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Decision Notice And Finding of No Significant Impact

Trout Vegetation Management Project

**Republic Ranger District, Colville National Forest
Ferry County, Washington**

T37N, R32E Sections 1-2; 5-8; 11-12; 17-18
T38N, R32E Sections 2-22; 27-35
T38N, R33E, Section 7
T39N, R32E Section 31

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Decision Notice And Finding of No Significant Impact Trout Vegetation Management Project

USDA FOREST SERVICE
COLVILLE NATIONAL FOREST
REPUBLIC RANGER DISTRICT
FERRY COUNTY, WASHINGTON

This Decision Notice documents my decision regarding actions proposed in the Trout Vegetation Management Project Environmental Assessment, November 10, 2005. The Trout EA (Environmental Assessment) is available on request from the Republic Ranger District, 650 East Delaware Avenue, Republic, Washington, 99166. The EA documents the site-specific analysis conducted by an interdisciplinary team to determine the potential environmental effects connected to the proposed action and alternatives to the proposed action.

Project Location

The project area is located Trout Creek/Storm King Mountain area, approximately eight miles northwest of Republic, Washington, and is within the Republic Ranger District, Colville National Forest, Ferry County, Washington. The Trout project area includes 19,233 acres of National Forest System Lands and 31 acres of private land¹ (Units YA and YB). Actions are proposed only on National Forest System lands, except for the two thinning and fuel treatment units that are on private lands adjacent to the National Forest boundary. See Project Location map on EA page 3.

Corrections to the Environmental Assessment

1. Appendix A, Treatment Unit Information Table, Alternative B, omitted treatment units that do not have timber harvest treatments. Treatment Unit information for Units A through X, ZA, ZB, ZC, ZD, ZE, YA, and YB should have been included. These units were described in the EA (Environmental Assessment) as part of Alternative B (the Proposed Action) on EA pages 25 through 27; they were shown on the Alternative B map on EA page 23; and these treatment units were considered to be part of the Alternative B in all effects analyses presented in EA Chapter 3. A corrected Treatment Unit Information Table for Alternative B is appended to this Decision Notice.

¹ Private lands are included here solely for the purpose of facilitating the use federal funds for cooperative treatment of hazard-fuels on private lands adjacent to the National Forest.

2. BMP (Best Management Practices), PT-10, Appendix B page 4, contains a provision “e” which was included in error. As stated in the EA, provision “e” requires: “Mechanized felling equipment would not be allowed to operate off of designated landings.” This is clearly an error: The soil scientist did not include this provision in her report, and requiring all mechanized equipment felling equipment to remain on designated landings is clearly illogical because such a provision would eliminate the use of mechanized felling equipment for logging, Also, the EA on page 26 states: “... logging systems may include forwarder-processor systems” Provision “e” of BMP PT-10 is hereby removed from Appendix B, BMP PT-10.

3. Mitigation Measure Soil, Water, Fisheries, #14 on EA page 34 is corrected to add text from BMP PT-12. The full text will now read: **Suspend logs during yarding in skyline/cable units. One end would generally be suspended to keep the forest floor intact. One-end suspension may not be feasible in the vicinity of rock outcrops and “knobs.” Applies to Units 17, 20, 32, and 43.** This change makes the mitigation measure consistent with BMP PT-12.

4. Within Mitigation Measures Wildlife #1, #4, and #5, change the word “suspended” to “interrupted.” The reason for this change is that the word “suspended” is not correctly used with regards to the Forest Service’s Timber Sale Contract. In the event of discovery of important wildlife use of the project area, the Forest Service would interrupt only those project activities that would affect the species.

The Decision and Rationale for the Decision

Selected Alternative

The selected alternative is “Modified Alternative B.” This Modified Alternative B was developed collaboratively by the Forest Service and the Northeast Washington Forestry Coalition², in consultation with the Ferry County Board of Commissioners.

This alternative would implement all aspects of Alternative B as described in the EA (Including descriptions and map on pages 22-28, Project Design Elements (EA pages 33-43), Monitoring (EA pages 43-45), and Sale Area Improvement Opportunities (EA page 45), except that the following modification would be made:

Timber Harvest Unit Number	<u>Modifications</u>
1	Drop entire unit.
2	Exclude portion with spruce common in overstory. Leave large western larch for future snags, even if heavily infected with dwarfmistletoe.

² The Northeast Washington Forestry Coalition is composed of diverse interest groups, including Vaagen Brothers Lumber Company, Boise Washington Region, The Lands Council, Conservation Northwest, Kettle Range Conservation Group, 49-Degrees North Mountain Resort, and other groups and individuals interested in forest restoration and fuels reduction projects.

