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Draft Environmental Impact Statement

Miller West Fisher

Libby Ranger District, Kootenai National Forest
Lincoln County, Montana

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**Miller West Fisher Project
Draft
Environmental Impact Statement
Lincoln County, Montana**

Lead Agency: USDA Forest Service
Responsible Official: Paul Bradford, Forest Supervisor
31374 Hwy. 2 West
Libby, Montana 59923
For Information Contact: Leslie McDougall, Team Leader
12557 Hwy 37
Libby, MT 59923
(406)293-7773

Abstract: The Miller West Fisher Project considers land management activities, including timber harvest, access management, road storage and decommissioning, prescribed burning and precommercial thinning within the Silverfish Planning Subunit. Major watersheds in the project area include Miller Creek, West Fisher Creek, and the Silver Butte Fisher River. Four action alternatives and a no action alternative are analyzed in detail. Alternative 6 is the preferred alternative.

It is important that reviewers provide their comments at such times and in such a way that they are useful to the Agency's preparation of the EIS. Therefore, comments should be provided prior to the close of the comment period and should clearly articulate the reviewer's concerns and contentions. The submission of timely and specific comments can affect a reviewer's ability to participate in subsequent administrative review or judicial review.

Comments received in response to this solicitation, including names and addresses of those who comment, will be part of the public record for this proposed action. Comments submitted anonymously will be accepted and considered; however, anonymous comments will not provide the respondent with standing to participate in subsequent administrative review or judicial review.

Send Comments to: Malcolm Edwards, Libby District Ranger
12557 Hwy 37, Libby, MT 59923

Date Comments Must Be Received: Comments are due 45 days after notice of availability in the Federal Register, which is anticipated to be March 6, 2009. The publication date is the official start of the comment period.

SUMMARY

Introduction

The Miller West Fisher Project Area is located within the Fisher River watershed and includes Miller Creek, West Fisher Creek, and the Silver Butte Fisher River watersheds 25 air miles south southeast of Libby, Montana. The project area is the Silverfish Planning Subunit, which is approximately 69,419 acres in size. Of this area, National Forest System (NFS) lands occupy approximately 60,519 acres (87%), Plum Creek Timber Company (PCTC) owns about 2,064 acres (32%), State of Montana School Trust lands occupy 640 acres (less than 1%), and other private landowners occupy 2,064 acres (3%).

Four action alternatives are analyzed in detail in the DEIS along with the no action alternative. This general summary briefly describes the analysis area, purpose and need, issues, and alternatives analyzed in detail. This information and additional analysis are described in more detail in the remainder of this document and in the project file (located at Canoe Gulch Ranger Station, Libby, Montana). Project area maps are found at the end of this DEIS as well as the project file.

Purpose and Need

Based on the existing condition of the project area, the Miller West Fisher interdisciplinary team identified the following purpose and need statements and related management activities to trend the project area toward desirable conditions:

- Maintain the vigor and long-term productivity of forest stands;
- Reduce hazardous fuels and restore natural fire regimes;
- Provide forest products;
- Reduce impacts of the road network on water quality and wildlife, while providing access for public and administrative use;
- Maintain or improve watershed condition;
- Maintain or improve grizzly bear and big game habitat;
- Improve recreation experience through trail reconstruction and hazard reduction in Lake Creek Campground.

Issues

Issues were identified through public scoping of the proposed action (Alternative 2) and by review from other agencies and Forest Service personnel. The scoping process is used not only to identify important environmental issues, but also to identify and eliminate issues that do not pertain to the Proposed Action, thus narrowing the scope of the environmental documentation process. The following issues were identified to address concerns about, and develop alternatives to, the proposed action.

1. Big Game Security

There was a concern that new road construction and logging may impact big game security and hiding cover. Some of the hiding cover concern was in relation to logging in close proximity to open roads, while some was in relation to the amount of logging (too much) in the Miller Creek drainage.

Issue indicators include open road density (ORD) expressed as miles per square mile, miles of new and temporary road construction, cover/forage ratios, and security habitat during fall hunting season expressed as a percentage of the total project area during and post activity.

2. Provide/maintain opportunities for OHV Use

Motorized user groups were concerned over the closure of existing open roads in the project area. The issue indicator is miles of open road available in the project area for motorized use.

3. Improve Water Quality in the Fisher River WQLS

Project area watersheds are tributary to the Fisher River, which is on the State of Montana 303(d) list of impaired waters, also known as water quality limited segments (WQLS). Concern was expressed that the proposed action did not include enough watershed restoration activities to improve conditions in the Fisher River WQLS.

Issue indicators include miles of road storage, miles of road decommissioned, number of stream crossing restored, miles of road BMP's implemented, pools creation in Miller Creek (yes/no), and stream bank stabilization in West Fisher Creek (yes/no).

4. Improve Recreation Opportunities

The project area includes a portion of the Cabinet Mountains Wilderness, and is popular for a variety of recreation activities. Responses to the proposed action included requests for trail and trailhead improvements, and stock corrals. Issue indicators include construction of stock corrals near Lake Creek campground (yes/no), trail improvements (yes/no), and number of trailheads improved to allow space to turn trailers (horse or camper) around.

5. Grizzly Bear Recovery

The project area is within the grizzly bear recovery area. Concern was expressed that important habitat parameters for grizzly bear such as core habitat be improved or increased in the project area. Issue indicators include the amount of core habitat, OMRD, TMRD, % habitat effectiveness, and linear ORD.

6. Economic Feasibility

The proposed action included helicopter logging in order to manage within grizzly bear habitat. Concern was expressed that such helicopter logging was not economically feasible and should be reduced or eliminated. Issue indicators include sale feasibility, volume of timber harvested, and present net value.

Alternatives Considered in Detail

▪ Alternative 1 – No Action

This alternative represents the existing condition in the Silverfish Planning Subunit. Under this alternative, none of the proposed activities, such as timber harvest, precommercial thinning, and prescribed fire would occur. Other on-going activities, such as weed control, recreation, and firewood gathering, would continue. Activities identified in Chapter 3 as current and foreseeable actions would occur.

▪ Alternative 2 – Proposed Action

Alternative 2 was developed to respond to the purpose and need for the Miller West Fisher Project. Alternative 2 is focused on treating vegetation to restore seral species such as western larch and ponderosa pine in consideration of past and expected fire patterns while improving grizzly bear habitat and considering impacts to a variety of resources. Activities included in Alternative 2 are as follows:

- Commercial timber harvest on 2,492 acres;
- Prescribed burning to improve forage for big game including berry field production on 3,175 acres;
- Construction of 1.2 miles of temporary road to access harvest units;
- Road reconstruction and implementation of best management practices (BMP's) to reduce road impacts to streams on 42.72 miles of road;
- Road restrictions to improve wildlife habitat on 7.47 miles of open road;
- Long-term road storage for watershed rehabilitation on 11.36 miles of road, restoring 12 stream crossings;
- Precommercial thinning on approximately 351 acres;
- Reconstruction of 5.5 miles of trail;
- Fuels reduction and hazard tree removal in Lake Creek Campground.

▪ Alternative 4

Alternative 4 was designed to address many of the issues raised with the proposed action during scoping, including economic feasibility, reduced levels of timber harvest in Miller Creek to address watershed health and elk security, closure of road 594 to snowmobile use due to concerns about trespass of motorized use into wilderness occurring from this road, and retention of some open roads for OHV and other motorized use. In addition, during the scoping period a request for private land access within the project area was received. The private property is known as the Irish Boy Mine. Alternative 4 includes permitting motorized access to this parcel. Activities included in Alternative 4 are as follows:

- Commercial timber harvest on 1,364 acres;
- Prescribed burning to improve forage for big game including berry field production on 2,830 acres;
- Construction of 0.94 miles of temporary road to access harvest units;

- Road reconstruction and implementation of BMP's to reduce road impacts to streams on 30.45 miles of road;
- Road restrictions to improve wildlife habitat on 1.92 miles of open road;
- Long-term road storage for watershed rehabilitation on 5.17 miles of road, decommissioning on 1.43 miles of road, including restoration of 12 stream crossings;
- Precommercial thinning on approximately 351 acres;
- Reconstruction of 5.9 miles of trail;
- Parking improvements at 15 trailheads;
- Fuels reduction and hazard tree removal in Lake Creek Campground;
- Construction of stock corrals outside of Lake Creek Campground;
- Pool creation and stream bank stabilization in Miller and West Fisher Creeks;
- Private access to the Irish Boy property.

▪ **Alternative 6**

Alternative 6 was designed to respond to potential changes in cumulative effects activities as a result of the Montanore Mine. The Montanore Mine project analyzes several different power line routes to supply power to the mill site. These different routes cross the project area in different locations, having substantially different impacts to project area resources. Alternatives 2 and 4 consider Montanore's proposed action power line in the North Fork of Miller Creek for cumulative effects analysis. Alternative 6 considers the West Fisher power line route for cumulative effects. Alternative 6 includes the following activities:

- Commercial timber harvest on 1,898 acres;
- Prescribed burning to improve forage for big game including berry field production on 2,830 acres;
- Construction of 3.29 miles of temporary road to access harvest units;
- Road reconstruction and implementation of BMP's to reduce road impacts to streams on 38.99 miles of road;
- Road restrictions to improve wildlife habitat on 1.92 miles of open road;
- Long-term road storage for watershed rehabilitation on 15.00 miles of road, decommissioning on 1.43 miles of road, including restoration of 19 stream crossings;
- Precommercial thinning on approximately 351 acres;
- Reconstruction of 5.9 miles of trail;
- Parking improvements at 15 trailheads;
- Fuels reduction and hazard tree removal in Lake Creek Campground;
- Construction of stock corrals outside of Lake Creek Campground;

- Pool creation and stream bank stabilization in Miller and West Fisher Creeks.

▪ **Alternative 7**

This alternative was developed to avoid the need for any Forest Plan amendments. All other action alternatives require an amendment for increasing open road density (ORD) for big game summer range (MA 12) above the existing condition, which exceeds the Forest Plan standard of 0.75 miles per square mile. This alternative is the same as Alternative 4, with certain units switched to winter logging.

Comparison of Alternatives

This section provides a comparison of the alternatives in terms of:

- How the alternatives compare to one another;
- How the alternatives meet the Purpose and Need for the proposal;
- How the alternatives respond to the key issues;
- The potential environmental consequences associated with the implementation of the alternatives.

**Table S-1
Comparison of Purpose and Need Objectives by Alternative**

Maintain the Vigor and Long-Term Productivity of Forest Stands	1	2	4	6	7
Commercial Timber Harvest (acres)	0	2,492	1,364	1,898	1,364
Burning without timber harvest (acres)	0	3,175	2,830	2,830	2,830
Precommercial Thinning (acres)	0	351	351	351	351
Reduce Hazard Fuels and Restore Natural Fire Regimes	1	2	4	6	7
Burning without timber harvest (acres)	0	3,175	2,830	2,830	2,830
Commercial Timber Harvest (acres)	0	2,492	1,364	1,898	1,364
Provide Forest Products	1	2	4	6	7
Timber harvest volume, estimated, CCF	0	20,206	11,835	16,485	11,835
Reduce Impacts of the Road Network on Water Quality and Wildlife, While Providing Access for Public and Administrative Use	1	2	4	6	7
Yearlong open road to yearlong restricted road (miles)	0	8.21	1.92	1.92	1.92
Yearlong restricted, open to snow vehicles going to yearlong restricted closed to snow vehicles (miles)	0	0	5.42	5.42	5.42
Issue a special use authorization for motorized access to the Irish Boy Mine property (yes/no)	No	No	Yes	No	No
Maintain or Improve Watershed Condition	1	2	4	6	7
Road storage (miles)	0	11.36	5.17	15.00	5.17
Road decommissioning (miles)	0	0	1.43	1.43	1.43
Number of stream crossings restored	0	12	12	19	12
Stream bank stabilization in West Fisher Creek	0	No	Yes	Yes	Yes
Pool creation in Miller Creek	0	No	Yes	Yes	Yes
Maintain or Improve Grizzly Bear and Big Game Habitat	1	2	4	6	7
Open Road Density in miles per square mile for MA 12 post activity (Forest Plan Standard is 0.75)	1.30	0.97	1.18	0.98	0.98
Security habitat during fall hunting season during/post activity (%)	57	56/60	56/59	53/59	56/59

Burning without timber harvest (acres)	0	3,175	2,830	2,830	2,830
Burns spaced out over time to avoid impacting large amounts of big game forage at one time (yes/no)	Not applicable	No	Yes	Yes	Yes
Effects call for Grizzly Bear (NLAA = may affect, not likely to adversely affect; MLAA = may affect, likely to adversely affect)	No effect	NLAA	MLAA	NLAA	MLAA
Effects call for Lynx (MLAA = May affect, likely to adversely affect)	No effect	MLAA	MLAA	MLAA	MLAA
Improve Recreational Experience Through Trail Reconstruction and Hazard Reduction in Lake Creek Campground	1	2	4	6	7
Yes/No	No	Yes	Yes	Yes	Yes
Trailhead reconstruction to facilitate trailers	No	No	Yes	Yes	Yes

**Table S-2
Comparison of Issue Indicators by Alternative**

INDICATOR	Alt 1	Alt 2	Alt 4	Alt 6	Alt 7
Issue #1 – Big Game Security	1	2	4	6	7
Open Road Density in miles per square mile for MA 15, 16, 17, 18 post activity (Forest Plan Standard is 3.00)	0.86	0.73	0.73	0.73	0.73
Open Road Density in miles per square mile for MA 12 post activity (Forest Plan Standard is 0.75)	1.30	0.97	1.18	0.98	0.98
New Road construction (miles)	0	1.20	0	0	0
Temporary Road construction (miles)	0	0	0.94	3.29	0.94
Security habitat during fall hunting season during/post activity (%)	57	56/60	56/59	53/59	56/59
Issue #2 – Provide/Maintain Opportunities for OHV use	1	2	4	6	7
Open road available for OHV use (approximate miles)	87	81	85	85	85
Motorized trail designated for OHV use (miles)	0	0	1.64	1.64	1.64
Open road changing to restricted to motorized use (miles) – excludes impassable roads	0	5.63	1.92	1.92	1.92
Road open to snowmobile use going to Closed to snowmobile use	0	0	5.42	5.42	5.42
Issue #3 – Water Quality Protection	1	2	4	6	7
Miles road storage	0	11.36	5.17	15.00	5.17
Miles road decommissioning	0	0	1.43	1.43	1.43
# Stream road crossings restored	0	12	12	19	12
Road reconstruction implemented (miles)	0	42.72	30.45	38.99	30.45
Pool Creation in Miller Creek (yes/no)	No	No	Yes	Yes	Yes
Stream bank stabilization in West Fisher Creek to reduce sediment input (y/n)	No	No	Yes	Yes	Yes
Restoration of Standard Lake	No	No	Yes	Yes	Yes
Teeters Road System stabilized (yes/no)	No	No	No	Yes	No
Issue #4 – Improve Recreation Opportunities	1	2	4	6	7
Hazard Tree Removal and Fuels Reduction in Lake Creek Campground (yes/no)	No	Yes	Yes	Yes	Yes
Construction of stock corrals in Lake Creek Campground (yes/no)	No	No	Yes	Yes	Yes

Non-motorized trail improvement (miles)	0	5.5	5.9	5.9	5.9
Number of Trailheads improved to allow trailer turn around space	0	0	15	15	15
Issue #5 – Effects to Grizzly Bear	1	2	4	6	7
BMU 6					
Amount of core habitat post project (%)	53	55	53	55	53
OMRD post project (%)	30	28	29	29	29
TMRD post project (%)	32	32	32	31	32
Habitat Effectiveness post project (%)	66	71	71	70	71
Linear ORD post project (miles/square mile)	0.44	0.40	0.38	0.42	0.38
BMU 7					
Amount of core habitat post project (%)	67	68	67	67	67
OMRD post project (%)	21	20	20	21	20
TMRD post project (%)	20	20	20	20	20
Habitat Effectiveness post project (%)	79	79	80	79	79
Linear ORD post project (miles/square mile)	0.31	0.32	0.31	0.33	0.31
Cabinet Face BORZ					
Linear ORD (miles/square mile)	2.2	2.2	2.2	2.2	2.2
Linear TMRD (miles/square mile)	3.9	3.9	3.9	3.9	3.9
Livestock (number of grazing allotments)	0	0	0	0	0
Food Attractants (existing condition = bear resistant containers in place)	containers	No change	No change	No change	No change
Issue #6 - Economics	1	2	4	6	7
Timber Sale Feasibility with Helicopter Logging (Yes/No)	NA	No	No	No	No
Timber Sale Feasibility without Helicopter Logging (Yes/No)	NA	No	No	Yes	No
Timber harvested (CCF)	0	20,206	11,835	16,485	11,835
Present Net Value, timber sale only with helicopter logging (Thousand \$)	0	-939.9	-442.3	-617.8	-473.4
Present Net Value, timber sale only without helicopter logging (Thousand \$)	0	-102.6	-68.8	1.5	-76.5

Decisions to be Made

Based upon the effects of the alternatives, the responsible official will decide:

1. Whether to implement vegetation management activities (silvicultural prescriptions, logging methods, slash treatment, reforestation, prescribed fire), including mitigation measures and design features to protect resources and, if so, the site-specific location of these activities and practices.
2. Whether to construct new road to access proposed timber harvest units.
3. Whether to implement precommercial thinning activities and, if so, the selection and site-specific location of these activities.
4. Whether to implement prescribed fire without associated timber harvest, and if so, the site-specific location and type of burn (stand replacing, understory) to be implemented.
5. Whether to restrict motorized access on roads and trails to meet resource objectives and, if so, where and to what extent.
6. Whether to implement road storage or decommissioning activities to improve watershed condition and, if so, where.

