235 (all three sites discussed under Proposed Action)	235 (all three sites)	196 (eliminates the campground unit)	235 (all three sites)

Features of the Alternatives	Alternative 1 (No Action)	Alternative 2	Alternative 3	Alternative 4	Alternative 5
Methods of beetle control other than removing trees, including funnel traps, repellents, and trap trees	0	<p><i>Common to all Action Alternatives:</i></p> <ul style="list-style-type: none"> ○ 150-330 acres where spruce beetle funnel traps would be used to attract and capture beetles emerging from the fire injured/killed trees before they have a chance to spread and attack live spruce trees outside the fire area. ○ Using a “repellent” pheromone MCH (natural chemical produced by beetles on live Douglas-fir trees in with unique values (the Glacier Institute site and within the Wild & Scenic River corridor). This would protect them from beetle attack. ○ Using “trap trees” to more effectively control potential spread of Douglas-fir bark beetles in areas where salvage of beetle infested trees is delayed until 2003 or later. Trap trees are live trees that are cut and left on the site (only 2-4 trees per acre are needed), which are extremely attractive to beetles, and are designed to draw in as many beetles as possible as they emerge from nearby infested trees. 			
Miles of roads to be decommissioned in Big Creek watershed	0	57	56	87	56
Snowmobile consideration on decommissioned roads	N/A	Stream-aligned culverts would be removed on decommissioned roads; methods such as half culverts would be used to provide access over these areas	Some stream-aligned culverts may not be removed on decommissioned roads; some half culverts may be used; roads would be converted to winter system snowmobile trails	Stream-aligned culverts would be removed on decommissioned roads; methods such as half culverts would be used to provide access over these areas	Stream-aligned culverts would be removed on decommissioned roads; methods such as half culverts would be used to provide access over these areas
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	No	No

Table 2: Comparison of Road Management (major road segments) by Alternative

Road Segment	Exist. Situation Prior to Temporary Special Order	Exist. Situation After Temporary Special Order signed 4/1/02	Alternative 2 (Proposed Action)	Alternative 3	Alternative 4	Alternative 5
WERNER CREEK GRIZZLY BEAR SUBUNIT						
Werner Divide Road 1658	Restricted seasonally; conventional vehicle motorized access available from April 15 thru November 30 from the jct. with Big Creek Road 316 to the divide. Snowmobile access available December 1 thru April 15.	Restricted for one year by a gate at the divide and by the Road 316 gate at the jct. with Nicola Creek Road 1692. Snowmobile access available December 1 thru April 15.	Restricted all year by a gate at the divide and by the Road 316 gate at the jct. with Nicola Creek Road 1692. Snowmobile access available December 1 thru April 15.	Restricted seasonally; conventional vehicle motorized access available July 1 thru October 14 from the jct. with Big Creek Road 316 to the divide. Snowmobile access available December 1 thru April 15.	Restricted all year by a gate at the divide and by the Road 316 gate at the jct. with Nicola Creek Road 1692. Snowmobile access available December 1 thru April 15.	Restricted seasonally by a gate at the divide and by the Road 316 gate at the jct. with Nicola Creek Road 1692. Motorized access available July 1 thru October 14. Snowmobile access available December 1 thru April 15.
Hallowat Creek Road 315 (to jct with Road 5207)	Open all year	Open all year	Open all year	Restricted seasonally with a gate beyond mile 3.0, the jct. with Werner Creek Road 5261; motorized access available from July 1 thru March 31.	Restricted seasonally due to a gate on Big Creek Road 316 at the jct. with the McGinnis Creek Road 803; motorized access would be allowed from June 1 thru March 30.	Restricted all year by a gate at the jct. with Big Creek Road 316. Road 5207 to Moose Lake would also be affected by this restriction. Road 315 would be used as a trail to provide access to Moose Lake and two trails that take off from the lake. A new trailhead at the gate would replace trailhead at Moose Lake.
Kletomus Creek Road 5207 (to Moose Lake)	Open all year	Open all year	Open all year	Restricted seasonally by gate on Hallowat Creek Road 315; motorized access available from July 1 thru March 31.	Restricted seasonally due to a gate on Big Creek Road 316 at the jct. with the McGinnis Creek Road 803; motorized access would be allowed from June 1 thru March 30.	Restricted all year with a berm at the jct. with Forks Westside Road 5220. Kletomus Creek Road 5207 (to Moose Lake) would be used as a trail to provide access to Moose Lake and to the two trails that take off from the lake.

Road Segment	Exist. Situation Prior to Temporary Special Order	Exist. Situation After Temporary Special Order signed 4/1/02	Alternative 2 (Proposed Action)	Alternative 3	Alternative 4	Alternative 5
Werner Creek Road 5261, Nicola Creek Road 1692, and Upper Nicola Road 1655	Open all year	Roads 5261, 1692, and 1655 are restricted by gates for one year.	Restricted all year; Werner Creek Road 5261 would be restricted with a gate from the jct. with Hallowat Creek Road 315 to the junction with Nicola Creek Road 1692, and then restricted by a berm. Road 1692 would be restricted by berms at the jct. with Road 5261 and at the jct. with Big Creek Road 316. Road 1655 is controlled by berms on each end of Road 1692.	Restricted all year; Werner Creek Road 5261 would be restricted for its entire length by a berm at the junction with Hallowat Creek Road 315. A berm on Nicola Creek Road 1692 at the jct. 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.	Werner Creek "loop" Roads 5261, 1692, and 1655 would each be decommissioned for its entire length, from the jct. with Road 315 to the junction with Big Creek Canyon Creek Road 316 near four corners.	Restricted all year; Werner Creek "loop" Roads 5261, 1692, and 1655 would each be restricted for its entire length by a berm at the jct. with Road 315 and a berm at the jct. with Big Creek Road 316 near four corners.
Lakalaho Road 1696 (warming hut)	Restricted all year by a gate	Restricted all year by a gate	Restricted all year by a berm for 3.3 miles and then decommissioned	Restricted all year by a gate for 3.3 miles and then decommissioned	Restricted all year by a berm for 3.3 miles and then decommissioned	Restricted all year by a gate for 3.3 miles and then decommissioned
Forks Westside Road 5220	Restricted all year by a gate	Restricted all year by a gate	Restricted all year by a gate	Restricted all year by a gate	Restricted all year by a berm	Restricted all year by a gate
Big Creek Road 316 (upper portions)	Restricted all year by a berm at the jct. with Werner Divide Road 1658 and by a gate at the jct. with Trumble Creek Road 9848.	Restricted all year by a gate at the jctn with Nicola Creek Road 1692 and by a gate at the jct. with Trumble Creek Road 9848.	Restricted all year by a gate at the junction with Nicola Creek Road 1692, and by a berm at the jct. with Werner Divide Road 1658, and by a berm at the jct. with Trumble Creek Road 9848.	Restricted seasonally by a gate at the jct. with Werner Divide Road 1658; conventional vehicle motorized access would be available from July 1 thru October 14 to the jct. with Lakalaho Road 1696. Road 316 beyond would be restricted with berms to the jct. with Road 9848. Snowmobile access on these parts of Road 316 would be available from December 1 thru April 14.	Restricted all year by a gate at the junction with Nicola Creek Road 1692, and by a berm at the jctn, with Werner Divide Road 1658, and by a berm at the jct. with Trumble Creek Road 9848.	Restricted seasonally by a gate at the jct. with Nicola Creek Road 1692, motorized access available from July 1 thru October 14 to a point approx. 1 mile west of the jct. with Road 1696 where it would be restricted with a gate all year. A new trailhead at this gate would replace the existing trailhead for the Smoky Range National Recreation Trail. Snowmobile access on this part of Road 316 from December 1 thru April 14.

Road Segment	Exist. Situation Prior to Temporary Special Order	Exist. Situation After Temporary Special Order signed 4/1/02	Alternative 2 (Proposed Action)	Alternative 3	Alternative 4	Alternative 5
LOWER BIG CREEK GRIZZLY BEAR SUBUNIT						
Big Creek Road 316 (lower portion)	Open all year	Open all year	Open all year	Open all year	Restricted seasonally by a gate at the jct. with the Lookout Creek McGinnis Cr. Road 803; motorized access would be available from June 1 thru March 30. This restriction effectively shuts off access for the Big Creek drainage for two months.	Open all year
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.	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.	Decommissioned and converted to a low-use trail allowing motorcycles. A new trailhead at the jct. of Road 5272 and Big Creek Road 316 would replace the existing trailhead.	Restricted seasonally by a gate; motorized access available from July 1 thru August 31.
Langford Road 5222	Restricted all year by a berm	Restricted all year by a berm	Restricted all year by a berm	Restricted all year by a berm	Decommissioned	Restricted all year by a berm
McGinnis Creek Road 803 (includes the Lookout Creek drainage)	Open all year	Restricted by gates for one year from the jct. with Road 803L to the jct. with Road 5290 at the divide.	Open all year from Road 316 across Big Creek to the jct. with Road 803L, then restricted with an all year gate to the jct. with Road 1656, and then restricted with all year berms to the jct. with Road 5290 at the divide between Lookout Creek and McGinnis Creek.	Open all year from Road 316 across Big Creek to the junction with Road 803L, then restricted all year with a gate to the jct. with Road 1656, and then restricted with berms to the jct. with Road 5290 at the divide between Lookout Creek and McGinnis Creek.	Open all year from Road 316 across Big Creek to the jct. with Road 803L, then decommissioned to the jct. with Road 1656, and then restricted with a berm to the jct. with Road 5290 at the divide.	Open all year from Road 316 across Big Creek to the jct. with Road 803L, then restricted all year with a gate to the jct. with Road 1656, and then restricted with a berm to the jct. with Road 5290 at the divide.
Roads 1656 and 1664 in Lookout Cr.	Restricted all year by a berm	Restricted all year by a berm	Restricted all year by a berm	Restricted all year by a berm	<i>Decommissioned</i>	Restricted all year by a berm