7. Whether to construct or reconstruct portions of the trail system and if so where and to what extent.
8. Whether to implement fuels treatments and hazard tree removal in the Lake Creek campground.
9. What, if any, specific project monitoring requirements are needed to assure mitigation measures and design features are implemented and effective, or to evaluate success of project objectives.
10. Whether to amend the Forest Plan, site specifically, to suspend the requirement to retain all cavity habitat in MA 10 (Big Game Winter Range) in the analysis area and, if so, where and to what extent.
11. Whether to issue a special use authorization for motorized access across National Forest System lands to the privately-owned Irish Boy Mine, and if so, under what terms and conditions.

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CHAPTER 1: PURPOSE OF AND NEED FOR ACTION

Document Structure

The Forest Service has prepared this Environmental Impact Statement in compliance with the National Environmental Policy Act (NEPA) and other relevant Federal and State laws and regulations. This Environmental Impact Statement discloses the direct, indirect, and cumulative environmental impacts that would result from the proposed action and alternatives. The document is organized into four chapters:

- *Chapter 1. Purpose and Need for Action:* The chapter includes information on the history of the project proposal, the purpose of and need for the project, and the agency's proposal for achieving that purpose and need. This section also details how the Forest Service informed the public of the proposal and how the public responded.
- *Chapter 2. Alternatives, including the Proposed Action:* This chapter provides a more detailed description of the agency's proposed action as well as alternative methods for achieving the stated purpose. These alternatives were developed based on significant issues raised by the public and other agencies. This discussion also includes mitigation measures. Finally, this section provides a summary table of the environmental consequences associated with each alternative.
- *Chapter 3. Affected Environment and Environmental Consequences:* This chapter describes the environmental effects of implementing the proposed action and other alternatives. This analysis is organized by [insert topic (i.e., resource area, significant issues, environmental component)].
- *Chapter 4. Consultation and Coordination:* This chapter provides a list of preparers and agencies consulted during the development of the environmental impact statement.
- *Appendices:* The appendices provide more detailed information to support the analyses presented in the environmental impact statement.
- *Index:* The index provides page numbers by document topic.

Additional documentation, including more detailed analyses of project-area resources, may be found in the project planning record located at Canoe Gulch Ranger Station, Libby, Montana.

INTRODUCTION

The Forest Service has prepared this Environmental Impact Statement (EIS) in accordance with the National Environmental Policy Act (NEPA) and other relevant federal and state laws and regulations.

This chapter identifies the implementation area, the Proposed Action, the purpose and need for action, the relationship to the Forest Plan, the scope of the analysis, and the decisions to be made. All referenced maps are located at the back of this document.

The proposals in this project were developed from a broad scale assessment of the Fisher River (Fisher Landscape Assessment, September 2003). The district prioritized the recommendations that were made in that assessment to formulate this project. A copy of the Fisher Landscape Assessment is located in the project file.

The Fisher Landscape Assessment analysis area included three planning subunits, including Riverview, McElk and Silverfish. Three Environmental Assessments (EA's) were completed for the Riverview Planning Subunit, including the Cow, Alder, and Smoked Fish EA's. This EIS will cover all of the Silverfish Planning Subunit. One other assessment will also be prepared within the Fisher Landscape Assessment area. This is the McElk project, within the McElk Planning Subunit, which is proposed for 2010. All past, current, and proposed future activities were considered in the effects analyses in Chapter 3.

PROJECT AREA DESCRIPTION

The Silverfish Planning Subunit is approximately 69,419 acres of which 60,519 acres are National Forest System (NFS) lands, 640 acres are State lands, 6,196 acres are Plum Creek Timber Company lands, and 2,064 acres are in other private ownership. Important watersheds in the project area include Miller, West Fisher and Silver Butte Creeks and their tributaries.

The legal description of the project area includes all or portions of T27N, R31W, T27N, R30W, T27N, R29W, T26N, R29W, T26N, R30W; T26N, R31W, T25N, R31W, T25N, R30W, T25N, R29W.

The project area includes a portion of the Cabinet Mountains Wilderness. High mountain lakes and subalpine vegetation are found there with foot access provided by a network of trails. Historic and current mining activity is also present in the project area with silver and copper as the main focus and other precious metals also represented.

Portions of the project area are managed for semi-primitive non-motorized recreation. Stands of old growth provide important wildlife habitat. The project area also provides habitat for a variety of game and non-game wildlife species. Elevation ranges from a low of about 2,800 feet to 7,545 feet on Twin Peaks.

The Fisher River within the Silverfish subunit is listed on the State of Montana's 303(d) list of impaired waters. This listing is for nutrients, siltation, habitat alterations, and thermal modifications. The probable sources of these changes are listed as agriculture, timber harvest, channelization, and removal of riparian vegetation. As a result, vegetation management projects within the subunit and project area must be designed to take into account the need for rehabilitation of the listed segment of the Fisher River.

The planning subunit provides a variety of recreation opportunities. Recreation activities are varied and occur year round. These uses have increased over the last five years (Fisher Landscape Assessment, pg. 3-76). Activities include snowmobiling, hunting, fishing, off-highway vehicle (OHV) use, hiking, horseback riding, scenic viewing, wildlife viewing, camping, and gathering forest products such as berries and firewood. The Cabinet Mountains Wilderness is a focal point for recreation in the Silverfish Planning Subunit.

Wilderness and roadless areas in the subunit create secure habitat for big game species such as elk, and core habitat for the threatened grizzly bear.

PURPOSE AND NEED FOR ACTION

A number of specific resource and vegetation conditions that are currently not meeting long-term management objectives were identified in the broad scale assessment of the Fisher River Geographic Area (Fisher Landscape Assessment 2003) located in the project record. Opportunities to improve these conditions were developed through a comparison of reference conditions (generally presettlement condition) with current conditions and determining actions to improve those ecosystem components that are outside of a manageable natural range of variability. This is discussed in more detail in the Forest Vegetation, and Fire/Fuels sections in Chapter 3. The assessment was based on direction in the Kootenai Forest Plan, the National Fire Plan, findings in the Northern Region Overview, the Upper Kootenai Assessment, and trends observed by interdisciplinary specialists conducting the landscape assessment.

The Purpose and Need statements have been refined from those presented during scoping in order to be more clear and specific. The Purpose and Need for the activities proposed in the Miller West Fisher project are to:

- **Maintain the vigor and long-term productivity of forest stands;**
- **Reduce hazardous fuels and restore natural fire regimes;**
- **Provide forest products;**
- **Reduce impacts of the road network on water quality and wildlife, while providing access for public and administrative use;**
- **Maintain or improve watershed condition;**
- **Maintain or improve grizzly bear and big game habitat;**
- **Improve recreation experience through trail reconstruction and hazard reduction in Lake Creek Campground.**

These purpose and need statements are described in more detail on the following pages. Specifically, the discussion on the following pages supports the need for action in the project area.

Maintain the Vigor and Long-term Productivity of Forest Stands

The project area contains areas of dry habitat, urban interface, and inventoried roadless and Wilderness areas. Since treatment is not feasible with current emphasis in Wilderness and roadless areas, vegetation management is focused on the remaining portions of the project area.

The dry habitat treatment areas generally have Douglas-fir ladder fuels encroaching. Overstory trees are stressed by competition for soil moisture and nutrients by these smaller understory trees. The proposed action responds to the need to reduce stocking levels in these dry stands. Some of these dry habitat treatment areas are also adjacent to or nearby to private property with homes and are included as “urban interface” treatments.

The proposed action responds to forest-wide management direction to maintain diverse age classes of vegetation for viable populations of all existing native, vertebrate wildlife species (Forest Plan, Goal #7, page II-1).

The proposed action also responds to the Forest Service's (Region 1) Northern Region Overview (USDA Forest Service 1998, p. 22-31). By reducing overall stand densities and promoting such fire-resistant species as ponderosa pine and western larch, the proposed action helps to maintain healthy watersheds by attaining desirable plant conditions as well as structure and composition and by reducing the risk of unnaturally severe wildfires. The proposed action responds to opportunities to restore dry land ecosystems through the use of timber harvest, prescribed fire, and planting.

The National Fire Plan also provides direction for management of National Forest Lands. One of the key points of the National Fire Plan is:

Rehabilitation and restoration of landscapes--restore healthy, diverse, and resilient ecological systems to minimize uncharacteristically intense fires on a priority watershed basis. Methods will include removal of excessive vegetation and dead fuels through thinning, prescribed fire, and other treatment methods.

The proposed activity responds to the National Fire Plan by reducing fuel loadings throughout the analysis area, reducing basal area on overstocked stands, and restoring fire tolerant species such as ponderosa pine and western larch. Please refer to Chapter 2 for a complete description of proposed activities.

Reduce Hazardous Fuels and Restore Natural Fire Regimes

Some stands in the Silverfish Planning Subunit have built up quantities of ground and ladder fuels that will contribute to intense wildfires that are likely to be stand replacing. Fire suppression and the normal processes on-going in these stands have contributed to this condition.

The proposed action responds to forest wide management direction to use prescribed fire to simulate natural ecological processes, prevent excessive natural fuel buildups, create habitat diversity for wildlife, reduce suppression costs, maintain ecosystems (Forest Plan, Goal #17, p. II-2), and to create shrub fields for wildlife foraging habitat (Forest Plan, Goal #12, p. II-2).

The proposed action responds to the National Fire Plan by reducing fuel loadings throughout the analysis area, reducing basal area on overstocked stands, and restoring fire tolerant species such as ponderosa pine and western larch. The proposed action would reduce the risk and/or extent of unnaturally severe wildfires in the project area.

Provide Forest Products

One of the purposes identified by Congress for the establishment of National Forest System Land is to "furnish a continuous supply of timber for the use and necessities of the citizens of the United States" (Organic Act 16 USC 475). This purpose is reflected in the Kootenai Forest Plan as a goal to provide a sustained yield of timber volume

responsive to national and regional needs. Forest Plan Management Area goals also call for a programmed yield of timber in suitable management areas (Forest Plan, Volume 1). Suitable management areas are those considered to be suitable for timber production according to the Forest Plan.

This purpose and need statement was originally “provide commodities” in the project scoping, but was changed to be more specific to the commodity produced in this project, which is forest products.

The Northern Region Overview (USDA Forest Service 1998, p. 170-171) finds that the Northwest Zone, including the Kootenai National Forest, "holds the greatest opportunity for vegetation treatments and restoration with timber sales. From a social and economic standpoint, using timber harvest for ecological restoration would be of benefit to the many communities which still have a strong economic dependency, more so than other zones in the region".

Numerous laws, including the Multiple Use Sustained Yield Act and the National Forest Management Act, establish the basis for managing national forests in a manner to provide goods and services. The desired condition is to provide forest products within the sustainable capability of the ecosystem. The proposed action responds to the desired condition through the use of a variety of treatments including regeneration and intermediate harvesting.

Reduce Impacts of the Road Network on Water Quality and Wildlife, While Providing Access for Public and Administrative Use

The analysis area has an existing road system that allows access for a variety of activities including recreation, vegetation management, fire suppression and access to private ownerships.

The desired condition is to provide access to National Forest System (NFS) and private lands, including mining claims, while providing ecological integrity, wildlife security habitat and protecting water quality. The proposed action responds to the desired condition by proposing changes in road restrictions to protect wildlife, decommissioning roads that are no longer needed or that have a high risk of impacting resources, and improving the condition of roads that are needed for land management, recreation, and private access. Decommissioning, storage, and reconstruction activities along with implementation of best management practices (BMP's) on these roads will decrease the impact of the road system on water quality and aquatic habitat.

Appropriate levels of access are limited by budget constraints, in that a limited amount of money is available to maintain Forest roads. These limited funds must be prioritized and spent on maintaining the most important portion of the road network across the Forest.

Construction of new roads has been proposed to accomplish land management objectives. These roads will be placed in to long-term storage after use. Please see Appendix 5 for a detailed description of the activities used to meet these conditions.

Maintain or Improve Watershed Condition

The desired condition is to maintain water quality and to meet beneficial uses. The desired condition would maintain and improve healthy, diverse, and resilient aquatic systems that support a variety of conditions and benefits. The proposed action responds to the desired condition by proposing to reduce or eliminate sediment inputs to streams through storage or decommissioning of some roads. This involves varying degrees of removing the effect of water collection and concentration from the treated roads. This can include partial recontouring, installing cross-drains, ripping the road surface, and revegetation of the road surface. The work also includes the removal of culverts and reconstruction of live stream channels through the treated road prism. Roads to be decommissioned have been determined to be unnecessary for long-term access needs. They would no longer be drivable following project implementation, but a trail tread would remain. However this tread would not become part of the district trail system, and would not be maintained for access due to budget constraints. Roads to be placed into storage may be needed for future management activities. While in storage, these roads will be undrivable.

The proposed action responds to forest-wide management direction to meet or exceed State water quality standards (Forest Plan, Goal #19, p. II-2). The proposed action also responds to the Organic Act of 1897 (16 USC 475), which establishes the Forests to “improve and protect the forest within the boundaries for the purpose of securing favorable conditions of water flows”.

Maintain or Improve Grizzly Bear and Big Game Habitat

The project area contains important grizzly bear core, denning, and foraging habitats as well as habitat for other wildlife species including big game, gray wolf, and Canada lynx. The desired condition is to meet standards set for grizzly bear by best available science and direction from USFWS, which specify the amount of several habitat parameters, including core, for each bear management unit (BMU).

The proposed action responds to this need by increasing grizzly bear core habitat in BMU 6. The proposed action also includes several burns designed to create or rejuvenate huckleberry shrub fields to provide forage for black and grizzly bears.

The proposed action responds to NFMA direction and the Forest Plan objective to provide sufficient habitat to maintain viable population levels of all endemic vertebrate wildlife species (Forest Plan page II-7). The proposed action also responds to the Forest Plan goal to maintain a balance of open and closed roads to insure big-game habitat security, and to insure grizzly bear security to meet recovery goals (Forest Plan page II-1).

Improve Recreation Experience Through Trail Reconstruction and Hazard Reduction in Lake Creek Campground

The project area includes a portion of the Cabinet Mountains Wilderness. Recreation is an important public use of the project area. The proposed action responds to high levels of recreation use in the project area by proposing trail reconstruction and improvement activities on non-motorized trails and fuels and hazard tree removal in the Lake Creek Campground.

PROPOSED ACTION

To meet the purpose and need for action, the Proposed Action would implement the following activities (see Chapter 2, Alternatives Considered in Detail section for detailed information on the proposed activities):

- Vegetation treatments including timber harvest and associated fuels treatments (2,492 acres), and precommercial thinning (351 acres). These treatments will help maintain ecosystem function and vegetative health as well as reduce fuels and provide timber products.
- Prescribed fire (3,175 acres) is proposed to reduce ladder fuels and create growing space for fire-resistant tree species. Spring and fall burns are proposed. The spring burns are proposed to achieve management objectives without killing overstory trees. Fall burning is prescribed in some areas within inventoried roadless areas where timber harvest treatments are not permitted. These burns will kill overstory trees and create openings in continuous tree canopy to create forage and berry production areas.
- Temporary road construction (1.2 miles) to access proposed harvest units.
- Road reconstruction and best management practice (BMP) implementation on haul routes (42.72 miles) to provide access while reducing the impact of the road system on water quality.
- Access changes (7.47 miles) to improve big game security habitat and reduce road impacts on streams. Another 4.22 miles of gated road (Standard Creek Rd. 6745) would have the gate replaced by an earthen barrier and the road converted to a trail to increase grizzly bear core habitat in BMU 6 to meet habitat parameters specified by best available science and the USFWS.
- Road decommissioning and storage activities (7.14 miles) as identified in the Fisher Roads Analysis Process (RAP) within the Silverfish planning subunit. These treatments will help improve water quality in the project area by removing chronic sources of sediment. A copy of the Fisher RAP is included in the project file.
- Improvements and reconstruction of trail tread (5.5 miles) on sections of trail that require such work, and fuels reduction and hazard tree removal in Lake Creek Campground.

Miller West Fisher Project Proposals*			MANAGEMENT AREA (MA) DESCRIPTION
H	B	T	
X	X		<p>MA 11: Big Game Winter Range (Suitable for timber production - Forest Plan Vol. 1, pp. III-43-47) <i>Description:</i> Used by most species of big game for winter range. Found at lower elevations in most major drainages and the topography ranges from steep moderate and rolling topography. Some parcels of this MA are visible from major travel corridors. Timber productivity is moderate to high. <i>Goals:</i> To maintain or enhance winter-range for big-game species while producing a programmed yield of timber and maintaining the viewing resource in areas of high visual significance.</p>
X	X		<p>MA 12: Big Game Summer Range (Suitable - Forest Plan Vol. 1, pp. III-48-53) <i>Description:</i> Land used by most species of big game during periods of late spring through late fall. Generally located at or above 4,000-foot elevation. <i>Goals:</i> Maintain or enhance non-winter big-game habitat & produce a programmed yield of timber.</p>
	X		<p>MA 13: Designated Old Growth Timber (Unsuitable – Forest Plan Vol. 1, pp. III-54-57) <i>Description:</i> Consists of scattered parcels of existing old growth or mature timber stands that contain components of old growth. <i>Goals:</i> Provide the special habitat necessary for old-growth dependent wildlife (usually other than big game) on a minimum of 10% of each major drainage on the Forest, and in units that represent the major habitat types and tree species of each drainage.</p>
X	X		<p>MA 14: Grizzly Habitat Management (Suitable – Forest Plan Vol. 1, pp. III-58-63) <i>Description:</i> Consists of identified Interagency Grizzly situations 1 and 2 that are in conjunction with suitable timber land. This MA occurs in the Cabinet-Yaak Grizzly Bear Ecosystem and in the Whitefish Range. <i>Goals:</i> Maintain or enhance grizzly bear habitat, reduce grizzly/human conflicts, assist in the recovery of the grizzly bear, realize a programmed level of timber production, and provide for the maintenance or enhancement of other wildlife, especially big game.</p>
X			<p>MA 15: Timber (Suitable – Forest Plan Vol. 1, pp. III-64-68) <i>Description:</i> Productive forestland at medium elevations from 3,000 to 4,500 feet with moderate topography, characterized by its ability to produce timber volumes suitable for harvest by conventional methods. Sites are medium to highly productive. <i>Goals:</i> Produce timber using various standard silvicultural practices while providing for other resource values such as soil, air, water, wildlife, recreation, and forage for domestic livestock.</p>
X		X	<p>MA 18: Regeneration problems (Unsuitable – Forest Plan Vol. 1, pp. III-79-82.) <i>Description:</i> Occurs on slopes in excess of 40% where timber productivity is moderate to high, and on certain specified habitat types. Distinguished by difficulty in establishing coniferous regeneration after timber harvest. Some parcels of this MA have been harvested in the past and are understocked. Heavy shrub cover is usually characteristic of a harvested area. Most wildlife species occur but it is not critical to their existence or population goals. Often provides good summer range for big game. <i>Goals:</i> Maintain existing vegetation until techniques and practices are available to insure that timber can be harvested and the area regenerated within 5 years of harvest. Maintain viable populations of existing native wildlife species. Reassign to an MA suitable for timber production when techniques are available to insure regeneration after timber harvest.</p>
X			<p>MA 19: Steep Lands (Unsuitable – Forest Plan Vol. 1, pp. III-83-86) <i>Description:</i> Occurs on steep slopes and breaklands over 60%. Timber productivity ranges from moderate to high. Many different species of wildlife may use this MA, but it is not known to be essential to any species. The soil is usually erodible or the land unstable due to the steepness. Existing roads cross this MA infrequently. <i>Goals:</i> Insure soil stability and water quality by maintaining the vegetation in a healthy condition and by minimizing surface disturbance. Reassign the productive timberlands to the suitable timber base when logging techniques are developed to insure that site conditions can be maintained. Maintain viable populations of existing native wildlife species.</p>

Miller West Fisher Project Proposals*			MANAGEMENT AREA (MA) DESCRIPTION
H	B	T	
X			<p>MA 24: Low Productivity Areas (Unsuitable – Forest Plan Vol. 1, pp. III-116-118) <i>Description:</i> Usually occurs in small parcels at mid to high elevations and has relatively little productive capacity for many of the surface resources on the Forest. The MA is moderate to steep, usually rocky with thin soils, and often occurs on glacially-scoured ridgetops, walls, or talus slopes. <i>Goals:</i> Manage for site protection, primarily, and for any wildlife resources that may be inherent.</p>
	X		<p>MA 18og, MA 2og (Unsuitable): These designations are where old growth is designated within a non-timber base management area (MA's 2 and 18 in this project area).</p>

PROJECT SCOPE

Section 40 CFR 1508.25 of the NEPA implementing regulations provides guidance in determining the proper scope of an EIS.

Geographic Scope

The Libby Ranger District is preparing this EIS to document the analysis and disclose the environmental effects of a proposed project on NFS lands in the Miller West Fisher project area.

Temporal Scope

The action alternatives would result in timber sales that would be planned for bid in 2009. These activities would likely be completed by 2012, with slash disposal and reforestation activities completed by 2015. Construction and storage of specified roads would occur within the timeframes identified for the timber sale. Typically, BMP work on haul roads would be accomplished prior to haul of timber products. Pre-commercial thinning activities will likely be accomplished by 2016. Prescribed burning activities, road decommissioning and storage activities, and trail construction are also likely to be completed by 2016. These dates are tentative, based upon anticipated budgets, work force, weather, the timber market, and other considerations. Actual dates and timing of implementation and accomplishment could vary.

Administrative Scope

Alternatives to the proposed action were developed. The No Action Alternative is also analyzed, and reflects the current status and administrative activities within the project area.

The Proposed Action includes those activities necessary to fulfill the identified purpose and need, as well as all connected actions as described in Chapter 2. Actions necessary to meet the purpose and need include vegetation treatments including timber harvest, precommercial thinning, and prescribed burning; road decommissioning and storage; access management changes; trail reconstruction and improvement; treatment of fuels in a campground; and watershed rehabilitation measures. Connected actions include specified road construction, road work on existing roads, slash burning, best management practices (BMP's), and design features and mitigation measures described in Chapter 2.

Three types of effects are considered in the analysis, pursuant to 40 CFR 1508.7 and 40 CFR 1508.8: direct, indirect, and cumulative effects. These effects are disclosed in Chapter 3.

DECISIONS TO BE MADE:

1. Whether to implement vegetation management activities (silvicultural prescriptions, logging methods, slash treatment, reforestation, prescribed fire), including mitigation measures and design features to protect resources and, if so, the site-specific location of these activities and practices.
2. Whether to construct new road to access proposed timber harvest units.
3. Whether to implement precommercial thinning activities and, if so, the selection and site-specific location of these activities.
4. Whether to implement prescribed fire without associated timber harvest, and if so, the site-specific location and type of burn (stand replacing, understory) to be implemented.
5. Whether to restrict motorized access on roads and trails to meet resource objectives and, if so, where and to what extent.
6. Whether to implement road storage or decommissioning activities to improve watershed condition and, if so, where.
7. Whether to construct or reconstruct portions of the trail system and if so where and to what extent.
8. Whether to implement fuels treatments and hazard tree removal in the Lake Creek campground.
9. What, if any, specific project monitoring requirements are needed to assure mitigation measures and design features are implemented and effective, or to evaluate success of project objectives.
10. Whether to amend the Forest Plan, site specifically, to suspend the requirement to retain all cavity habitat in MA 10 (Big Game Winter Range) in the analysis area and, if so, where and to what extent.
11. Whether to amend the Forest Plan, site specifically, to exceed ORD in big game summer range (MA 12) in the project area, and if so, where and to what extent.
12. Whether to issue a special use authorization for motorized access across National Forest System lands to the privately-owned Irish Boy Mine, and if so, under what terms and conditions.

CHAPTER 2: ALTERNATIVES, INCLUDING THE PROPOSED ACTION

Introduction

This chapter describes the alternative development process, including how public comments helped formulate the alternatives; the alternatives considered but eliminated from detailed study; and the alternatives considered in detail. Four action alternatives are carried forward and analyzed in detail in Chapter 3, along with the no action alternative. Tables 2-21 and 2-22 at the end of this chapter display a comparison of the purpose and need and major issues by alternative.

Alternatives Development Process

PUBLIC INVOLVEMENT

Proposed Action Development

Public involvement was initiated for this project on December 21, 2005, with the scoping letter, which was mailed to 30 entities. A display ad soliciting information and comments on the project was published in the *Libby Western News* and a legal ad published in the *Kalispell Daily Inter Lake* on December 21, 2005. A notice of intent to prepare and environmental impact statement (NOI) was also filed in the Federal Register on January 12, 2006. The district received 14 written responses. Several phone calls were fielded for clarification of the proposal. Some comments were recorded during in-person meetings. One meeting was held with the Kootenai Ridge Riders Club leadership to clarify the proposal and provide maps. All comments are located in the project file at the district and have been considered in the NEPA process. Public comments varied and included recommendations to:

- Drop or modify specific harvest units (208, 210A and B, 214, 215) and burns (B16) in the Silver Butte drainage. The commenter felt there was no need to treat these harvest units at this time, and that the burn would negatively impact important elk habitat. Stage burns over several years so as not to remove large areas of big game forage.
- Treat additional blow down areas within Inventoried Roadless Areas in Silver Butte.
- Improve existing non-motorized trails or open new non-motorized trails, specifically:
- Trail 293, Himes Waloven needs a stock bridge over Waloven Creek, and the stream needs to be relocated out of the Silver Butte stream channel.
- An old pack trail in Silver Butte, not currently in the FS trail network, should be reopened. Construct new trail to Barren Peak.
- Trail 298, Porcupine Creek, is unsafe for stock use. Widen trail tread and make switch backs safe for stock.
- Fix talus area of Trail 63, Divide Cutoff, which is hazardous to stock.
- Fix boggy areas of trail 178 and 63 to Bear Lakes.
- Reroute trail 506 Miller Ridge where it accesses the road. It is currently too steep for stock use.

- Improve area trailheads for trailer use and turn around. Post roads as “not recommended for trailers” when no turn arounds are available.
- Eliminate illegal ATV use currently found within the project area associated with closed roads and cultural resource sites.
- Not store the following roads: 99803, 99803A, 99813 near King Mine, Rds. 5206 and 148A in lower Silver Butte, Rd. 8753 in Porcupine Ck.
- Not gate specific roads, including Rd. 2300 to the King Mine, Rd. 5009, Rd. 4724A in South Fork Miller.
- Reopen road 6745 in Standard Creek to permitted use trips for ATV.
- Leave motorized access in place on Rd. 5323 and 5323A to the Gloria Mine. Create an ATV-only route where full-sized motorized vehicles are not permitted.
- Correct water routing and erosion on all National Forest System roads.
- Protect water quality, especially regarding Fisher River WQLS.
- Protect/maintain threatened, endangered, and sensitive (TES) wildlife species viability.
- Improve/maintain wildlife habitat including cavity habitat.
- Protect/maintain old growth.
- Discontinue fire suppression activities.
- Issue a special use authorization for access to private property.

ISSUE IDENTIFICATION

The scoping comments were reviewed by the ID Team and Decision Maker and categorized. Some concerns were determined to be outside the scope of this project or are addressed in the Forest Planning process. Other issues are addressed through mitigation and design features described in this chapter, or by displaying the effects of the no action vs. the action alternatives.

Issues representing an unresolved conflict with the Proposed Action have been brought forward as "Major Issues" and were used to help formulate alternatives to the Proposed Action. Documentation of the issue identification process is contained in the project file.

Key Issues

Internal and external comments revealed issues representing unresolved conflict with the Proposed Action (Alternative 2). The following issues were used to develop alternatives to the Proposed Action.

- Various unit-specific comments were taken, including concern that some units did not need treatment and/or would be detrimental to big game security (Units 132, 133, 208, 210A and B, 214, 215). These comments were from individuals living near those units in the Silver Butte drainage. These units were dropped from Alternatives 4, 6, and 7.
- Maintain big game security in the project area through minimizing or eliminating new road construction, maintaining hiding cover, reducing amount of logging in Miller Creek.
- Additional non-motorized trail improvements were recommended, including addressing the scree crossing (hazardous to stock) on Trail 63 on the Bear/Baree Loop, reconstructing the bridge over Waloven Creek on Trail 293 so that it would be stock-

accessible, and widening and improving the tread on Trail 298 in Porcupine Creek. Additional non-motorized trail construction was requested on historic pack trails in the Silver Butte drainage.

- Specific changes on roads to be decommissioned or stored were made, including requests to not store 99803, 99803A, 99813, 5206, 148A, 8753. Maintenance of motorized vehicle use, especially off-highway vehicles (OHV), was recommended. Emphasis was made on maintaining motorized access on roads accessing the Gloria Mine Rd. 5323. Also requested to be left open were roads 2300, 5009 and 4724A.
- Discontinue use of snowmobiles on Rd. 594 in Silver Butte due to snowmobile trespass from this road into wilderness.
- Stop OHV use in areas where it is not permitted. Specifically, obliteration of Rd. 6744, which is currently a yearlong closed road with frequent OHV trespass use.
- Proposed action for Lake Creek Campground does not consider facilities for camping with pack and saddle stock. Consider including corral construction to meet this need. Corral construction outside of Lake Creek Campground and not within the RHCA for Lake Creek is included in Alternatives 4, 6, and 7.
- Ensure that adequate space to turn around a trailer is left when closing roads and at all trailheads.
- Leave adequate trail tread for foot and livestock use when storing or decommissioning roads.
- Miller Creek has insufficient pools, which are important habitat components for fish. Add activities to increase number of pools.
- West Fisher Creek contributes sediment to the Fisher River, which is a water quality limited segment (WQLS) as identified in the State of Montana 303(d) list of impaired waters. Specific points in the creek undercut steep banks, which deposit sediment into the stream. West Fisher Creek is also a bull trout stream, and sediment in the stream reduces the survival of bull trout eggs and fry. Adding activities that reduce or eliminate this sediment input through stabilization of the stream bank using rock veins would improve the condition of West Fisher Creek and the Fisher River.
- Waloven Creek Trail 293 is at stream level and Silver Butte Fisher River runs into the trail at times. Relocate the trail outside the stream channel.
- The Teeters road system (Rd. 6743 and spurs) and some other areas in Miller Creek are now in grizzly bear core habitat and still contain undersized culverts. Storage or maintenance of these roads in core is not possible without creation of offsetting core habitat, which is difficult in BMU 6.
- The location of the Montanore Mine power line affects land management options in the Silverfish PSU. Develop an alternative that takes an alternate power line location into account.
- Storage of Standard Creek Rd. 6745 would bring BMU 6 up to standards for grizzly bear core habitat per USFWS and best available science. This measure should be part of the mitigation for the Montanore Mine and implemented as soon as possible.

In addition to the issues identified above, the District received a request from a private land owner to permit motorized access to the privately-owned Irish Boy Mine during the scoping period. The District Ranger decided to include permitting this motorized access in at least one of the alternatives analyzed in detail.

The issues above and other issues raised during project analysis and consultation with USFWS have been condensed into the following issue areas:

- Big game security: Issue Indicators include open road density (ORD) expressed as miles per square mile, miles of new and temporary road construction, cover/forage ratios, and security habitat during fall hunting season expressed as a percentage of the total project area during and post activity.
- Provide/maintain opportunities for OHV use: Issue indicator is miles of open road available for motorized use.
- Improving water quality in the Fisher River WQLS: Issue indicators include miles of road storage, miles of road decommissioned, number of stream crossings restored, miles of road BMP's implemented, pool creation in Miller Creek (included or not), stream bank stabilization in West Fisher Creek (included or not), and whether or not the Teeter road system (Rd. 6743 and spurs), which is currently in grizzly bear core habitat, is stabilized or not.
- Improve recreation opportunities: Issue indicators include removal of hazard trees and fuels reduction in Lake Creek Campground; construction of stock corrals in Lake Creek Campground; trail improvement; and number of trailheads improved to allow trailer turn around space.
- Grizzly bear recovery: Issue indicators include the post project amount of core habitat, OMRD, TMRD, % habitat effectiveness, and linear ORD.
- Economic feasibility of the timber sale: Issue indicators include sale feasibility; volume of timber harvested; and present net value.
- Aquatic habitat improvement: issue indicator include whether Standard Lake wetland restoration is included or not.

Other Issues

The issues discussed above have been addressed through the development and analysis of alternatives to the proposed action. Other concerns were not considered key issues because they were resolved through project design or mitigation measures and, therefore, were not used to develop alternatives analyzed in detail. Other issues include effects of the proposed action on biodiversity, cultural resources, threatened, endangered and sensitive species, and soils. Analysis of these issues is found in the applicable resource sections in Chapter 3 and in the project file. Criteria used to determine lack of significance include:

- Issue is beyond the scope of the proposed action.
- Issue already decided by law, regulation, Forest Plan, or other higher-level decision.
- Issue is not supported by scientific evidence.
- Issue has limited distribution, duration, and intensity.
- Issue can be addressed in the proposed action and other alternatives through design criteria or mitigation.

Errors in the Proposed Action

The roads identified in the Porcupine Creek drainage (8753, 8753B) as to be stored or decommissioned do not exist and were errors in the roads data base. This work has been dropped from the proposal.

RANGE OF ALTERNATIVES

Section 102(2)(e) of National Environmental Policy Act (NEPA) states that all Federal agencies shall "study, develop, and describe appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflict concerning alternative uses of available resources".

An Environmental Assessment must also "rigorously explore and objectively evaluate all reasonable alternatives" [40 CFR 1502.14(a)]. The courts have established that this direction does not mean that every conceivable alternative must be considered, but that selection and discussion of alternatives must permit a reasoned choice and foster informed decision making and informed public participation.

The range of alternatives may extend beyond the limits set by the Forest Plan goals and objectives under the NEPA; however, the National Forest Management Act (NFMA) requires that the selected alternative fully comply with the Forest Plan unless the plan is amended. The proposed action and some of the other alternatives propose timber harvest activities in MA 10, big game winter range. Timber harvest in this MA does not meet Forest Plan standards for retention of cavity habitat. Occupational Safety and Health Administration regulations require that many snags, or hazard trees, in logging units may need to be felled to ensure the safety of forest workers. Therefore, a site-specific Forest Plan amendment will be needed to implement the alternatives that propose harvest in MA 10.

In addition, the existing condition in the Silverfish PSU does not meet open road density (ORD) standards for MA 12. The Forest Plan requires ORD in MA 12 to not exceed 0.75 miles per square mile. Alternatives 2, 4, and 6 increase ORD in MA 12 over the existing condition during project, while returning ORD to the existing condition post-project. A site-specific Forest Plan amendment would also be needed to implement these alternatives. It should be noted that some roads not under Forest Service jurisdiction are open in MA 12 within the project area. It was not possible to meet Forest Plan standards for ORD in MA 12 by closing only roads within Forest Service jurisdiction within the project area.