Table 3: Comparison of alternatives by significant issues and issue indicators

Significant Issues	Alternative 1 (No Action)	Alternative 2	Alternative 3	Alternative 4	Alternative 5
<p>1. Tree salvage in inventoried roadless areas (IRA) does not allow natural processes to continue to occur within these areas and may therefore alter its roadless character.</p> <p>Indicators:</p> <p>(a) <i>acres of salvage in inventoried roadless area</i></p> <p>(b) <i>changes to natural integrity apparent naturalness, remoteness, solitude, primitive recreation opportunities, manageability, and boundaries in inventoried roadless areas</i></p>	<p>0 acres</p> <p>No change from existing situation</p>	<p>438 acres</p> <p>Reduced on 1.8% of Deadhorse IRA, and 0.6% of Standard Peak IRA</p>	<p>0 acres</p> <p>No change from existing situation</p>	<p>0 acres</p> <p>No change from existing situation</p>	<p>438 acres</p> <p>Reduced on 1.8% of Deadhorse IRA, and 0.6% of Standard Peak IRA</p>
<p>2. Tree salvage in the Wild and Scenic River corridor may affect the character of the corridor.</p> <p>Indicators:</p> <p>(a) <i>acres of salvage and acres of fuels reduction within the Wild and Scenic River corridor</i></p>	<p>0 acres</p>	<p>16 acres (only beetle infested trees removed)</p>	<p>16 acres (only beetle infested trees removed)</p>	<p>0 acres</p>	<p>16 acres (only beetle infested trees removed)</p>
<p>3. The use of temporary roads may cause increased sedimentation.</p> <p>Indicators:</p> <p>(a) <i>miles of temporary roads</i></p> <p>(b) <i>sediment yield from temporary roads</i></p>	<p>0 miles</p> <p>None</p>	<p>0.9 miles</p> <p>0.5 tons</p>	<p>0.9 miles</p> <p>0.5 tons</p>	<p>0 miles</p> <p>None</p>	<p>0.9 miles</p> <p>0.5 tons</p>
<p>4. Snag and downed woody material retention should be increased over that in the proposed action to insure that these wildlife habitat and ecosystem components are provided over the landscape over time.</p> <p>Indicators:</p> <p>(a) <i>acres and percentage of high and moderate snag potential areas treated</i></p> <p>(b) <i>acres and percentage of high and moderate down wood habitat potential areas treated</i></p>	<p>0 acres 0%</p> <p>0 acres 0%</p>	<p>3326 acres 42%</p> <p>2797 acres 29%</p>	<p>2866 acres 36%</p> <p>2415 acres 25%</p>	<p>2211 acres 28%</p> <p>2295 acres 24%</p>	<p>3326 acres 42%</p> <p>2797 acres 29%</p>

Significant Issues	Alternative 1 (No Action)	Alternative 2	Alternative 3	Alternative 4	Alternative 5
<p>5. 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.</p> <p>Indicators: (a) <i>RHCA widths</i> (b) <i>changes in sediment yield attributable to RHCA widths</i></p>	<p>N/A</p> <p>N/A</p>	<p><u>Each side of stream:</u> - Min. 100' intermittent streams; - 150' perennial non fish bearing; - 300' fish- bearing</p> <p>Minimum INFISH RHCA widths – would provide adequate undisturbed area to reduce risk of sediment delivery</p>	<p><u>Each side of stream:</u> - Min. 100' intermittent streams; - 150' perennial non fish bearing; - 300' fish- bearing</p> <p>Minimum INFISH RHCA widths – would provide adequate undisturbed area to reduce risk of sediment delivery</p>	<p><u>Each side of stream:</u> 300' all streams</p> <p>RHCA widths increased to 300' on intermittent and non-fisheries streams – would provide additional protection against sediment delivery</p>	<p><u>Each side of stream:</u> - Min. 100' intermittent streams; - 150' perennial non fish bearing; - 300' fish- bearing</p> <p>Minimum INFISH RHCA widths – would provide adequate undisturbed area to reduce risk of sediment delivery</p>
<p>6. The fire may have affected wildlife security, particularly during hunting seasons.</p> <p>Indicators: (a) <i>a comparison of summer habitat effectiveness values within affected Habitat Analysis Units</i> (b) <i>potential effects of salvage logging and road management on security and vulnerability during the hunting season</i></p>	<p>Hallowat - 62% Kletomus -45% Lower Elelehum - 38% Langford - 36%</p> <p>No salvage logging would occur. Road restrictions would not occur. Security would be reduced and animals more vulnerable compared to pre-fire conditions.</p>	<p>Hallowat - 62% Kletomus -45% Lower Elelehum - 38% Langford - 36%</p> <p>Salvage would remove cover, reducing security. Road restrictions may reduce vulnerability somewhat, but critical lower Big Creek Road #316 would remain open.</p>	<p>Hallowat - 62% Kletomus -45% Lower Elelehum - 38% Langford - 36%</p> <p>Salvage would remove cover, reducing security. Road restrictions may reduce vulnerability somewhat, but critical lower Big Creek Road #316 would remain open.</p>	<p>Hallowat - 62% Kletomus -45% Lower Elelehum - 46% Langford - 36%</p> <p>Salvage would remove cover, reducing security. Road restrictions may reduce vulnerability somewhat, but critical lower Big Creek Road #316 would remain open.</p>	<p>Hallowat - 78% Kletomus -60% Lower Elelehum - 38% Langford - 36%</p> <p>Salvage would remove cover, reducing security. Road restrictions may reduce vulnerability somewhat, but critical lower Big Creek Road #316 would remain open.</p>