The range of alternatives presented in this chapter was determined by evaluating public and internal comments and the Purpose and Need for the project. This project is intended to maintain the vigor and long-term productivity of forest stands; reduce hazardous fuels and restore natural fire regimes; provide forest products; reduce impacts of the road network on water quality and wildlife, while providing access for public and administrative use; maintain or improve watershed condition; maintain or improve grizzly bear and big game habitat, and improve recreational experience through trail reconstruction and hazard reduction in Lake Creek Campground. Other factors include Forest Plan goals, objectives, desired condition, standards and guidelines; federal laws, regulations, and policies, and timber sale feasibility. The alternatives developed by the ID Team and Decision Maker display a reasonable range of outputs, treatments, costs, management requirements, mitigation measures, and effects on resources.

In addition to the alternatives considered in detail, the ID team and Decision Maker examined a number of other alternatives during the analysis process. Although these alternatives contributed to the reasonable range, they were eliminated from further consideration for the reasons listed below.

ALTERNATIVES CONSIDERED BUT ELIMINATED FROM DETAILED STUDY

An alternative (Alternative 3) was developed that modified the proposed action to more closely resemble vegetation changes that would take place with a landscape-scale wildfire in the project area. Unit sizes were greatly increased to mimic fire, with ponderosa pine and western larch planned for retention and Douglas-fir understory targeted for removal. The concern with implementing this alternative is that wildlife movement corridors and snags/cavity habitat would be lost due to the large regeneration harvest unit size, and lack of retained overstory. Treatment was largely expanded in the Miller Creek drainage, which is limited to 1,200 acres of equivalent clearcut area (ECA) due to peak flow thresholds and existing stream channel instability in Miller Creek. Another concern was that this conceptual alternative contained eight regeneration harvest units that exceeded the maximum 40 acres as required by NFMA. These units, which ranged from 50 to 170 acres, were located within Miller Creek where concerns about stream stability, water quality, and big game security had been expressed by the IDT and the public. While large regeneration harvest may be considered beneficial in some areas, the IDT did not feel this action would be beneficial to big game and water quality at this time and location. This alternative was not analyzed in detail but some of the concepts were incorporated into other alternatives.

Alternative 5 was designed to meet all Forest Plan standards. MA 12 (big game summer range) Facilities Standard #3 states that roads open to public use will not exceed an average density of 0.75 mile/square mile in the contiguous MA. The existing for MA 12 ORD in the Silverfish PSU is 1.30 miles per square mile. The ID team explored options to bring MA 12 ORD down to 0.75 miles per square mile in the Silverfish PSU and determined that even if all NFS roads in MA 12 were closed, the standard would not be met. If it were possible to close roads under county jurisdiction in the PSU that pass through MA 12, it would be possible to meet this standard. Comments from county commissioners on this and other projects oppose such road closures. As a result, this alternative was not developed or studied in detail.

Create Additional OHV Opportunities: The District Ranger met with representatives of the Kootenai Ridge Runners ATV Club to discuss the Miller West Fisher project in January of 2006. These representatives stated that the project area was an important area for motorized recreation. They requested additional motorized opportunities in the project area, maintenance of existing open road opportunities, and creation of OHV only areas where they would not encounter full-sized trucks or jeeps, which create a hazard to OHV riders.

Because the project area is entirely within either a BMU in the grizzly bear recovery area, or within grizzly bear recurrent use areas (BORZ polygons), no additional opportunities to provide motorized recreation were available in the project area. Therefore, an alternative that expanded opportunities for motorized recreation was not analyzed in detail. However Alternatives 4, 6, and 7 retained most existing motorized recreation opportunities in response to this request.

ALTERNATIVES CONSIDERED IN DETAIL

ALTERNATIVE 1 - NO ACTION

The National Environmental Policy Act (NEPA) requires that an EA include a "no action" alternative to serve as a baseline to compare action alternatives. The no action alternative is based on the premise that ecosystems change, even in the absence of active management. It is

essentially a "status quo" strategy that allows current activities and policies, such as recreation administration, road maintenance, and fire suppression to continue. It proposes no actions that are contained in the action alternatives described below. This alternative provides a baseline for comparison of environmental consequences of the other alternatives to the existing condition (36 CFR 1502.14) and is a management option that could be selected by the Responsible Official.

The no action alternative and the effects analysis are based on the following assumptions:

- Encroachment of Douglas-fir would continue in the dry ponderosa pine habitat types.
- Shrub and grass species in the natural openings would continue to decline in value as browse for big game.
- Natural regeneration of seral species such as ponderosa pine and western larch would be minimal.
- Forested stands of Douglas-fir and ponderosa pine would remain at stocking levels higher than historic conditions. The risk of insect and disease activity would, therefore, remain high or increase. Wildfire potential and intensity would also remain higher than historic conditions.
- Improperly installed or undersized culverts would continue to impede fish passage and have a higher likelihood for plugging and failing than properly-sized culverts.
- Sediment sources from roads would continue to impact water quality.
- Natural regeneration and growth of existing vegetation would continue to decrease existing stream peak flow levels.
- Precommercial thinning would not occur, allowing overstocked sapling-size stands to become stagnant and allowing shade-tolerant species to become more dominant.
- Lack of access management changes would not improve grizzly bear and elk security or big game habitat.

ALTERNATIVE 2 – PROPOSED ACTION

Alternative Design: The proposed action was designed to meet the purpose and need and address issues and concerns identified internally, by U. S. Fish and Wildlife Service (USFWS), and by the public. These issues included the following:

- Impacts to grizzly bear core habitat from the implementation of the Wayup/Fourth of July decision which permitted access to patented mining claims;
- Increases to open road density and total road density in grizzly bear habitat;
- Concerns for the Fisher River water quality limited segment (WQLS) which the project area is tributary to;
- Potential cumulative effects of this project with other projects in the Silverfish PSU or grizzly bear management units (BMU's) 6 and 7 such as Montanore, Wayup/Fourth of July, Plum Creek activities, private land subdivision, and the Rock Creek Mine;
- Impacts to bull trout in West Fisher Creek;
- Treatment units were placed in consideration of past and expected fire activity while retaining areas for wildlife movement corridors and thermal cover areas;
- Regeneration harvest units should be no larger than 40 acres in size;
- Create areas of open canopy for huckleberry production for bear forage;

- Impacts to inventoried roadless areas (IRA's);
- Treat lodgepole pine stands in the Teeters Peak area.

The following treatments are specific to the proposed action (Alternative 2) and include vegetative treatments including: timber harvest; slash treatment; site preparation; prescribed burning; tree planting; precommercial thinning; access management changes (roads); construction of new roads; road storage and decommissioning activities; road reconstruction and implementation of best management practices (BMP's); improvement, construction and reconstruction of trail tread; and vegetation management in the Lake Creek Campground.

As mentioned, the project area falls into grizzly bear management units (BMU's) 6 and 7. Due to the need to maintain grizzly bear core habitat, winter logging is proposed in harvest units in core habitat in order to manage vegetation while bears are inactive (winter) and thus avoid impacts during the active bear year. Many of these units were also helicopter logging since roads currently closed to provide core habitat could not be opened during the active bear year to implement road reconstruction activities and meet BMP standards.

During the process of analyzing this project, fuel prices soared and helicopter logging became economically infeasible. Effects of this alternative displayed in the EIS include helicopter logging. This logging could be implemented if market conditions improve during the life of this project. However it should be noted that the helicopter units may never be implemented.

Vegetation Treatments Including Timber Harvest:

The timber harvest, precommercial thinning and prescribed fire proposed in this alternative are designed to meet the purpose and need. A total of approximately 6,048 acres of vegetation treatment are proposed using a variety of methods.

Timber harvest will meet one or more of the following objectives for vegetation management (see Table 2-1 for a detailed description of treatments, objectives, and harvest methods by unit).

- Reduce tree densities not consistent with reference conditions which reduces the risk of crown fire;
- Restore and maintain fire-adapted vegetation such as ponderosa pine and western larch;
- Replace stands with moderate to high levels of insect- or disease-caused mortality with emphasis on restoration of western larch and ponderosa pine through commercial and precommercial thinning and other types of harvest and tree planting;
- Contribute timber products to the local and regional economy.

Various harvest methods are prescribed depending on individual stand conditions. These include improvement cuts that reduce stand density, shelterwood, seed tree with reserves, and clearcut with reserves harvests.

Intermediate Stand Treatments are being proposed to modify existing forest conditions in order to enhance growth, quality, vigor, and composition of a forest stand and, in some cases, to reduce natural fuels. This treatment generally occurs prior to stand maturity and is not intended to promote regeneration of the stand. The following descriptions are examples of intermediate treatments proposed with this project. These treatments are designed to leave a stand that is sufficiently stocked to follow a desired development pattern until other treatments are considered appropriate.

Stand improvement cutting (about 21% of total treatment acres) is being prescribed to improve the composition and quality of specific forested areas by reducing the density of the trees to an average basal area of 50-90 square feet per acre and promoting a more open stand structure, similar to reference conditions for these stands (see the Forest Vegetation section in Chapter 3 for more information). To accomplish these objectives, this treatment would focus on removing excess and/or poor-quality trees, mid-tolerant or intolerant tree species such as Douglas-fir and grand fir, and smaller diameter trees that are less tolerant of fire. The results are intended to produce a more resilient stand condition with a greater representation of fire-tolerant tree species and reduced ladder fuels. This situation retains approximately 50-70% of the existing canopy cover and would have the added benefit of maintaining trees with functional snow intercept values in winter range, creating small canopy gaps for browse, and retaining forest conditions that support continuing options for future management. Although open areas requiring regeneration of trees is not a specific objective of this harvest type, up to 15% of these harvest units may be in a seed tree or shelterwood condition after implementation due to current stand conditions.

Regeneration Harvest is intended to replace a forest stand when modification treatments (i.e.: intermediate harvest) are not feasible due to poor quality trees for retention or incorrect overstory species that would not meet management objectives. In this project area, regeneration is proposed in some stands to promote regeneration of seral, fire-tolerant species. Specifically, regeneration harvest is needed to restore western larch and ponderosa pine. Within proposed harvest units there would be both live and dead trees that are designated for reserve. The number of trees left and the associated stand structure is described by the varying regeneration harvest methods proposed. A description of these methods follows.

Seed Tree with Reserves (approximately 10% of total treatment acres) initiates the establishment of a new stand beneath the partial shade of a reserved overstory. An average of 8-10 trees per acre are being left for their seed-producing qualities, and structural attributes that are a part of the desired target stand or landscape. In this project, approximately 15% of the existing canopy cover would be designated to leave in a mix of large diameter ponderosa pine, western larch and Douglas-fir. These reserve trees would be left singly and/or in small groups. Western larch, ponderosa pine, and/or western white pine will be planted to restore these species.

Shelterwood Seed cut with Reserves (approximately 1% of total treatment acres) has a similar purpose as a seed tree cut except that an average of 15-25 overstory trees per acre would be left to shelter the developing stand from the elements, and provide large tree structural attributes. Two units are proposed for this treatment. Western larch and ponderosa pine will be planted in the understory.

Clearcut with Reserves (approximately 4% of total treatment acres) also initiates establishment of a new stand. Fewer than 15 trees per acre would remain on site post treatment and their function would be as snags, cavity habitat, or replacement snags. Clearcuts are typically planted by hand, or may be reseeded by adjacent mature stands if desirable trees are present and the clearcut is small.

Prescribed Fire (approximately 53% of total treatment acres, or 3,175 acres) without associated timber harvest is intended to reduce ladder fuels and create growing space for more fire-resistant and larger-diameter trees. Prescribed fire may be preceded by slashing, which is

cutting of damaged or undesirable residual understory trees, if necessary, to reduce the chance for ladder fuels to carry fire to tree canopies and to assist in carrying fire throughout the treatment unit. Some burns will be conducted in the spring when conditions fall within prescribed parameters for weather and fuel moisture. Some burns are also prescribed for fall burning and are designed to be stand-replacing. These burns are proposed in inventoried roadless areas (IRA's), which cannot be logged without involvement of the Chief of the Forest Service in Washington. Logging in IRA's must also have a compelling reason to propose logging, such as insect and disease outbreak. The stand-replacing burns proposed would create openings, in an otherwise continuous mature tree canopy, that would provide foraging areas for bears and other wildlife species.

Harvest Systems: Approximately 27% (678 acres) of the proposed harvest units would be harvested utilizing ground-based systems (tractor yarding); 43% (1,079 acres) with a helicopter due to steep slopes or lack of access roads; and 29% (735 acres) with a skyline system due to steep slopes. Total logged acres would be 2,492. As mentioned previously, helicopter logging may or may not be implemented dependant on the market.

Slash Treatment, Site Preparation and Hazardous Fuel Reduction:

The following slash treatments and fuel reduction activities are prescribed in this project:

Excavator (Grapple) Piling (approximately 10% of total harvested acres): To facilitate fuel reduction while protecting remaining trees, woody debris would be gathered and piled mechanically using an excavator. Spot piling is prescribed in many treatment units, meaning that portions of these units with heavier concentrations of fuel would be piled, rather than the entire unit. Large woody debris would be retained on the site, to levels specified specific to each unit in the design features section of this chapter, to provide wildlife habitat and for soil nutrient recruitment. Piles are expected to be ignited in the late fall during periods of optimum smoke dispersal. The piles would be placed at least 25 feet away from the unit boundaries, leave trees, or leave islands to protect them from possible ignition. In narrow work areas, piles would be located as far from leave trees/islands as possible.

Prescribed Burning (approximately 65% of total harvested acres): Burning of natural and activity fuel includes broadcast burning, underburning, and burning of excavator-piled material. Wildlife forage improvement and ecosystem maintenance burning is also prescribed. Specific prescribed fire treatments will be dependant on the amount of down woody material remaining after harvest and/or slashing is complete. Burning will only be completed when conditions described in the site-specific prescription and burn plan are met.

Reforestation:

Where regeneration harvest is proposed, planting would supplement the natural regeneration anticipated and restore tree species that are presently not sustainable due to inadequate seed source in the residual or adjacent stands. Planted conifer seedlings would assure timely reforestation and contribute towards long-term desired habitat conditions. Tree species to be planted include ponderosa pine, western larch and western white pine. These species have all declined in total area and stand dominance due to advancing succession and lack of natural fire. Approximately 1,107 acres will be planted to ensure reforestation of the desired species.

Pre-Commercial Thinning:

The proposed action includes approximately 351 acres of thinning in overstocked, sapling-size trees that have been initiated in the past 15 to 25 years. This treatment is intended to reduce tree density and improve the growing conditions of the remaining trees by reducing competition for light and nutrients. These treatments respond to the need to maintain the vigor and long-term productivity of forest stands. Thinning would also address ecosystem restoration objectives of restoring shade-intolerant species, restoring stand density to conditions consistent with historic disturbance regimes, favoring species that are most resistant to insect and disease infestation for specific site conditions, and generally improve stand health. Please refer to the alternative maps in the Appendix for locations.

**Table 2-1
Proposed Action Vegetation and Fuel Treatments with Associated Timber Harvest**

Unit	Acres	Vegetation Treatment	Logging System	Winter Logging	MA
Miller Creek					
1	37	CC/R/UB/PLT	H		15
2	38	ST/UB/PLT	T/H		15
3	17	CC/ST/UB/PLT	S		15
4	10	ST/CC/UB/PLT	S		15
5	36	CC/R/UB/PLT	S/T		15
6	16	UB	NA		15
7	18	ST/CC/UB/PLT	H	X	19
8A	38	ST/UB/PLT	H	X	15
8B	40	CC/R/UB/PLT	H	X	19
10	39	ST/UB/PLT	H	X	15
11	23	CC/R/UB/PLT	S	X	15
12	40	CC/ST/SW/UB/PLT	S	X	15
13	17	ST/UB/PLT	H	X	15
15	34	IMP	S		12, 15
16	34	ST/CC/UB/PLT	H	X	12, 15
17	20	ST/CC/UB/PLT	H/T	X	15
18	37	IMP/ST/UB	S	X	12, 15
19	14	IMP	T		12
20	8	CC/ST/GP/PLT	T		12
21	53	IMP	S/H	X	12
22	15	IMP/ST/UB	H	X	12
23	7	IMP/UB	H	X	12
24	22	CC/R/UB/PLT	H	X	12
25	87	IMP	S/H	X	12
26	114	IMP	S/H	X	12
27	7	CC/R/PLT	H	X	12
28	17	IMP/UB	H	X	12
29	11	IMP/UB	H	X	12
30	7	CC/R/UB	H	X	12
31	38	IMP/UB	H	X	12
32	31	ST/UB/PLT	H	X	12
33	13	IMP/UB	H	X	12, 18
34	18	ST/UB/PLT	H	X	12
36	5	ST/UB/PLT	S		12
37	9	IMP/UB	T/S		12
38	12	ST/UB/PLT	H	X	18
39	39	ST/UB/PLT	S		11
40	2	IMP	T		11
43	17	IMP/UB	H		11
44	15	ST/UB/PLT	H	X	11
45	19	IMP/UB	H	X	11
46	22	IMP/UB	H/S	X	11
47	37	IMP/UB	T/H	X	11
48	19	ST/GP/PLT	T/H	X	11
49	20	ST/CC/UB/PLT	S		11
50	17	IMP/ST/GP	T		11
51	12	CC/ST/UB/PLT	H	X	11
52	18	CC/ST/UB/PLT	S		11
53	20	IMP/UB	T		11
54	18	ST/IMP/GP	T		11
55	2	ST/GP	T		11
56	126	IMP/UB	S/H	X	11

Unit	Acres	Vegetation Treatment	Logging System	Winter Logging	MA
57	16	IMP/UB	H	X	18, 11
58	39	CC/ST/UB/PLT	H	X	12
West Fisher					
101	27	IMP	T/H	X	11, 24
102	16	IMP	H	X	24
103	13	IMP/SW/UB/PLT	H	X	10
104	9	IMP/UB	H	X	10
105	11	IMP/UB	H	X	10, 11
106	12	SW/UB/PLT	H	X	10, 11
107	14	IMP/UB	H		11
108	8	ST/UB/PLT	H		11
109	27	IMP/UB	H	X	10
110	30	IMP/SW/UB/PLT	H	X	11
111	40	SW/UB/PLT	H	X	11, 12
112	33	IMP/UB	H	X	12, 18
113	61	IMP/UB	H	X	11, 12
114A	25	ST/GP/PLT	T	X	11
114B	8	ST/GP/PLT	T		11
115	20	SW/UB/PLT	H	X	12, 11
116	17	ST/UB/PLT	S		11, 12
117	27	ST/UB/PLT	S		12
118A	35	ST/GP/PLT	T/S		11
118B	22	ST/GP/PLT	T		11, 12
119	19	IMP	T		12
120	30	IMP	S/T		12
121	85	IMP	T/H		12
122	28	IMP	T		12
123	58	IMP	T/S		12, 14
124	41	IMP	T		14
125	27	CC/R/GP/PLT	T		14, 12
127	33	IMP	H	X	14
128	11	IMP	S		12
129	36	ST/UB/PLT	T		14
130	27	ST/UB/PLT	T		14
131	12	ST/UB/PLT	T		14
132	26	ST/GP/PLT	T	X	14
133	23	ST/GP/PLT	T	X	14
Silver Butte					
201	15	CC/R/UB/PLT	T		11
202	3	CC/R/UB/PLT	T		11
203	13	ST/UB/PLT	H		11
208	57	IMP/UB	H		11
210A	8	IMP	T		11
210B	10	IMP	T		11
214	27	ST/GP/PLT	T		11
215	24	IMP/UB	T		11
TOTAL	2,508				

Note: Total acreage of Alternative 2 of 2,508 acres includes Unit 6, a 16 acre underburn. Total commercial harvest acres for this alternative = 2,492.

Key:

IMP = Improvement Cut
 SW = Shelterwood
 GP = Grapple pile

UB = Underburning
 YT = Yard Tops
 CC = Clearcut

PLT = plant
 ST = Seed Tree
 H = Helicopter Yarding

R = Reserves

S = Skyline

Prescribed Fire: Proposed burning in Alternative 2 is designed with multiple objectives in mind. One objective is to create fuel breaks along ridges in the project area. This item falls into the purpose and need to reduce hazardous fuels and restore natural fire regimes. Other burns are designed to improve forage for big game, and some are designed to create shrub fields to provide berry crops for bears. These burns are described in detail in the table below.

Table 2-2 – Proposed Action Prescribed Fire without Associated Timber Harvest

BURN UNIT	IGNITION ACRES	PRESCRIBED BURN INTENSITY	BURN SEASON	MA
B1	130	Stand Replacing	Fall	2
B2	114	Stand Replacing	Fall	2
B3	47	Mixed Severity	Fall	2
B4	48	Underburn	Fall	2
B5	83	Underburn	Fall	2
B6	89	Stand Replacing	Fall	2
B7	248	Stand Replacing	Fall	2
B8	214	Underburn	Spring or Fall	13, 14, 18
B9	187	Underburn	Spring or Fall	18, 12, 14
B10	88	Underburn	Fall	18, 12
B11	146	Mixed Severity	Fall	18, 14, 12, 13
B12	351	Underburn	Fall	2, 18, 18OG, 13
B13	109	Underburn	Fall	2, 2OG
B14	280	Mixed Severity	Fall	2, 11
B15	109	Underburn	Fall	2, 11
B16	112	Mixed Severity	Fall	2
B17	128	Mixed Severity	Fall	2
B18	78	Underburn	Fall	2
B19	441	Underburn	Fall	2
B20	173	Underburn	Fall	2
TOTAL	3,175			

Road System Management – New Road Construction, Access Management, Road Reconstruction and BMP Implementation:

Temporary Road Construction: Approximately 1.2 miles of temporary road construction is proposed to access harvest units 129, 130 and 131. This road would be decommissioned after timber harvest is completed.

Snow Road Construction: Approximately 0.52 miles of snow road would be constructed to access Units 132 and 133. Snow road was proposed to avoid increasing open road density within MA 14, timber grizzly bear. Snow roads are constructed during winter by using snow with a small amount of dirt on the surface to construct the prism. This road freezes hard after construction and minimizes disturbance. The dirt on the surface of the prism helps keep the road frozen.

Road Reconstruction and BMP Implementation: This alternative would complete road repair and BMP implementation on 42.72 miles of haul route. Implementation of BMP's includes items such as improving road surface drainage, ensuring road surfaces do not drain directly into streams and contribute sediment, correcting stream crossings to allow aquatic organisms to pass through, and ensuring culverts are large enough to withstand a 100 year flow. Haul routes are those roads that access harvest units on the alternative maps at the back of this document.

Access Changes: Access changes would occur on approximately 8.72 miles of road. Please see Table 2-4 below for details.

Road Storage/Decommissioning: Approximately 11.36 miles of road would be stored in order to maintain a safe and efficient transportation system, improve watershed conditions and enhance wildlife security. Storing and decommissioning roads that are not needed in the short or long term allows the agency to focus limited road maintenance funds on those roads that are more important for land management and public access. All but 0.54 miles of these roads are already restricted to public motorized access or impassible due to vegetation and none of these roads are maintained adequately for passenger vehicle access currently.

Roads that are not needed in the short term (at least 10 years), but would likely be needed at some time in the future would be put into storage. Treatment activities may include surface ripping, seeding, and/or cross ditching and may include some sections of partial road recontouring as needed on a site-specific basis. Road storage would include culvert removals on live stream crossings. Roads would be undrivable following these treatments. Trails would be left in the road prism to allow foot access. However, these trails would not become system trails and would not be maintained.

Decommissioned roads are not needed as part of the transportation system in the future. Please see Table 2-3 below for details and the maps in the appendix for road locations. During field reconnaissance of the project, two roads proposed for decommissioning in the scoping letter were found to be non-existent, and have been dropped from this alternative and the table below. These are Rd.s 8753 and 8753B in Porcupine Creek, a tributary of Silver Butte Fisher River. Additionally, it was determined that Rd. 5206 off of Silver Butte had already been decommissioned. This road is also dropped from the tables below as compared to what was originally scoped. These roads had been proposed for storage to improve watershed condition in the Fisher River water quality limited segment (WQLS).

Table 2-3
Alternative 2 Road Storage and Decommissioning
 S = storage D = decommissioning

ROAD #	ROAD NAME, LOCATION	EXISTING STATUS	LENGTH (MILES)	PROPOSED ACTION	BENEFITING RESOURCE, REASON
148A	Silver Butte Pass A	Restricted yearlong to motor vehicles, open to snow vehicles December 1 through April 30	0.31	Store – partial recontour, remove stream crossings (2)	Improve watershed condition in Fisher River WQLS
2314M	Porcupine Ridge M	Restricted yearlong to motor vehicles, including snow vehicles	0.68	Store – water bar	Improve watershed condition in Fisher River WQLS
5009	Viking Mine	OPEN	0.54	Store – water bar, partial recontour	Improve watershed condition in Fisher River WQLS
5326	Standard Ck. Miller Ck. Oldie	Restricted yearlong to motor vehicles, including snow vehicles	1.07	Store – partial recontour, remove stream crossings (2)	Improve watershed condition in Fisher River WQLS
6744	Standard Ck. West Fisher	Restricted yearlong to motor vehicles, including snow vehicles	1.43	Store – water bar, remove stream crossings (2)	Improve watershed condition in Fisher River WQLS; discourage existing OHV trespass

ROAD #	ROAD NAME, LOCATION	EXISTING STATUS	LENGTH (MILES)	PROPOSED ACTION	BENEFITING RESOURCE, REASON
6745	Standard Creek	Restricted yearlong to motor vehicles, including snow vehicles	4.22	Stabilize, convert to trail	Increase core habitat for grizzly bear, mitigate for Wayup/Fourth of July project
99816	Iron Meadow Ck.	Restricted yearlong to motor vehicles, open to snow vehicles December 1 through April 30	1.03	Store – water bar, partial recontour	Improve watershed condition in Fisher River WQLS
99816A	Iron Meadow Ck. A	Restricted yearlong to motor vehicles, open to snow vehicles December 1 through April 30	0.24	Store – water bar, partial recontour, remove stream crossing (1)	Improve watershed condition in Fisher River WQLS
99803	King Mine	No closure order - impassible	1.21	Store –partial recontour, remove stream crossings (4)	Improve watershed condition in Fisher River WQLS (watershed); reduces ORD in MA 12 (wildlife)
99803A	King Mine	No closure order - impassible	0.36	Store – partial recontour, remove stream crossings (1)	Improve watershed condition in Fisher River WQLS (watershed); reduces ORD in MA 12 (wildlife)
99813	King Mine	No closure order - impassible	0.27	Store – place earthen barrier	Improve watershed condition in Fisher River WQLS (watershed); reduces ORD in MA 12 (wildlife)
Total			11.36		

Table 2-4 - Alternative 2 Access Changes

ROAD #	ROAD NAME, LOCATION	EXISTING STATUS	LENGTH (MILES)	PROPOSED ACTION	BENEFITING RESOURCE, REASON
2300	King Mine	OPEN	1.54	Restricted yearlong to motor vehicles, including snow vehicles	Reduce MA 12 ORD (wildlife)
4724A	S Fork Miller Ck. A spur	OPEN	0.62	Restricted yearlong to motor vehicles, including snow vehicles	Reduce ORD (wildlife), road damaged by yearlong access (watershed)
5323	Gloria Mine	OPEN	1.46	Restricted yearlong to motor vehicles, including snow vehicles	Reduce open road densities (wildlife)
5323A	Gloria Mine	OPEN	0.17	Restricted yearlong to motor vehicles, including snow vehicles	Reduce open road densities (wildlife)
6754C	Owl Peak C spur	OPEN	1.30	Restricted yearlong to motor vehicles, including snow vehicles	Extremely poor drainage; road damaged by yearlong access (watershed); OHV trespass off end of road

ROAD #	ROAD NAME, LOCATION	EXISTING STATUS	LENGTH (MILES)	PROPOSED ACTION	BENEFITING RESOURCE, REASON
99803	King Mine	No closure order - impassible	1.21	Store	Improve watershed condition in Fisher River WQLS (watershed); reduces ORD in MA 12 (wildlife)
99803A	King Mine	No closure order - impassible	0.36	Store	Improve watershed condition in Fisher River WQLS (watershed); reduces ORD in MA 12 (wildlife)
99813	King Mine	No closure order - impassible	0.27	Store	Improve watershed condition in Fisher River WQLS (watershed); reduces ORD in MA 12 (wildlife)
5009	Viking Mine	OPEN	0.54	Store	Eliminate ford stream crossing (watershed), protect historic resources, reduce ORD in MA 12, 14 (wildlife)
		TOTAL	7.47		

Improvement/Reconstruction of Trail Tread: Tread improvement, construction or reconstruction is proposed for the trail segments listed in Table 2-5 below. These activities are designed to enhance trail recreation by clearing debris along trails and widening trail tread to increase safety. Total trail work proposed is 5.5 miles.

Table 2-5 – Miller West Fisher Trail Work

TRAIL NAME, NUMBER	PROPOSED ACTIVITY	TRAIL SEGMENT LENGTH
North Fork Miller #505	Reopen trail from closed Rd. 4725 to open Rd. 385	1.0
Silver Butte Creek #296	Improve tread condition	1.0
Cabinet Divide East #360E	Construct tread near Canyon Peak	0.5
Cabinet Divide East #360E	Improve tread condition above Waloven Creek	1.0
Waloven Creek #293	Improve horse ford and install foot log bridge south of Silver Butte ranch	0.0
Miller Ridge #506	Improve tread condition through Plum Creek Timber Company lands, T27N R30W Section 23	1.0
Libby Divide #716	Improve tread condition above North Fork of Miller Creek	1.0
	TOTAL	5.5

Forest Plan Amendments: Alternative 2 would include a project specific amendment for exceeding Forest Plan standards for retention of cavity habitat in MA 10, big game winter range. Wildlife and Fish standard #3 for MA 10 states that existing cavity habitat will be retained. Even though the harvest activity is designed to benefit wildlife habitat in the long-term, some cavity habitat, or snags, may be felled during logging activity to reduce hazards to forest workers. Therefore, a site-specific Forest Plan amendment is necessary.

Alternative 2 would also require a project specific amendment for exceeding Forest Plan standards for ORD in MA 12. ORD for MA 12 for this alternative would be 1.80 miles/square mile during project, while the Forest Plan standard is 0.75 miles/square mile. Open road density would return to the existing condition of 1.30 miles/square mile post project. Please

see the wildlife section of Chapter 3 for more information on changes to open road density by alternative.

Additional Recreation Activities: Fuels reduction and hazard tree removal in the Lake Creek Campground is proposed to increase the safety of visitors staying in the campground. This would involve thinning of understory trees, removal of trees with rot or other defect that might cause them to fall in camping or activity areas in the campground, and burning of hand-piled debris.

**Table 2-6
Features of Alternative 2**

Timber Harvest Treatments	Acres
Intermediate Harvest	
Stand Improvement	1,258
Stand Improvement/Shelterwood	43
Stand Improvement/Seed Tree	87
Regeneration Harvest	
Seed Tree with Reserves	579
Clearcut with Reserves	217
Shelterwood	72
Seed Tree/Clearcut	196
Clearcut/Seed Tree/Shelterwood	40
Total Harvest	2,492
Slash Treatment	
	Acres
Grapple Pile/Burn Piles	257
Underburn with timber harvest	1,619
Prescribed Fire with Timber Harvest*	1,619
Prescribed Fire without Timber Harvest	3,175
Prescribed Fire – All types*	4,794
Road Construction/Reconstruction	
	Miles
Temporary Road Construction	1.2
Road Reconstruction and BMP's	42.72
Access Changes for Wildlife Habitat Improvement	
Yearlong Open to Yearlong Restricted (miles)	7.47
Yearlong Open to Seasonally Restricted (miles)	0
Seasonally Restricted to Yearlong Open	0
Trails Open to Motorized Use to Yearlong Restricted (miles)	0
Yearlong Restricted Open to Snow Vehicles going to Yearlong Restricted Closed to Snow Vehicles (miles)	0
Watershed Rehabilitation	
	Miles
Miles of road decommissioning	0
Miles of road put in to long-term storage	11.36
Number of stream crossings restored	12
Pool Creation and Stream Bank Stabilization	No
Planting	
	Acres
Conifer Planting	1,107
Other Activities	
Precommercial Thinning (acres)	351
Trail Reconstruction (miles)	5.5
Trail Head Parking Improved (number)	0
Fuels reduction and hazard tree removal in Lake Creek Campground	Yes
Creation of stock corrals outside Lake Creek Campground	No
Private access to Irish Boy property	No
Spring development in North Fork Miller	No

* Excludes grapple pile acres.

ALTERNATIVE 4

Alternative Design: This alternative was designed to address many of the issues raised by the proposed action (Alternative 2). These issues are listed under the issue identification section of this chapter on page 2-2. This alternative is more economically feasible through reduction of helicopter logging, reduces the amount of harvest in Miller Creek due to concerns for watershed health and elk security, eliminates snowmobile use on gated Rd. 594 in Silver Butte due to trespass into designated Wilderness, and addresses the desire to retain OHV use in areas where possible.

Vegetation Treatments Including Timber Harvest:

Table 2-7
Alternative 4 Vegetation and Fuel Treatments

Unit	Acres	Vegetation Treatment	Logging System	Winter Logging	MA
Miller Creek					
2	25	ST/GP/PLT	T		15
3	25	CC/ST/UB/PLT	S		15
4	13	ST/CC/UB/PLT	S		15
8A	38	ST/UB/PLT	H	X	15
10	39	SW/UB/PLT	H	X	15
11	20	CC/R/UB/PLT	S		15
12	40	ST/R/UB/PLT	S		
15	34	IMP	S		12, 15
20	8	CC/ST/GP/PLT	T		12
21	75	IMP	T/S/H		12
25	65	IMP	S		12
26	49	IMP	S	X	12
26A	15	IMP	S		
32	40	ST/UB/PLT	H	X	12
37	9	IMP/UB	T		12
38	17	IMP	S		18
39	39	ST/UB/PLT	S		11
48	16	IMP	T		11
49	21	ST/UB/PLT	S		11
52	15	CC/ST/UB/PLT	S		11
53	70	IMP/UB	T		11
61	17	ST/R/UB/PLT	S		
West Fisher					
113	76	IMP/UB	H	X	11, 12
114A	25	ST/GP/PLT	T	X	11
114B	8	ST/GP/PLT	T		11
117	40	ST/UB/PLT	S		12
118A	35	ST/UB/PLT	T/S		11
118B	18	ST/GP/PLT	T		11, 12
119	58	IMP	T		12
120	54	IMP	S/T		12
121	80	IMP	T/H		12
122	59	IMP	T		12
123	89	IMP	T/S		12, 14
124	57	IMP	T		14
125	27	CC/R/GP/PLT	T		14, 12
128	27	IMP	S		12
Silver Butte					
201	15	CC/R/UB/PLT	T		11

Unit	Acres	Vegetation Treatment	Logging System	Winter Logging	MA
202	6	CC/R/UB/PLT	T		11
TOTAL	1,364				

Key:

IMP – Improvement Cut UB = Underburning PLT = plant
 SW = Shelterwood YT = Yard Tops ST = Seed Tree
 GP = Grapple pile H = Helicopter Yarding S = Skyline
 T = Tractor Yarding

Precommercial Thinning: Proposed precommercial thinning for Alternative 4 is the same (351 acres) as in the proposed action. A detailed map is included in the map section of this document.