Significant Issues	Alternative 1 (No Action)	Alternative 2	Alternative 3	Alternative 4	Alternative 5
<p>7. The proposed salvage treatments and road strategy may result in ineffective use of winter range areas by ungulate species.</p> <p>Indicators: (a) <i>qualitative assessment of potential effects of winter logging and removal of trees on elk and mule deer hiding and thermal cover</i></p>	<p>No salvage would occur.</p>	<p>Winter logging could increase disturbance to wintering animals. Removal of trees would reduce hiding cover; thermal cover could be reduced in Units 15, 16 and 70.</p>	<p>Winter logging could increase disturbance to wintering animals. Removal of trees would reduce hiding cover; thermal cover could be reduced in Units 15 and 16 .</p>	<p>Winter logging would be prohibited. Removal of trees would reduce hiding cover; thermal cover could be reduced in Units 15 and 16 .</p>	<p>Winter logging could increase disturbance to wintering animals. Removal of trees would reduce hiding cover; thermal cover could be reduced in Units 15, 16 and 70.</p>
<p>8. More roads may need to be decommissioned and restricted than what Amendment 19 specifies due to accelerated runoff from burned lands and less cover and security for grizzly bears as a result of the fire.</p> <p>Indicators: (a) <i>miles of road proposed for decommissioning</i> (b) <i>miles of road closed to motorized access yearlong by subunit</i> (c) <i>miles of road closed to motorized access seasonally by subunit</i></p>	<p>0 miles</p> <p>Werner – 53 mi L. Big Cr. – 73 mi</p> <p>Werner – 3 mi L. Big Cr. – 4 mi</p>	<p>56 miles</p> <p>Werner – 34 mi L. Big Cr. – 36 mi</p> <p>Werner – 0 mi L. Big Cr. – 4 mi</p>	<p>55 miles</p> <p>Werner – 24 mi L. Big Cr. – 36 mi</p> <p>Werner – 15 mi L. Big Cr. – 4 mi</p>	<p>87 miles</p> <p>Werner – 23 mi L. Big Cr. –20 mi</p> <p>Werner – 17 mi L. Big Cr. – 6 mi</p>	<p>56 miles</p> <p>Werner –34 mi L. Big Cr. – 36 mi</p> <p>Werner – 9 mi L. Big Cr. – 4 mi</p>
<p>9. Provide a higher level of public motorized access than Forest Plan standards allow.</p> <p>Indicators: (a) <i>miles of road open to conventional motorized use (wheeled vehicles) yearlong</i> (b) <i>miles of road open to conventional motorized use seasonally</i> (c) <i>miles of road decommissioned</i></p>	<p>49 miles</p> <p>7 miles</p> <p>0 miles</p>	<p>31 miles</p> <p>4 miles</p> <p>56 miles</p>	<p>26 miles</p> <p>19 miles</p> <p>55 miles</p>	<p>8 miles</p> <p>13 miles</p> <p>87 miles</p>	<p>22 miles</p> <p>13 miles</p> <p>56 miles</p>