Prescribed Fire: Proposed burning in Alternative 4 was modified to respond to comments by the public during the scoping period. Comments were made to drop some burns and to space others out over time so as not to impact too much big game forage at any one time. Some of the larger stand-replacing fires proposed for berry field production were also dropped. Additional prescribed burns were added in areas dropped for timber harvest due to lack of feasibility and economic constraints of helicopter logging.

**Table 2-8
 Alternative 4 Prescribed Fire without Associated Timber Harvest**

BURN UNIT	IGNITION ACRES	PRESCRIBED BURN INTENSITY	BURN SEASON	MA
B6	89	Stand Replacing	Fall	2
B8 A, B	271	Underburn divided into 2 or 3 entries	Spring or Fall	13, 14, 18
B9	118	Underburn divided into 2 entries	Spring or Fall	18, 12, 14
B10	88	Underburn not concurrent with B9	Fall	18, 12
B11	132	Mixed Severity divided into 2 entries	Fall	18, 14, 12, 13
B12 A, B	294	Underburn	Fall	2, 18, 18OG, 13
B13	109	Underburn not concurrent with B12	Fall	2, 2OG
B14 A, B	280	Mixed Severity divided into 2 entries not concurrent with B12	Fall	2, 11
B15	109	Underburn	Fall	2, 11
B17	128	Mixed Severity	Fall	2
B19 A, B, C, D	440	Underburn in 3 to 4 entries	Fall	2
B20	160	Underburn in 2 entries	Fall	2
B21	59	Underburn	Spring, Fall	12
B22	59	Underburn	Spring, Fall	11
B23	480	Underburn after 2010	Spring, Fall	18, 11
B24	14	Underburn	Spring	15
TOTAL	2,830			

Road System Management – New Road Construction, Access Management, Road Reconstruction and BMP Implementation:

New Road Construction: No new specified road construction would be needed. Temporary roads would be required as described in the table below.

Table 2-9
Alternative 4 Temporary Road Construction

Unit	Temporary Road Segment	Miles of New Temporary Road
21	B	0.20
25, 61	C	0.19
26A	D	0.12
37	E	0.09
121	I	0.19
123	J	0.09
123	K	0.06
Total		0.94

Road Reconstruction and BMP Implementation: Alternative 4 would implement BMP's on 30.45 miles of haul routes.

Access Changes: Access changes in Alternative 4 reflect dropping road closures proposed on county jurisdiction in Alternative 2, and leaving roads open to allow OHV use and minerals activity while still meeting other resource objectives. In addition, Rd. 594 would be closed to snowmobile use due to reported snowmobile trespass into wilderness from this road. Please see the table below for more detail.

Table 2-10
Alternative 4 Access Changes

ROAD #	ROAD NAME, LOCATION	EXISTING STATUS	LENGTH (MILIES)	PROPOSED ACTION	BENEFITING RESOURCE, REASON
4724A	S Fork Miller Ck. A spur	OPEN	0.62	Restricted yearlong to motor vehicles, including snow vehicles	Reduce ORD (wildlife), road damaged by yearlong access (watershed)
6754C	Owl Peak C spur	OPEN	1.30	Restricted yearlong to motor vehicles, including snow vehicles	Extremely poor drainage; road damaged by yearlong access (watershed); OHV trespass off end of road
99803	King Mine	No Closure order, impassible	1.21	Store	Improve watershed condition in Fisher River WQLS (watershed); reduces ORD in MA 12 (wildlife)
99803A	King Mine	No Closure order, impassible	0.36	Store	Improve watershed condition in Fisher River WQLS (watershed); reduces ORD in MA 12 (wildlife)
99813	King Mine	No Closure order, impassible	0.27	Store	Improve watershed condition in Fisher River WQLS (watershed); reduces ORD in MA 12 (wildlife)

ROAD #	ROAD NAME, LOCATION	EXISTING STATUS	LENGTH (MILES)	PROPOSED ACTION	BENEFITING RESOURCE, REASON
594	Silver Butte gated segment	Restricted yearlong, open to over the snow	5.42	Restricted yearlong to motor vehicles, including snow vehicles	Eliminate existing wilderness trespass by snowmobiles from road 594
5201	West Fisher	No closure order, impassible	2.72	Restricted yearlong to motor vehicles, including snow vehicles	Eliminate road stream crossings, stabilize, reduce erosion/sedimentation potential (watershed)
		TOTAL	11.9		

Close gate on 4724A at the start of the project to improve ORD. Gate is already in place, so only requires closing the gate and installing a new closure sign.

Road Storage and Decommissioning: Road decommissioning and storage has been changed to drop the storage work in Porcupine Creek that had been identified in error under the proposed action (roads 8753 and 8753B were inaccurately inventoried). Standard Creek Rd. 6745 has been dropped from this alternative due to this work being planned as part of the mitigation package for the Montanore Mine proposal. Rd. 6744 is proposed for decommissioning due to public comment noting continued OHV trespass despite the current earthen barriers on this road.

Table 2-11
Alternative 4 Road Storage and Decommissioning
 S = storage D = decommissioning

ROAD #	ROAD NAME, LOCATION	EXISTING STATUS	LENGTH (MILES)	PROPOSED ACTION	BENEFITING RESOURCE, REASON
148A	Silver Butte Pass A	Restricted yearlong to motor vehicles, open to snow vehicles December 1 through April 30	0.31	Store – partial recontour, remove stream crossings (2)	Improve watershed condition in Fisher River WQLS (watershed)
2314M	Porcupine Ridge M	Restricted yearlong to motor vehicles, including snow vehicles	0.68	Store – water bar	Improve watershed condition in Fisher River WQLS (watershed)
5326	Standard Ck. Miller Ck. Oldie	Restricted yearlong to motor vehicles, including snow vehicles	1.07	Store - partial recontour, remove stream crossings (2)	Improve watershed condition in Fisher River WQLS (watershed)
6744	Standard Ck. West Fisher	Restricted yearlong to motor vehicles, including snow vehicles	1.43	Decommission – water bar, remove stream crossings (2)	Improve watershed condition in Fisher River WQLS (watershed); discourage existing OHV trespass
99816	Iron Meadow Ck.	Restricted yearlong to motor vehicles, open to snow vehicles December 1 through April 30	1.03	Store – water bar, partial recontour	Improve watershed condition in Fisher River WQLS (watershed)

ROAD #	ROAD NAME, LOCATION	EXISTING STATUS	LENGTH (MILES)	PROPOSED ACTION	BENEFITING RESOURCE, REASON
99816A	Iron Meadow Ck. A	Restricted yearlong to motor vehicles, open to snow vehicles December 1 through April 30	0.24	Store – water bar, partial recontour, remove stream crossing (1)	Improve watershed condition in Fisher River WQLS (watershed)
99803	King Mine	No closure order - impassible	1.21	Store - - partial recontour, remove stream crossings (4)	Improve watershed condition in Fisher River WQLS (watershed); reduces ORD in MA 12 (wildlife)
99803A	King Mine	No closure order - impassible	0.36	Store – partial recontour, remove stream crossing (1)	Improve watershed condition in Fisher River WQLS (watershed); reduces ORD in MA 12 (wildlife)
99813	King Mine	No closure order - impassible	0.27	Store – place earthen barrier	Improve watershed condition in Fisher River WQLS (watershed); reduces ORD in MA 12 (wildlife)
			6.60		

Forest Plan Amendments: This alternative would require a Forest Plan amendment for increasing ORD in MA 12 during project. All harvest units in MA 10 have been dropped, so an amendment for cavity habitat would not be needed.

Improvement/Reconstruction of Trail Tread: Improvement of trails will be the same as in Alternative 2 with the addition of specific areas requested during scoping, including improvement of trail tread on a scree slope on the Bear Baree Loop on the Divide Cutoff Trail #63 and repair of boggy areas on Bear Lakes Trail #178. The scree slope on the Divide Cutoff trail is in designated wilderness and will require limited blasting (one day) to create an improved trail tread. The boggy areas on the Bear Lakes Trail are not in wilderness. The Himes Waloven Trail #293 would also be moved out of the flood plain to avoid stream rerouting into the trail. Less than 0.5 miles of trail relocation would be needed. This area is also not in wilderness.

**Table 2-12
Alternative 4 Trail Work**

TRAIL NAME, NUMBER	PROPOSED ACTIVITY	TRAIL SEGMENT LENGTH
North Fork Miller #505	Reopen trail from closed Rd. 4725 to open Rd. 385	1.0
Silver Butte Creek #296	Improve tread condition	1.0
Cabinet Divide East #360E	Construct tread near Canyon Peak	0.5
Cabinet Divide East #360E	Improve tread condition above Waloven Creek	1.0
Waloven Creek #293	Improve horse ford and install foot log bridge south of Silver Butte ranch	0.0
Miller Ridge #506	Improve tread condition through Plum Creek Timber Company lands, T27N R30W Section 23	1.0
Libby Divide #706	Improve tread condition above North Fork of Miller Creek	1.0
Divide Cutoff #63	Improve tread condition on scree slope	0.1
Bear Lakes #178	Repair of boggy areas	0.1

Waloven Creek #293	Reroute portion of the trail from stream channel	0.2
	TOTAL	5.9

Improvement of Trailheads: The District has received comments that larger turn around areas for horse trailers and RV’s are needed at area trail heads. The IDT reviewed the project area and determined which areas are in need of larger turn around areas. These areas are displayed in the Table below. A total of 15 trail heads would be increased in size to address this need. Level of earth moving work is categorized as high, moderate, and low. Acreage impacted for each would not exceed one acre.

**Table 2-13
Alternative 4 Trailhead Improvements**

TRAILHEAD	LEVEL OF EARTH-MOVING WORK NEEDED
Silver Butte Pass Cabinet Divide Trail #360	High
Baree Creek Trail # 489	Low
Bear Lakes Trail # 178	Moderate
Iron Meadows Trail # 113	Low to None
Trapper Creek Trail # 297	Low
Olson Creek Trail # 415	Moderate to High
Porcupine Ridge Trail # 532	Moderate
Allen Peak Trail # 466	Low
Porcupine Creek Trail # 298	High
Jumbo Peak Trail # 110	High
Divide Trail # 6	Low to None
Barron Peak Trail # 299	Moderate
Lake Creek Trail # 656 and Silver Dollar Trail #114	High
Fourth of July Trail # 115 and Bramlet Trail # 658	Moderate
North Fork Miller Creek Trail # 505	Moderate

Closure of Trail 293A, Himes/Waloven Tie, to motorcycles: This segment of single track trail, which is approximately 1.2 miles long, was constructed as an alternate entrance on to Trail 293 Himes/Waloven. Trail 293 is listed on the closure order to motorized vehicle use for Libby Ranger District (please refer to the Libby Ranger District 2006 map). The A spur of this trail was not specifically named in this closure order. This alternative would add Trail 293A to the list of trails closed to motorized use. This closure is a correction to the closure order for motorized vehicle use for Libby Ranger District since this trail was not intended for such use. The reason for this action is that the trail was specifically designed for non-motorized use, would not be safe for motorized vehicle use, occurs within the riparian zone of both the Silver Butte Fisher River and Waloven Creek, and has several stream crossings that are not designed for motorized vehicles.

Additional Recreation Activities: Fuels reduction and hazard tree removal in the Lake Creek Campground is proposed. Construction of corrals to facilitate stock use in the area is proposed outside of the Lake Creek Campground in an area that is also outside of the riparian habitat conservation area (RHCA) for Lake Creek.

Pool Creation and Stream Bank Stabilization: In-stream pool creation is proposed in Miller Creek. This work would include creation of pools through placement of logs and rocks in the stream channel by hand. This work would move Miller Creek closer to meeting riparian management objectives (RMO's) and improve overall habitat conditions in the drainage.

Stream bank stabilization is proposed on the West Fisher Creek in T26N R30W Section 2. The stream enters a corner at this location and has eroded the toe of the hill creating a chronic sediment source. Four rock veins would be constructed along the radius of the curve to divert water away from the eroding stream bank. This work would require a piece of equipment such as an excavator to place rock in the stream channel.

Wetland Rehabilitation: This work is proposed in order to restore Standard Lake into a shallow wetland complex. There is a large, partially blown out beaver dam at the outlet of the lake. A slat dam could be built with large planks to raise the water level in the lake up to three feet which would restore about 10 acres of wetland.

Private Access to Irish Boy Mine Property: A request was received for motorized access to a private in-holding in the West Fisher drainage. The patented mining claim is known as the Irish Boy Mine and is located along Lake Creek at T26N, R30W, Section 18. The parcel is accessed by Rd. 6748, the Silver Dollar Road, which also accesses Lake Creek Trail 656. One mile of reconstruction would be required, along with replacing the earthen barrier with a gate. Impacts to grizzly bear core habitat would result as detailed in the wildlife specialist report in this document.

The old road bed extends up beyond the earthen barrier and was constructed to the mine adit. Typical of old mining roads, the road was constructed to minimal standards and does not meet Forest Plan standards as specified in the Inland Native Fish Strategy (INFS). This road bed would need to be reconstructed and a gate installed where the current earthen barrier exists. Approximately 1.0 mile of road beyond the existing closure would need to be reconstructed.

Alternative Summary

**Table 2-14
Features of Alternative 4**

Timber Harvest Treatments	Acres
Intermediate Harvest	
Stand Improvement	850
Stand Improvement/Shelterwood	0
Stand Improvement/Seed Tree	0
Regeneration Harvest	
Seed Tree with Reserves	346
Clearcut with Reserves	68
Shelterwood with Reserves	39
Seed Tree/Clearcut	61
Total Harvest	1,364
Slash Treatment	
Acres	
Grapple Pile/Burn Piles	111
Underburn with timber harvest	570
Prescribed Fire – All types*	3,302
Prescribed Fire with Timber Harvest*	472
Prescribed Fire without Timber Harvest	2,830
Road Construction/Reconstruction	
Miles	
New Road Construction	0
Temporary Road Construction	0.94
Road Maintenance and BMP's	30.45
Access Changes for Wildlife Habitat Improvement	
Miles	
Yearlong Open to Yearlong Restricted	1.92
Yearlong Open to Seasonally Restricted	0
Seasonally Restricted to Yearlong Open	0
Trails Open to Motorized Use to Yearlong Restricted	0
Yearlong Restricted Open to Snow Vehicles going to Yearlong Restricted Closed to Snow Vehicles	5.42
Watershed Rehabilitation	
Miles	
Miles of road decommissioning	1.43
Miles of road put in to long-term storage	5.17
Number of stream crossings restored	12
Planting	
Acres	
Conifer Planting	512
Other Activities	
Precommercial Thinning (acres)	351
Trail Reconstruction (miles)	5.9
Trail Head Parking Improved (number)	15
Fuels reduction and hazard tree removal in Lake Creek Campground	Yes
Construction of stock corrals outside Lake Creek Campground	Yes
Pool Creation and Stream Bank Stabilization	Yes
Private access to Irish Boy property	Yes
Spring Development in North Fork Miller	No

* Excludes grapple pile acres.

ALTERNATIVE 6 – PREFERRED ALTERNATIVE

Alternative Design: Alternative 6 is designed to respond to potential changes in cumulative effects activities, specifically the Montanore Mine. The proposed action for Montanore’s power line to their mill site runs through the North Fork of Miller Creek. This power line route is analyzed for cumulative effects for the no action alternative as well as Alternatives 2 and 4 (referred to as CUM1 in wildlife section). Alternative 6 analyzes the Montanore power line route through the West Fisher (Modified West Fisher 2) for cumulative effects (referred to as CUM2 in wildlife section). The reason for analyzing this alternate route is that it is a possible choice for the Montanore project, with very different cumulative effects to the Miller West Fisher project area than the North Fork of Miller route. Opportunities for additional vegetation treatment and grizzly bear core creation would be possible if the Montanore power line were not located in the North Fork of Miller Creek.

This alternative would require subdivisions within the timber sale, or two separate sales, with activities phased over time in order to treat vegetation in the North Fork of Miller, then place Rd. 4725 into intermittent stored service, creating core habitat. Vegetation treatments and road storage activities would then be possible in the Teeters Peak area accessed from Rd. 6743, which is currently grizzly bear core habitat. Activities would need to be timed to maintain current levels of core habitat.

Vegetation Treatments

Table 2-15
Alternative 6 Vegetation and Fuel Treatments

Unit	Acres	Vegetation Treatment	Logging System	Winter Logging	MA
Miller Creek					
2	25	ST/GP/PLT	T		15
3	25	CC/ST/UB/PLT	S		15
4	13	ST/CC/UB/PLT	S		15
8A	38	ST/UB/PLT	H	X	15
10	39	SW/UB/PLT	H	X	15
11	20	CC/R/UB/PLT	S		15
12	40	ST/UB/PLT	S		15
15	34	IMP	S		12, 15
20	8	CC/ST/GP/PLT	T		12
21	75	IMP	T/S/H		12
25	65	IMP	S		12
26	49	IMP	S	X	12
26A	15	IMP	S		12
32	40	ST/UB/PLT	S	X	12
37	9	IMP/UB	T		12
38	17	IMP	S		18
39	39	ST/UB/PLT	S		11
43	17	IMP/UB	H	X	18
44	15	IMP/UB/PLT	H	X	11
45	19	IMP/UB	H	X	18
46	17	IMP/UB	H/S	X	18, 11
47	37	IMP	T/H	X	11, 18
48	16	IMP	T		11, 18
49	21	ST/UB/PLT	S		11
52	15	CC/ST/UB/PLT	S		11
53	70	IMP/UB	T		11

Unit	Acres	Vegetation Treatment	Logging System	Winter Logging	MA
56	103	IMP/UB	S/H/T	X	11
57	16	IMP/UB	H	X	18, 11
61	17	ST/R/UB/PLT	S		12
West Fisher					
101	27	IMP/UB	T/H	X	11, 24
107	14	IMP/UB	H	X	11
108	21	ST/UB/PLT	H	X	11
110	30	IMP/SW/UB/PLT	H	X	11
111	40	ST/UB/PLT	S	X	11, 12
112	33	IMP/UB	T/S	X	12, 18
113	119	IMP/UB	S/T/H	X	11, 12
114A	25	ST/GP/PLT	T	X	11
114B	8	ST/GP/PLT	T		11
115	20	SW/UB/PLT	H	X	12, 11
116	19	CC/ST/UB/PLT	S		11
117	40	ST/UB/PLT	S		12
118A	35	ST/UB/PLT	T/S		11
118B	18	ST/GP/PLT	T		11, 12
119	58	IMP	T		12
120	54	IMP	S/T		12
121	80	IMP	T		12
122	59	IMP	T		12
123	89	IMP	T/S		12, 14
124	57	IMP	T		14
125	27	CC/R/GP/PLT	T		14, 12
128	27	IMP	S		12
129	36	ST/UB/PLT	T		14
130	27	ST/UB/PLT	T		14
Silver Butte					
201	15	CC/R/UB/PLT	T		11
202	6	CC/R/UB/PLT	T		11
TOTAL	1,898				

Key:

IMP – Improvement Cut UB = Underburning PLT = plant

SW = Shelterwood

YT = Yard Tops

ST = Seed Tree

GP = Grapple pile

H = Helicopter Yarding

S = Skyline

T = Tractor Yarding

Precommercial Thinning: Precommercial thinning would be the same as in the proposed action, or 351 acres.

Prescribed Fire without Associated Timber Harvest: Burning without associated timber harvest would be the same as in Alternative 4, totaling 2,830 acres. Please refer to Table 2-8 for more information.

Road System Management

New Road Construction: New temporary roads would be required to access proposed harvest units. Please see the table below and alternative maps for detailed information on each section of temporary road. These roads would be obliterated after use. No new permanent road construction is proposed in Alternative 6. The road into units 129 and 130 is analyzed as new road construction in the proposed action. This alternative would construct only temporary

road into these units. Since these units would be winter logged, the temporary road may actually be a snow road.

Table 2-16
Alternative 6 Temporary Road Construction

Unit	Temporary Road Segment	Miles of New Temporary Road
8A and 10	A	0.72
21	B	0.20
25, 61	C	0.19
26A	D	0.12
37	E	0.09
112, 113	F (5007A)	0.23
112, 113	G (6743)	0.60
113	H	0.16
121	I	0.19
123	J	0.09
123	K	0.06
129, 130	L	0.64
Total		3.29

Road Reconstruction and BMP Implementation: This alternative would implement BMP's on 38.99 miles of haul routes.

Access Changes: Access changes for Alternative 6 are designed to address watershed impacts from the roads in the table below, increase big game security through reduction of open road density, and create additional grizzly bear core habitat in BMU 6.

Table 2-17
Alternative 6 Access Changes

ROAD #	ROAD NAME, LOCATION	EXISTING STATUS	LENGTH (MILES)	PROPOSED ACTION	BENEFITING RESOURCE, REASON
4724A	S Fork Miller Ck. A spur	OPEN	0.62	Restricted yearlong to motor vehicles, including snow vehicles	Reduce ORD (wildlife), road damaged by yearlong access (watershed)
6754C	Owl Peak C spur	OPEN	1.30	Restricted yearlong to motor vehicles, including snow vehicles	Extremely poor drainage; road damaged by yearlong access (watershed); OHV trespass off end of road
99803	King Mine	No closure order, impassible	1.21	Store	Improve watershed condition in Fisher River WQLS (watershed); reduces ORD in MA 12 (wildlife)
99803A	King Mine	No closure order, impassible	0.36	Store	Improve watershed condition in Fisher River WQLS (watershed); reduces ORD in MA 12 (wildlife)
99813	King Mine	No closure order, impassible	0.27	Store	Improve watershed condition in Fisher River WQLS (watershed); reduces ORD in MA 12 (wildlife)

ROAD #	ROAD NAME, LOCATION	EXISTING STATUS	LENGTH (MILES)	PROPOSED ACTION	BENEFITING RESOURCE, REASON
594	Silver Butte gated segment	Restricted yearlong, open to over the snow	5.42	Restricted yearlong to motor vehicles, including snow vehicles	Eliminate existing wilderness trespass by snowmobiles from road 594
808E	Schreiber	Restricted yearlong to motor vehicles, including snow vehicles; gated	1.65	Restricted yearlong to motor vehicles, including snow vehicles; earthen barrier last 1.65 miles	Increase grizzly bear core habitat in BMU 6
5201	West Fisher	No closure order, impassible	2.72	Restricted yearlong to motor vehicles, including snow vehicles	Eliminate road stream crossings, stabilize, reduce erosion/sedimentation potential (watershed)
		TOTAL	13.55		

Close gate on 4724A at the start of the project to improve ORD. Gate is already in place, so only requires closing the gate and installing a new closure sign.

Road Storage and Decommissioning:

Table 2-18
Alternative 6 Road Storage and Decommissioning

S = storage D = decommissioning

ROAD #	ROAD NAME, LOCATION	EXISTING STATUS	LENGTH (MILES)	PROPOSED ACTION	BENEFITING RESOURCE, REASON
148A	Silver Butte Pass A	Restricted yearlong to motor vehicles, open to snow vehicles December 1 through April 30	0.31	Store – partial recontour, remove stream crossings (2)	Improve watershed condition in Fisher River WQLS
2314M	Porcupine Ridge M	Restricted yearlong to motor vehicles, including snow vehicles	0.68	Store – water bar	Improve watershed condition in Fisher River WQLS
5326	Standard Ck. Miller Ck. Oldie	Restricted yearlong to motor vehicles, including snow vehicles	1.07	Store - partial recontour, remove stream crossings (2)	Improve watershed condition in Fisher River WQLS
6744	Standard Ck. West Fisher	Restricted yearlong to motor vehicles, including snow vehicles	1.43	Decommission – water bar, remove stream crossings (2)	Improve watershed condition in Fisher River WQLS; discourage existing OHV trespass
99816	Iron Meadow Ck.	Restricted yearlong to motor vehicles, open to snow vehicles December 1 through April 30	1.03	Store – water bar, partial recontour	Improve watershed condition in Fisher River WQLS
99816A	Iron Meadow Ck. A	Restricted yearlong to motor vehicles, open to snow vehicles December 1 through April 30	0.24	Store – water bar, partial recontour, remove stream crossing (1)	Improve watershed condition in Fisher River WQLS

ROAD #	ROAD NAME, LOCATION	EXISTING STATUS	LENGTH (MILES)	PROPOSED ACTION	BENEFITING RESOURCE, REASON
99803	King Mine	No closure order - impassible	1.21	Store – partial recontour, remove stream crossings (4)	Improve watershed condition in Fisher River WQLS (watershed); reduces ORD in MA 12 (wildlife)
99803A	King Mine	No closure order - impassible	0.36	Store – partial recontour, remove stream crossing (1)	Improve watershed condition in Fisher River WQLS (watershed); reduces ORD in MA 12 (wildlife)
99813	King Mine	No closure order - impassible	0.27	Store – place earthen barrier	Improve watershed condition in Fisher River WQLS (watershed); reduces ORD in MA 12 (wildlife)
4725	North Fork Miller	Restricted yearlong to motorized vehicles, including snow vehicles	4.22	Store - leave side drainage culverts in place, remove stream crossing on North Fork Miller	Create grizzly bear core habitat in BMU 6
5200	Teeters	Restricted yearlong to motorized vehicles, including snow vehicles	0.92	Store – partial recontour, remove stream crossing (1)	Stabilize road system prior to returning to grizzly bear core habitat (watershed)
5007A	Teeters	Restricted yearlong to motorized vehicles, including snow vehicles	0.52	Store – water bar	Stabilize road system prior to returning to grizzly bear core habitat (watershed)
5198	Teeters	Restricted yearlong to motorized vehicles, including snow vehicles	1.77	Store – partial recontour, remove stream crossings (3)	Stabilize road system prior to returning to grizzly bear core habitat (watershed)
5199	Teeters	Restricted yearlong to motorized vehicles, including snow vehicles	1.33	Store – partial recontour, water bar, remove stream crossing (1)	Stabilize road system prior to returning to grizzly bear core habitat (watershed)
5326	Standard Creek	Restricted yearlong to motorized vehicles, including snow vehicles	1.07	Store – partial recontour, remove stream crossings (2)	Improve watershed condition in Fisher River WQLS
			16.43		

Improvement of Trails and Trailheads: Alternative 6 includes the same improvements to trails and trailheads as described for Alternative 4 above.

Closure of Trail 293A, Himes/Waloven Tie, to motorcycles: This segment of single track trail, which is approximately 1.2 miles long, was constructed as an alternate entrance on to Trail 293 Himes/Waloven. Trail 293 is listed on the closure order to motorized vehicle use for Libby Ranger District (please refer to the Libby Ranger District 2006 map). The A spur of this trail was not specifically named in this closure order. This alternative would add Trail 293A to the list of trails closed to motorized use. This closure is a correction to the closure order for motorized vehicle use for Libby Ranger District since this trail was not intended for such use. The reason for this action is that the trail was specifically designed for non-

motorized use, would not be safe for motorized vehicle use, occurs within the riparian zone of both the Silver Butte Fisher River and Waloven Creek, and has several stream crossings that are not designed for motorized vehicles.

Forest Plan Amendments: A Forest Plan amendment for temporarily exceeding standards for ORD in MA 12, big game summer range, would be required for this alternative. Roads that would need to be opened through MA 12 to access harvest units include Rd. 4782 and spurs into units 116, 117, 118A and B, 119 and 120. Roads to access Units 113, 8A and 10 will also be opened through MA 12 during the summer for temporary road construction and BMP work. Forest Plan standard for ORD in MA 12 is 0.75 miles/square mile. The existing condition for the Silverfish PSU is 1.3 miles/square mile. During implementation of Alternative 6, ORD in MA 12 would be 2.13 miles/square mile. Post project, ORD would return to 1.3 miles/square mile. Please see the wildlife effects analysis section of this document for more information.

Additional Recreation Activities: Fuels reduction and hazard tree removal in the Lake Creek Campground and construction of corrals to facilitate stock use in the area is are the same as proposed in Alternative 4.

Pool Creation and Stream Bank Stabilization: These activities would be the same as described for Alternative 4 above.

Spring Development: Development of a spring in the North Fork of Miller Creek is proposed to provide water for wildlife. The spring is located in or near the northwest corner of Section 16, T27N, R30W. Hand tools and/or explosives would be used to increase the size of this spring. No heavy equipment would be used. This action item responds to the need to maintain or improve big game habitat by providing a seasonal water source along a relatively dry ridgeline and side-hill park complex that is heavily used by big game animals, including elk and mule deer.

**Table 2-19
Features of Alternative 6**

Timber Harvest Treatments	Acres
Intermediate Harvest	
Stand Improvement	1,176
Stand Improvement/Shelterwood	30
Stand Improvement/Seed Tree	0
Regeneration Harvest	
Seed Tree with Reserves	485
Clearcut with Reserves	68
Seed Tree/Clearcut with Reserves	80
Shelterwood with Reserves	59
Total Harvest	1,898
Slash Treatment	
Acres	
Grapple Pile/Burn Piles	146
Underburn with timber harvest	3,879
Prescribed Fire – All types*	6,709
Prescribed Fire with Timber Harvest*	3,879
Prescribed Fire without Timber Harvest	2,830
Road Construction/Reconstruction	
Miles	
New Road Construction	0
Temporary Road Construction	3.29
Road Reconstruction and BMP's	38.99
Access Changes for Wildlife Habitat Improvement	
Yearlong Open to Yearlong Restricted (miles)	1.92
Yearlong Open to Seasonally Restricted (miles)	0
Seasonally Restricted to Yearlong Open	0
Trails Open to Motorized Use to Yearlong Restricted (miles)	0
Yearlong Restricted Open to Snow Vehicles going to Yearlong Restricted Closed to Snow Vehicles (miles)	5.42
Watershed Rehabilitation	
Miles	
Miles of road decommissioning	1.43
Miles of road put in to long-term storage	15.00
Number of stream crossings restored	19
Planting	
Acres	
Conifer Planting	681
Other Activities	
Precommercial Thinning (acres)	351
Trail Reconstruction (miles)	5.9
Trail Head Parking Improved (number)	15
Fuels reduction and hazard tree removal in Lake Creek Campground	Yes
Creation of stock corrals outside Lake Creek Campground	Yes
Pool Creation and Stream Bank Stabilization	Yes
Private access to Irish Boy property	No
Spring development in North Fork Miller	Yes

* Excludes grapple pile acres.

ALTERNATIVE 7

Alternative Design: Alternative 7 is designed to not require any Forest Plan amendments. All other action alternatives require a Forest Plan amendment for increasing the open road density (ORD) in MA 12 above the standard of 0.75 miles/square mile during project. While the existing condition in the project area currently exceeds Forest Plan standards for ORD in MA 12, Alternative 7 would not increase MA 12 ORD above the existing condition. This alternative uses Alternative 4 as a base, and requires winter logging on units accessed by Rd. 4782 and spurs. In other words, this alternative is the same as Alternative 4, with winter logging. This includes Units 20, 21, 25, 26, 26A, 32, 61, 117, 118A and B, 119, 121, and 122. All other aspects of the alternative are the same as Alternative 4. Please see Alternative 4 description above for more detail.

Winter logging in these areas would not require a Forest Plan amendment for MA 12 (big game summer/fall range) ORD because it would not increase ORD in MA 12 during the non-winter period (May 1 to November 30).

MONITORING

Monitoring and evaluation compares the end results being achieved to those projected in the KNF Forest Plan. Monitoring is conducted on a sample basis to evaluate the overall progress in implementing the Forest Plan, the assumptions on which the Forest Plan is based, and to provide a feedback loop for determining effectiveness of project and mitigation implementation (USDA Forest Service 1987). For this project, monitoring and evaluation would be conducted as described in Appendix 9. Those monitoring components not specifically discussed in this appendix tier to the monitoring described in the Forest Plan.

Design Features and Mitigation Measures Common to the Action Alternatives

Table 2-20 describes the design features and mitigation measures that will be applied to this project to protect resources.

Table 2-20
Miller West Fisher Project Design Features, All Action Alternatives

Trails and Roads: Timber Sale Standard Provision **B(T)6.22**, Protection of Improvements, would be included in all timber sale contracts. It would require the purchaser to protect specified improvements, such as trails, roads and fences.

Unit Specific Features to Protect Trails: Units noted are from a combination of all alternatives. **Units 38 and 39** – protect Trail #505 North Fork Miller. **Burns B3, B4, B5** (Alt. 2 only) - protect Trail #117 Great Northern Mountain. **Burn B21, Units 26, 31, 29** - protect Trail #118 Miller Creek. **Units 16, 17, 121** - protect Trail #300 Teeters Peak. **Burns B8A, B8B, B11, B12B** – protect Trails #6S Divide Trail, and #532 Porcupine Ridge. **Storing Rd. 2314M** – protect Trail 6S Divide Trail. **Burn B17** – protect Trail #113 Iron Meadows. **Unit 203** (Alt. 2 only) – protect trail #110 Jumbo Peak. **Burn B19A** – protect Trail #360 Cabinet Divide. Special care will be needed along the trails to avoid damaging the tread, blaze trees, and markers/signs.

Unit Specific Features to Protect Visuals: Slash disposal adjacent to the West Fisher Rd. 231, Miller Creek Rd. 385, South Fork Miller Rd. 4724, Silver Butte Rd. 148, Miller Creek Trail 118, Standard Creek Trail 116, North Fork Miller Trail 505, Teeters Peak Trail 300, Olson Creek Trail 405, Porcupine Creek Trail 298, and Jumbo Peak Trail 110 will need to be completed to meet Forest Plan VQO's. Slash will be abated to present a natural appearance from these highly visible sites.

Proposed, Threatened, Endangered and Sensitive Plants and Wildlife: Legal and biological requirements for the conservation of endangered, threatened, proposed, candidate and sensitive plants and animals would be met. These species have been identified in cooperation with other agencies such as the USFWS and MFWP. Plant surveys would be completed prior to any ground-disturbing activities. Emphasis for surveys would be placed on areas with moderate-to-high potential to provide sensitive plant habitat. These surveys would be conducted by the District Botanist or a qualified biological technician. If any of these plant or animal species are located prior to or during implementation of any management activities, the activity would be altered so that proper protection measures could be taken. Timber sale contract provision B(T)6.25, Protection of Habitat of Endangered Species, would be included in any subsequent timber sale contract. If necessary, additional modifications would occur through creation of special treatment zones or by relocating unit boundaries to avoid negative impacts. Disturbance to any sensitive plant populations or unique animal sites observed during sale activity would be avoided through cooperation between sale administrators and sale purchaser. Surveys for PTES plants of in-stream work areas to improve pool quantity and quality will be completed before implementation.