Significant Issues	Alternative 1 (No Action)	Alternative 2	Alternative 3	Alternative 4	Alternative 5
<p>10. Big Creek Road 316 should be re-opened because it provides good huckleberry picking and other recreation options.</p> <p>Indicators: (a) <i>change in restrictions of conventional motorized vehicle use on Road #316</i></p>	<p>No change</p>	<p>No change. The portion of Road 316 located behind Big Mountain would remain restricted to wheeled motorized access yearlong</p>	<p>Road #316 would be open yearlong to wheeled motorized access to the jct. with the Werner Divide Road.</p>	<p>Road #316 would be open seasonally (6/1-3/30) from the McGinnis – Lookout Road to the jct. with the Upper Nicola Creek Connection Road. This would eliminate motorized access to most of the Big Creek drainage during the spring bear-hunting season, and reduce the season of use at the Moose Lake Campground and associated trailheads by approximately 2 weeks.</p>	<p>Road #316 would be open yearlong to the jct. with the Upper Nicola Creek Connection Road. The Whitefish Divide Road and Rd. 316 would be open seasonally (7/1-10/14). This would allow travel across the Whitefish Divide, and provide access to the upper portions of the Big Creek drainage.</p>
<p>11. Decommissioning road activities may not be compatible with snowmobiling on existing snowmobiling routes.</p> <p>Indicators: (a) <i>(a) Miles of road proposed for decommissioning on existing snowmobile routes</i></p>	<p>0 miles</p>	<p>9 miles</p>	<p>9 miles</p>	<p>31 miles</p>	<p>9 miles</p>

Table 4: Comparison of alternatives by their response to effects indicators

Effects Indicator	Alternative 1 (No Action)	Alternative 2	Alternative 3	Alternative 4	Alternative 5
<u>Vegetation Indicators</u>					
• Acres of salvage harvest	0 acres	3721 acres	3238 acres	2493 acres	3721 acres
• Acres of reforestation	0 acres	1897 ac. planted 1824 ac. natural	1802 ac. planted 1436 ac. natural	1533 ac. planted 960 ac. natural	1897 ac. planted 1824 ac. natural
• Acres of natural successional development	25,984 acres	24,087 acres	24182 acres	24451 acres	24,087 acres
• Change in access for future timber management	No change	Road decommissioning would change access to 7000 acres	Road decommissioning would change access to 6400 acres	Road decommissioning would change access to 12,000 acres	Road decommissioning would change access to 6400 acres
• Salvage harvest by structural stage (acres)	No harvest	Stand initiation: 2267 acres Stem exclusion: 0 acres Understory reinitiation: 1414 acres Young forest multistory: 0 acres Late seral: 30 acres	Stand initiation: 2040 acres Stem exclusion: 0 acres Understory reinitiation: 1160 acres Young forest multistory: 0 acres Late seral: 30 acres	Stand initiation: 1565 acres Stem exclusion: 0 acres Understory reinitiation: 932 acres Young forest multistory: 0 acres Late seral: 30 acres	Stand initiation: 2040 acres Stem exclusion: 0 acres Understory reinitiation: 1160 acres Young forest multistory: 0 acres Late seral: 30 acres
• Legacy areas remaining (acres)	25,906 acres	22,185 acres	22,668 acres	23,413	22,185

Effects Indicator	Alternative 1 (No Action)	Alternative 2	Alternative 3	Alternative 4	Alternative 5
<p><u>Spruce and Douglas-Fir Indicators</u></p> <ul style="list-style-type: none"> • Pheromone treatments in areas of high, med and low spruce beetle risk (acres) • Salvage treatments in areas of high, med and low spruce beetle risk (acres) • Salvage treatments in areas of high, med and low DF beetle risk (acres) 	<p>No treatment would occur.</p>	<p>High: 150-222 ac Med: 0-100 acres Low: 0 ac</p> <p>High: 127 acres Med: 85 acres Low : 31 acres</p> <p>Very high/high: 560 acres Mod. high: 122 acres Moderate: 1924 acres Low/moderate: 177 acres Low: 966 acres</p>	<p>High: 150-222 ac Med: 0-100 acres Low: 0 ac</p> <p>High: 99 acres Med: 47 acres Low: 31 acres</p> <p>Very high/high: 376 acres Mod. high: 0 acres Moderate: 1775 acres Low/moderate: 117 acres Low: 968 acres</p>	<p>High: 150-222 ac Med: 0-100 acres Low: 0 ac</p> <p>High: 59 acres Med: 37 acres Low: 31 acres</p> <p>Very high/high: 341 acres Mod. high: 0 acres Moderate: 1127 acres Low/moderate: 108 acres Low: 918 acres</p>	<p>High: 150-222 ac Med: 0-100 acres Low: 0 ac</p> <p>High: 127 acres Med: 85 acres Low : 31 acres</p> <p>Very high/high: 560 acres Mod. high: 122 acres Moderate: 1924 acres Low/moderate: 177 acres Low: 966 acres</p>
<p><u>Invasive Plant Indicators</u></p> <ul style="list-style-type: none"> • Relative rating of vulnerability to weed spread (1-highest, 5-lowest) by activity by alternative. • Acres at risk from infestation/invasion of selected weeds in the Moose project weed analysis area. • Percent of area at risk from infestation/invasion of selected weeds in the Moose project weed analysis area. 	<p>Lowest risk</p> <p>See Table 3-27 in the DEIS</p> <p>See Table 3-28 in the DEIS</p>	<p>Action alternatives have higher risk than no action; all action alternative are similar in risk</p> <p>See Table 3-27 in the DEIS</p> <p>See Table 3-28 in the DEIS</p>	<p>Same as Alt. 2</p> <p>See Table 3-27 in the DEIS</p> <p>See Table 3-28 in the DEIS</p>	<p>Sale as Alt. 2</p> <p>See Table 3-27 in the DEIS</p> <p>See Table 3-28 in the DEIS</p>	<p>Same as Alt. 2</p> <p>See Table 3-27 in the DEIS</p> <p>See Table 3-28 in the DEIS</p>
<p><u>Grizzly Bear Indicators</u></p> <ul style="list-style-type: none"> • Whether Forest Plan standards related to grizzly bear would be met (18% open rod density; 18% total road density, 68% core area) • The potential loss of habitat values associated with dead trees. 	<p>No</p> <p>Fire reduced hiding cover values on 25, 984 acres of NFS lands</p>	<p>Yes</p> <p>Hiding cover values would be further reduced within 3721 acres of salvage units</p>	<p>Yes, with a project-specific Forest Plan amendment</p> <p>Hiding cover values would be further reduced within 3238 acres of salvage units</p>	<p>Yes</p> <p>Hiding cover values would be further reduced within 2493 acres of salvage units</p>	<p>Yes</p> <p>Hiding cover values would be further reduced within 3721 acres of salvage units</p>