Site specific design features to protect sensitive plant species:

Noxious Weeds: The following measures will be used to mitigate concerns for the spread of noxious weeds.

- Implement Forest Service manual (FSM) 2080 Noxious Weed Management Prevention and control measures.
- Certified weed-free forage is required for use on all national forest lands in Montana (36 CFR 261.50)
- Treat existing noxious weeds on roads to be reconstructed, stored, or decommissioned prior to that activity, (if possible schedule spraying two or more seasons before activities are expected to occur to reduce the amount of viable weed seed stored in the soil).
- Treat existing noxious weeds in gravel/rock pits, inspect these sources for weeds and treat before material is transported.
- Survey and pre-treat existing noxious weeds on proposed trailhead construction site, and access sites for in-stream work.
- Require weed free certified straw for all construction, reconstruction, and restoration activities.
- Seed and fertilize stored roads with certified weed free seed immediately following restoration activities.
- Limit scarification objectives to the minimal required to meet reforestation objectives.
- Pressure-wash logging equipment, road maintenance, and restoration equipment before entering the project area.
- Require timber sale purchaser to treat existing noxious weeds along haul routes the first operational season for weed spraying (spring or early summer)
- Seed and fertilize newly constructed roads, trailheads, landings, and major skid trails with certified weed free seed.
- Prevent road maintenance machinery from blading or brushing through known populations of new invaders. In areas where weeds are established, (and activities are opening and blading restricted or closed roads with significantly lesser infestations); brush and blade road systems from un-infested segments of road systems to infested areas. Limit brushing and mowing to the minimum distance and height necessary to meet safety objectives in areas of heavy weed infestations
- Minimize soil disturbance and mineral soil exposure during activities. Soil disturbance should be no more than needed to meet project objectives. This includes not exceeding recommended mineral soil exposure for site preparation in regeneration harvest units; and utilizing timing and designated skid trails to minimize mineral soil exposure in harvest units.
- Survey proposed burn units for noxious weeds. Determine the risk of weed spread with prescribed fire. If there is a risk of spread beyond the road corridor, defer burning until the weeds can be treated or ensure post treatment funding for weed control.
- Survey proposed trailhead construction sites, proposed access for mechanized in stream work, and proposed Pronone application sites for noxious weeds. Determine the risk of spread with the associated activity. If there is risk of spread, pre-treat the area before activity.
- Continue to monitor/survey the project area for new invader weed species. Monitor weed population levels in treated areas, with particular emphasis on haul routes, stored and decommissioned roads, and landings. Retreat as funding allows.
- Treat and sign sites if new invaders are located and defer ground disturbing activities within those sites until the weed specialist determines the site is no longer a threat, and approves those activities.
- Site-specific guidelines will be followed for weed treatments within or adjacent to known sensitive plant populations. All future treatment sites would be evaluated for sensitive plant habitat suitability;

suitable habitats would be surveyed as necessary prior to treatment.

- All noxious weed control activities would comply with state and local laws and agency guidelines.
- As per the Kootenai National Forest Invasive Plant Management EIS and ROD, all herbicides used in the project area would be applied according to the labeled rates and recommendations to ensure the protection of surface water, ecological integrity and public health and safety. Herbicide selection will be based on target species on the site, site factors (such as soil types, distance to water, etc), and with the objective to minimize impacts to non-target species.

Desired mitigation strategies to reduce the chance of noxious weed introduction and spread include:

- Keep administrative traffic on closed roads to a minimum. Whenever possible, time activities prior to seed set of the primary weed species or emphasis weeds on a given road.
- Consider winter logging to reduce mineral soil exposure and the chance of spreading existing noxious weeds.
- Release bio-control agents on applicable sites, as they become available, and funding allows.
- Plan follow up noxious weed treatment the spring or early summer, following final purchaser blading of all haul roads if funds allow (this will be funded with appropriated or KV dollars).
- Design road storage to allow passage of a 4-wheeler to continue treatment of hawkweeds and common tansy in the future. Hawkweed and common tansy populations will continue to expand even after the template has re-vegetated.

Soil and Water:

1) Timber Sale Contract Provisions to be Included

CT6.3 - Plan of Operations, **BT6.4, CT6.4** - Conduct of Logging, **BT6.42** - Skidding and yarding, **BT6.422** - Landings and Skid Trails, **BT6.6, CT6.6** - Erosion Prevention Control, **BT6.64** - Skid Trails and Fire Lines, **BT6.5** – Stream Course Protection, **CT6.62** - Noxious Weed Control, **BT5.2, CT5.2** - Specified Road Construction, **BT5.4, CT5.4** - Road Maintenance, **CT6.603** - Road Obliteration.

2) Best Management Practices (BMP's)

Implementation of the BMP's listed in Appendix 7.

3) Riparian Habitat Conservation Areas (RHCA's)

Implementation of the Forest Plan RHCA widths for the units shown in Appendix 4 is required to meet Forest Plan standards as amended by INFS. Also if any additional streams are found during layout they will also be buffered to meet this requirement.

Fish, including Bull Trout

Measures listed under soil and water, including implementation of BMP's and use of RHCA's as prescribed in INFS will protect fish, including bull trout. In addition, no in-stream work or sediment producing activities will take place within an RHCA from September 1 to July 14. Sediment introduction into bull trout waters within that time frame would potentially cause adverse affects to bull trout.

Forest Vegetation:

In addition to the appropriate BMP's, riparian guidelines and standard contract clauses, the following mitigation and monitoring should be included:

- a. To maintain long-term soil productivity and provide large woody material for small mammals and other wildlife species:
 - Harvest units within VRU TE02 and TE09– retain 8-15 tons per acre of coarse woody debris (CWD) or standing recruitment on site after harvest and/or fuels treatment.
 - Harvest units within VRU TE03- retain 15-20 tons per acre of CWD or standing recruitment on site after harvest and/or fuels treatment.
 - Harvest units within VRU TE05 - retain 17-25 tons per acre of CWD or standing recruitment on site after harvest and/or fuels treatment.
- b. CWD should be left scattered across the unit, not concentrated. Piece size should exceed 3" in diameter but preference is for larger material where possible. This material originates from unutilized portions of designated trees, cull materials, broken tops, etc.
- c. All harvest units will be designed to retain adequate levels of snags, and replacement snags to provide for cavity-associated wildlife species, genetic seed reservoirs, relic overstory, and long-term soil productivity. Replacement trees would be scattered throughout harvest units to the extent possible. Where available, a minimum of two snags and two replacement snags per acre will be retained. If large ponderosa pine or western larch snags are felled for safety purposes, they will be retained on site. Silvicultural and burning prescriptions would be prepared with the goal of protecting large diameter snags, and retaining recommended levels and distribution of coarse

woody material during site preparation and fuels treatment.

- d. All tractor harvest units with an intermediate harvest prescription will have designated skid trails to facilitate removal of designated material while minimizing damage to less than 15% of the residual trees.
- e. Skyline logging systems will be required on steep units that have an intermediate treatment or shelterwood harvest, to minimize damage to leave trees.
- f. Soil productivity will be maintained through one of the following:
 - Utilize skyline or helicopter systems;
 - Follow Best Management Practices;
 - Utilize designated skid trails or limit dispersed skidding to dry or frozen soil conditions.

Wildlife:

1. To prevent snags and broken top trees within old growth stands from being felled for safety reasons, no harvest unit landings would be located adjacent to old growth stands.
2. Since existing snags would not be designated in helicopter or skyline units, replacement trees would be designated for future snag and down woody potential. Larger diameter trees would be preferred. When remnant large diameter larch with mistletoe infection occur they will be girdled after harvest is completed.
3. On those tractor units where snags are designated for retention, safety hazard snags may be cut but they must be left on site within the unit to provide for large down woody recruitment.
4. Tractor units that would not have existing snags marked will be identified and additional replacement trees with future snag characteristics marked.
5. Logging on MA 10 lands will use the following guidelines: winter logging may occur December 1 through March 1st; No harvest activity will occur during green-up period (generally March 1st through May 30th); if elk calving is known, no activity until at least June 15th.
6. All restricted roads would remain closed to motorized vehicle use anytime timber sale activity is not occurring behind the barrier. This decreases the potential for loss of cavity habitat trees and trees within stands to firewood cutting, and helps mitigate potential displacement of big game as a result of timber harvest activities.
7. No timber harvest or associated activity would be permitted on roads restricted to motorized vehicles during general rifle hunting season, which generally runs from October 15 to December 1.
8. If any key habitat features are found during layout, such as wallows and wet meadows, a cover buffer of at least two sight distances, or a minimum of 300 feet would be maintained around it.
9. On roads restricted to motorized traffic, motorized access to thinning activities is restricted to 14 days or less. These roads will still be considered closed and ORD's will not change. Motorized access to thinning units behind restricted roads will not occur during critical periods (October 15 to June 30).
10. For all action alternatives, hunting would not be permitted behind any gated road accessed for the timber harvest. This mitigation measure for grizzly bears will help reduce the potential increase in human-caused mortality risk associated with the proposed activity.
11. For grizzly bear mitigation, timing of activities for timber harvest include no activities during the spring period, April 1st to June 15th. Any prescribed burning that would take place would limit helicopter activity to 1 to 2 days, with no heavy ground equipment being used.
12. The proposed action alternatives should not cause additional grizzly bear mortality risk associated with attractants because all garbage at the logging sites would be removed in a timely manner to avoid potential wildlife conflicts.
13. Units analyzed as winter logging and not impacting grizzly bear, would remain as winter logging during implementation of the sale. If season of activity, or method of harvest was changed so that the activity would occur within the bear year, additional analysis would be required.
14. Required mitigation for Alternative 6 includes the use of subdivisions or separate timber sales so that activities in the North Fork of Miller Creek would occur and Rd.s 4725 and 808E would be stored before activity on the units accessed from Rd. 6747 (Teeters Peak) would be implemented. This is necessary to maintain existing levels of grizzly bear core habitat in BMU 6.
15. The timber sale contract will contain the contract clause CT 6.251 Protection of Endangered Species (4/90) as amended, which allows the government to cancel or unilaterally modify the timber sale.

Cultural Resources: Cultural resource surveys were completed on all treatment units. The action alternatives were designed to protect known cultural sites, provide for protection of sites discovered during implementation, and protect treaty rights. These concerns would be addressed through ongoing consultation with tribal representatives. Appropriate Timber Sale Contract Provisions would be included in any timber sale contract. The appropriate provision specifies that the Forest Service may modify or cancel the contract to protect cultural resources, regardless of when they were identified.

Comparison of Alternatives

This section displays a tabular comparison of the alternatives considered in detail. This information, along with a detailed discussion of the environmental consequences presented in Chapter 3, provides the basis for comparing alternatives.

**Table 2-21
Comparison of Purpose and Need Objectives by Alternative**

Maintain the Vigor and Long-Term Productivity of Forest Stands	1	2	4	6	7
Commercial Timber Harvest (acres)	0	2,492	1,364	1,898	1,364
Burning without timber harvest (acres)	0	3,175	2,830	2,830	2,830
Precommercial Thinning (acres)	0	351	351	351	351
Reduce Hazard Fuels and Restore Natural Fire Regimes	1	2	4	6	7
Burning without timber harvest (acres)	0	3,175	2,830	2,830	2,830
Commercial Timber Harvest (acres)	0	2,492	1,364	1,898	1,364
Provide Forest Products	1	2	4	6	7
Timber harvest volume, estimated, CCF	0	20,206	11,835	16,485	11,835
Reduce Impacts of the Road Network on Water Quality and Wildlife, While Providing Access for Public and Administrative Use	1	2	4	6	7
Yearlong open road to yearlong restricted road (miles)	0	8.21	1.92	1.92	1.92
Yearlong restricted, open to snow vehicles going to yearlong restricted closed to snow vehicles (miles)	0	0	5.42	5.42	5.42
Issue a special use authorization for motorized access to the Irish Boy Mine property (yes/no)	No	No	Yes	No	No
Maintain or Improve Watershed Condition	1	2	4	6	7
Road storage (miles)	0	11.36	5.17	15.00	5.17
Road decommissioning (miles)	0	0	1.43	1.43	1.43
Number of stream crossings restored	0	12	12	19	12
Stream bank stabilization in West Fisher Creek	0	No	Yes	Yes	Yes
Pool creation in Miller Creek	0	No	Yes	Yes	Yes
Maintain or Improve Grizzly Bear and Big Game Habitat	1	2	4	6	7
Open Road Density in miles per square mile for MA 12 post activity (Forest Plan Standard is 0.75)	1.30	0.97	1.18	0.98	0.98
Security habitat during fall hunting season during/post activity (%)	57	56/60	56/59	53/59	56/59
Burning without timber harvest (acres)	0	3,175	2,830	2,830	2,830
Burns spaced out over time to avoid impacting large amounts of big game forage at one time (yes/no)	Not applicable	No	Yes	Yes	Yes
Effects call for Grizzly Bear (NLAA = may affect, not likely to adversely affect; MLAA = may affect, likely to adversely affect)	No effect	NLAA	MLAA	NLAA	MLAA
Effects call for Lynx (MLAA = May affect, likely to adversely affect)	No effect	MLAA	MLAA	MLAA	MLAA
Improve Recreational Experience Through Trail Reconstruction and Hazard Reduction in Lake Creek Campground	1	2	4	6	7
Yes/No	No	Yes	Yes	Yes	Yes
Trailhead reconstruction to facilitate trailers	No	No	Yes	Yes	Yes

**Table 2-22
Comparison of Issue Indicators by Alternative**

INDICATOR	Alt 1	Alt 2	Alt 4	Alt 6	Alt 7
Issue #1 – Big Game Security	1	2	4	6	7
Open Road Density in miles per square mile for MA 15, 16, 17, 18 post activity (Forest Plan Standard is 3.00)	0.86	0.73	0.73	0.73	0.73
Open Road Density in miles per square mile for MA 12 post activity (Forest Plan Standard is 0.75)	1.30	0.97	1.18	0.98	0.98
New Road construction (miles)	0	1.20	0	0	0
Temporary Road construction (miles)	0	0	0.94	3.29	0.94
Security habitat during fall hunting season during/post activity (%)	57	56/60	56/59	53/59	56/59
Issue #2 – Provide/Maintain Opportunities for OHV use	1	2	4	6	7
Open road available for OHV use (approximate miles)	87	81	85	85	85
Motorized trail designated for OHV use (miles)	0	0	1.64	1.64	1.64
Open road changing to restricted to motorized use (miles) – excludes impassable roads	0	5.63	1.92	1.92	1.92
Road open to snowmobile use going to Closed to snowmobile use	0	0	5.42	5.42	5.42
Issue #3 – Water Quality Protection	1	2	4	6	7
Miles road storage	0	11.36	5.17	15.00	5.17
Miles road decommissioning	0	0	1.43	1.43	1.43
# Stream road crossings restored	0	12	12	19	12
Road reconstruction implemented (miles)	0	42.72	30.45	38.99	30.45
Pool Creation in Miller Creek (yes/no)	No	No	Yes	Yes	Yes
Stream bank stabilization in West Fisher Creek to reduce sediment input (y/n)	No	No	Yes	Yes	Yes
Restoration of Standard Lake	No	No	Yes	Yes	Yes
Teeters Road System stabilized (yes/no)	No	No	No	Yes	No
Issue #4 – Improve Recreation Opportunities	1	2	4	6	7
Hazard Tree Removal and Fuels Reduction in Lake Creek Campground (yes/no)	No	Yes	Yes	Yes	Yes
Construction of stock corrals in Lake Creek Campground (yes/no)	No	No	Yes	Yes	Yes
Non-motorized trail improvement (miles)	0	5.5	5.9	5.9	5.9
Number of Trailheads improved to allow trailer turn around space	0	0	15	15	15
Issue #5 – Effects to Grizzly Bear	1	2	4	6	7
BMU 6					
Amount of core habitat post project (%)	53	55	53	55	53
OMRD post project (%)	30	28	29	29	29
TMRD post project (%)	32	32	32	31	32
Habitat Effectiveness post project (%)	66	71	71	70	71
Linear ORD post project (miles/square mile)	0.44	0.40	0.38	0.42	0.38
BMU 7					
Amount of core habitat post project (%)	67	68	67	67	67
OMRD post project (%)	21	20	20	21	20
TMRD post project (%)	20	20	20	20	20
Habitat Effectiveness post project (%)	79	79	80	79	79
Linear ORD post project (miles/square mile)	0.31	0.32	0.31	0.33	0.31
Cabinet Face BORZ					
Linear ORD (miles/square mile)	2.2	2.2	2.2	2.2	2.2

Linear TMRD (miles/square mile)	3.9	3.9	3.9	3.9	3.9
Livestock (number of grazing allotments)	0	0	0	0	0
Food Attractants (existing condition = bear resistant containers in place)	containers	No change	No change	No change	No change
Issue #6 - Economics	1	2	4	6	7
Timber Sale Feasibility with Helicopter Logging (Yes/No)	NA	No	No	No	No
Timber Sale Feasibility without Helicopter Logging (Yes/No)	NA	No	No	Yes	No
Timber harvested (CCF)	0	20,206	11,835	16,485	11,835
Present Net Value, timber sale only with helicopter logging (Thousand \$)	0	-939.9	-442.3	-617.8	-473.4
Present Net Value, timber sale only without helicopter logging (Thousand \$)	0	-102.6	-68.8	1.5	-76.5