Effects Indicator	Alternative 1 (No Action)	Alternative 2	Alternative 3	Alternative 4	Alternative 5
<u>Gray Wolf Indicators</u>					
<ul style="list-style-type: none"> The effect on ungulate habitat. 	No change. Post-fire carrying capacity is low.	Some reduction in hiding cover; increased disturbance, increased hunting season and winter vulnerability.	Some reduction in hiding cover; increased disturbance, increased hunting season and winter vulnerability.	Some reduction in hiding cover; increased disturbance, increased hunting season and winter vulnerability.	Some reduction in hiding cover; increased disturbance, increased hunting season and winter vulnerability.
<ul style="list-style-type: none"> The change in habitat security. 	No change	Improvement from road management; winter logging could reduce temporarily.	Same as Alternative 2	Same as Alternative 2, but winter logging would be prohibited.	Same as Alternative 2
<u>Bald Eagle Indicators</u>					
<ul style="list-style-type: none"> The amount of habitat alteration within the habitat zone adjacent to the North Fork Flathead River. 	No changes to eagle habitat	Removal of potential perch or nest trees on 16 acres	Same as Alternative 2	No changes to eagle habitat	Same as Alternative 2
<ul style="list-style-type: none"> The probability that management activity would disturb nesting bald eagles and cause disruption of natural behavior. 	None	Low. Activities > ½ mile from known nest sites	Same as Alternative 2	Same as Alternative 2	Same as Alternative 2
<ul style="list-style-type: none"> Adherence to Montana Bald Eagle Management Plan nest territory guidelines. 	Consistent with plan	Consistent with plan	Consistent with plan	Consistent with plan	Consistent with plan

Effects Indicator	Alternative 1 (No Action)	Alternative 2	Alternative 3	Alternative 4	Alternative 5
<u>Canada Lynx Indicators</u>					
<ul style="list-style-type: none"> Management actions shall not change more than 15 percent of lynx habitat within an LAU to an unsuitable condition within a 10 year period 	No management actions would occur.	Complies. Proposed salvage units are currently unsuitable from fire. Planting would speed recovery to suitable condition.	Same as Alternative 2	Same as Alternative 2	Same as Alternative 2
<ul style="list-style-type: none"> Following a disturbance, such as windstorm, fire, or insects/pathogens mortality that could contribute to lynx denning habitat, do not salvage harvest when the affected area is smaller than five acres. 	No salvage is proposed	All proposed salvage areas are greater than 5 acres	Same as Alternative 2	Same as Alternative 2	Same as Alternative 2
<ul style="list-style-type: none"> Maintain denning habitat in patches generally larger than 5 acres comprising at least 10 percent of lynx habitat. 	All potential denning habitat would remain	Over 12,000 acres of burned but unsalvaged area would provide for denning habitat	Same as Alternative 2	Same as Alternative 2, but retains more acres	Same as Alternative 2
<u>Black-backed Woodpecker Indicators</u>					
<ul style="list-style-type: none"> Acres and percent of habitat lost 	0 acres; 0%	2489 acres; 44%	2236 acres; 40%	1717 acres; 31%	2489 acres; 44%
<ul style="list-style-type: none"> Number of large bocks unsalvaged 	N/A – all remain	4	5	7	4
<u>Boreal Toad Indicators</u>					
<ul style="list-style-type: none"> Extent of activities that could cause direct mortality of boreal toads in terrestrial habitats 	No activities would occur	Salvage units: 3721 acres Actual salvage: 3000 acres Temp road: 0.9 mi. Road decommissioning: 57 mi.	Salvage units: 3238 acres Actual salvage: 2700 acres Temp road: 0.9 mi. Road decommissioning: 56 mi.	Salvage units: 2493 acres Actual salvage: 2150 acres Temp road: 0 mi. Road decommissioning: 87 mi.	Salvage units: 3721 acres Actual salvage: 3000 acres Temp road: 0.9 mi. Road decommissioning: 56 mi.
<u>Wolverine Indicators</u>					
<ul style="list-style-type: none"> An assessment of effects on potential prey species of wolverine (big game) and on levels of potential disturbance (motorized access). 	No change to prey species. Continued disturbance from motorized access.	Slight increase in risk of mortality to prey species. Winter logging could cause disturbance to wolverine. Road closures would improve habitat suitability.	Slight increase in risk of mortality to prey species. Winter logging could cause disturbance to wolverine. Road closures would improve habitat suitability.	Prohibition on winter logging, higher levels of trees left (more cover) and road management strategy would reduce risks.	Similar to Alternatives 2 and 3, but road management strategy would reduce risks.

Effects Indicator	Alternative 1 (No Action)	Alternative 2	Alternative 3	Alternative 4	Alternative 5
<u>Snag and Down Woody Habitat Indicators</u>					
<ul style="list-style-type: none"> Vulnerability to loss of snag habitat on national forest system lands due to firewood cutting (acres within 200' of open road) 	2008 acres	2084 acres	2007 acres	1907 acres	1939 acres
<ul style="list-style-type: none"> Acres of timber salvage relevant to snag habitat across the analysis area (total acres of high quality) 	0 acres	1487 acres	1450 acres	1185 acres	1487 acres
<ul style="list-style-type: none"> Acres of Timber Salvage Relevant to Larger-diameter Downed Wood Habitat across the Analysis Area (total acres of high quality) 	0 acres	1263 acres	1233 acres	930 acres	1263 acres
<u>Soils Indicators</u>					
<ul style="list-style-type: none"> Total acres and percent detrimental soil disturbance in the analysis area. 	2958 acres / 5.6%	2999 acres / 5.7%	3022 acres / 5.7%	2861 acres / 5.4%	2999 acres / 5.7%
<u>Hydrology Indicators</u>					
<ul style="list-style-type: none"> Potential Sediment from Proposed Salvage Above Spawning Area (tons) 	No salvage – 0 tons	102 tons	78 tons	62 tons	102 tons
<ul style="list-style-type: none"> Potential Sediment from Proposed Salvage Below Spawning Area (tons) 	No salvage – 0 tons	407 tons	370 tons	329 tons	407 tons
<ul style="list-style-type: none"> Total Potential Sediment from Proposed Salvage - Big Creek (tons) 	No salvage – 0 tons	505 tons	444 tons	391 tons	505 tons
<ul style="list-style-type: none"> Qualitative Assessment of Nutrient Load Effects 	Increase post-fire	Slight increase above post-fire level – highest of alternatives	Slight increase above post-fire level – mid range of alternatives	Slight increase above post-fire level – lowest of alternatives	Slight increase above post-fire level – highest of alternatives
<ul style="list-style-type: none"> Number of culverts removed and sediment produced 	No culverts removed – high risk of culvert failure	40 culverts removed 370.8 tons	40 culverts removed 370.8 tons	62 culverts removed 517.8 tons	40 culverts removed 370.8 tons
<ul style="list-style-type: none"> Proposal Sediment Yield Increase Above Natural (tons) from Proposed Road Management and Decommissioning 	None	345 tons	345 tons	438 tons	395 tons
<ul style="list-style-type: none"> Water Yield increase from proposed salvage 	0	0 acre-ft	0 acre-ft	0 acre-ft	0 acre-ft

Effects Indicator	Alternative 1 (No Action)	Alternative 2	Alternative 3	Alternative 4	Alternative 5
<u>Fisheries Indicators</u>					
<ul style="list-style-type: none"> RHCA Buffer Widths (Feet) 	N/A	Each side of stream: - 100' intermittent streams; - 150' perennial non fish bearing; - 300' fish- bearing	Each side of stream: - 100' intermittent streams; - 150' perennial non fish bearing; - 300' fish- bearing	Each side of stream: - 300" all streams	Each side of stream: - 100' intermittent streams; - 150' perennial non fish bearing; - 300' fish- bearing
<ul style="list-style-type: none"> Predicted tons of sediment delivered to streams as a direct result of <u>timber harvest</u>; and tons predicted to be delivered upstream of some portion of the bull trout spawning reaches in Big Creek and Hallowat Creek 	See indicators for Hydrology above	See indicators for Hydrology above	See indicators for Hydrology above	See indicators for Hydrology above	See indicators for Hydrology above
<ul style="list-style-type: none"> Predicted tons of sediment delivered to streams as a direct result of <u>road decommissioning</u>; and tons predicted to be delivered upstream of some portion of the bull trout spawning reaches in Big Creek and Hallowat Cr. 	See indicators for Hydrology above	See indicators for Hydrology above	See indicators for Hydrology above	See indicators for Hydrology above	See indicators for Hydrology above
<u>Fisheries Indicators (cont.)</u>					
<ul style="list-style-type: none"> Qualitative assessment of changes in stream temperature 	Incremental increases may occur	No increase beyond No Action anticipated	No increase beyond No Action anticipated	No increase beyond No Action anticipated	No increase beyond No Action anticipated
<u>Air Quality Indicators</u>					
<ul style="list-style-type: none"> Particulate Matter (PM10) Generated by Alternative (tons) 	0 tons	66 tons	66 tons	55 tons	66 tons
<u>Scenic Indicators</u>					
<ul style="list-style-type: none"> a qualitative assessment of changes in scenic quality 	No change from post-fire conditions	Salvage harvest would create open areas in foreground as seen from North Fork Road, and foreground and mid-ground as seen from Big Creek Road. Salvage in Wild and Scenic River corridor may be slightly noticeable.	Salvage harvest would create open areas in foreground as seen from North Fork Road, and foreground and mid-ground as seen from Big Creek Road. Salvage in Wild and Scenic River corridor may be slightly noticeable.	Salvage harvest would create open areas in foreground as seen from North Fork Road, and foreground and mid-ground as seen from Big Creek Road. Salvage would not occur in Wild and Scenic River.	Salvage harvest would create open areas in foreground as seen from North Fork Road, and foreground and mid-ground as seen from Big Creek Road. Salvage in Wild and Scenic River corridor may be slightly noticeable.

Effects Indicator	Alternative 1 (No Action)	Alternative 2	Alternative 3	Alternative 4	Alternative 5
<p><u>Recreation Indicators</u></p> <ul style="list-style-type: none"> • Qualitative assessment of treatments in or near Glacier Institute and recreation sites. 	No treatments would occur. Visitor safety would not be improved. Fire danger would increase over time at Big Creek campground and Glacier Institute.	Visitor safety improved at some dispersed sites. Fire danger would be reduced at Big Creek campground and Glacier Institute.	Visitor safety improved at some dispersed sites. Fire danger would be reduced at Big Creek campground and Glacier Institute.	Visitor safety improved at some dispersed sites. Fire danger would be reduced at Glacier Institute, but not Big Creek campground.	Visitor safety improved at some dispersed sites. Fire danger would be reduced at Big Creek campground and Glacier Institute.
<p><u>Other Roadless Areas Indicators</u></p> <ul style="list-style-type: none"> • Acres of salvage in other unroaded area • Changes to natural integrity, apparent naturalness, remoteness, solitude, primitive recreation opportunities, manageability, and boundaries in other unroaded areas 	No salvage would occur No change	999 acres Natural integrity and apparent naturalness reduced on SW part of Demers Ridge. Solitude reduced during logging operations. Primitive recreation experiences would not change. Boundaries would be more difficult to manage after harvest.	999 acres Same as Alternative 2	728 acres Similar to Alternative 2, but to a lesser degree due to fewer acres affected	999 acres Same as Alternative 2
<p><u>Economics Indicators</u></p> <ul style="list-style-type: none"> • Effects on Job Growth Rate • Effects on Unemployment Rate • Effects on Personal Income and Wages • Effects on Cost of Living • Effects on Economic Dependency and Diversity • Effects on Economic Trends • Effects on Income (M\$) • Effects on Revenue Sharing • Effects on Local Economic Development Objectives 	0 jobs/year No change No change No change No change No change No change No change Would not contribute towards meeting	454 jobs/year Slight to no change Minimal increase No change Little to no change Very little effect \$9787 No change Consistent with objectives	400 jobs/year Slight to no change Minimal increase No change Little to no change Very little effect \$8597 No change Consistent with objectives	331 jobs/year Slight to no change Minimal increase No change Little to no change Very little effect \$7111 No change Consistent with objectives	454 jobs/year Slight to no change Minimal increase No change Little to no change Very little effect \$9786 No change Consistent with objectives

Effects Indicator	Alternative 1 (No Action)	Alternative 2	Alternative 3	Alternative 4	Alternative 5
<p><u>Fire and Fuels Indicators</u></p>					
<ul style="list-style-type: none"> • Effective Fuels Reduction (Ac) 	0 acres	3295 acres	2939 acres	2343 acres	3239 acres
<ul style="list-style-type: none"> • Effects on prescribed fire escape risk (pile burning and/or jackpot burning) 	No risk	Very low risk	Very low risk	Very low risk	Very low risk