Timber Harvest Unit Number	Modifications
3	Exclude upper portions of unit. Place upper boundary at logical rock or topographic breaks.
4	Exclude upper portions of unit. Place upper boundary at logical rock or topographic breaks.
8	Do not construct new road. Drop portion of unit that cannot be accessed from existing roads.
9	Dropped previously
15	Drop portion with large, mature trees along southwestern boundary.
16	Unit was combined with Unit 15 previously.
19	Drop portion above Road 2086900 and west of Road 2086950 (mature stand). Do not build new access road. Use existing unclassified roads for access.
21	Underburn only (do not log), except in the lodgepole pine/western larch pole timber in the bottom of the unit. The LP/WL portion would have no change from Alt. B.
22	Exclude the north and west portions (with the mature timber). Winter log the remainder of the unit.
23	No change, except that unit would be winter logged.
27	Unit combined with Unit 28 previously.
28, ZD/28	Do not construct new road. Reduce the unit to include only the area within approximately 1000 feet of the property line.
30	No change in unit boundaries. Target leave tree spacing would be 30 feet.
31	No change in unit boundaries. Target for leave trees in 12-16" diameter class would increase to 20 trees per acre.
35	Unit was dropped previously.
39	Modify unit to include only a narrow strip along Road 2086700.
40	Underburn entire unit, to the extent possible without having severe impact on young trees.
48	Drop entire unit.

The selected actions would also utilize the "Tonata Quarry" as a rock and gravel source for road reconstruction work. This is an existing, developed source, located along Road 2148300 in the North Fork Trout Creek drainage. Use of the site would be as described in the December 16, 2004 *Trout Materials Source Assessment and Design* by Mark Lysne (document in Trout project file).

Timber Harvest Prescriptions: The Forest Service will provide a discussion and estimated "before" and "after treatment" trees per acre by tree diameter class for representative logging units. It is understood that the data represents good faith estimates only, and are provided to give a clear picture of the Forest Service's intentions with regards to trees to be cut and left in the representative timber harvest units.

Units for which such information has been provided are: 12, 19 above Road 2086900 and east of Road 2086950, 19 below Road 2086900, 22, 23, 30, 31, 34, 36, and 43. The marking guide used for Units 15 and 40 were also provided.

In summary, Modified Alternative B would differ from the Proposed Action (Alternative B) as follows:

- Two timber management units (Units 1 and 48) would be dropped (total number of timber harvest units would be reduced from 52 to 50 units).
- All new road construction would be dropped (0.95 miles).
- Ten timber management units would be reduced in size (Units 2, 3, 4, 8, 15, 19, 21, 22, 28-ZD/28, and 39).
- With two units dropped and ten units reduced in size, timber management acres treated would change from 3,506 to 3,228 acres (an 8% reduction).
- One unit would change from mechanical piling to prescribed burning (Unit 40).
- Estimated timber volume would be reduced from 12.3 to 10.9 million board feet (an 11% reduction).
- The Forest Service will provide a discussion and display of estimated “before” and “after treatment” trees per acre and basal area per acre by diameter class for representative logging units.

Rationale for the Decision

I have selected the alternative that best meets the purpose and need while addressing concerns about environmental impacts expressed by the public. The No Action Alternative (Alternative A) was not selected because it does not meet the purpose and need of the project (the risk of stand-replacing wildfires would not be reduced, forest health would not be improved, and wood products would not be provided to help local sawmills and communities). The Proposed Action (Alternative B) meets the purpose and need very well, but did not resolve some of the environmental issues to the satisfaction of some members of the public, notably those parties represented by the Northeast Washington Forestry Coalition. Alternative C, while it addressed the environmental concerns that some members of the public had with the Proposed Action, did not go far enough to reduce tree stocking to adequately address the need for improved forest health, did not reduce ladder fuels and crown density to adequately reduce risk of stand-replacing wildfires, and it would contribute little (if any) quantity of wood products to the local community because it may not generate sufficient value to offset product removal costs.

Changes to Alternative B that result in the selected alternative (Modified Alternative B) were made for the following reasons.

Unit 1 was dropped because the unit is in the Bodie Creek subdrainage which has had considerable cumulative impact from past timber harvest, private land timber harvest, and past grazing impacts to the headwaters basin.

Unit 48 was dropped because it contains areas with large trees and thus had value as old growth timber to some members of the public.

All new road construction is dropped in recognition to the sensitivity of new roads as an issue with some members of the public. They feel that new roads provide potential for sediment introduction to streams and fisheries, expansion of noxious weed populations, and impacts to wildlife, reduction of secluded area, and noise and disturbance caused by off-highway vehicles, even if roads are closed.

Portions of Units 8 and 28 would be dropped as a result of the decision to drop all new road construction. In Unit 8, the dropped portion also had potential for sediment production in the event of a 30-year frequency storm; thus the potential for this sediment production would be avoided. In Unit 28, the area that would have been accessed by new road construction has numerous snags and is within a pileated woodpecker “Management Requirement Unit.” Not building this road and not logging part of the unit will help retain snags which are important for pileated woodpecker and other snag-dependent wildlife.

The decision to drop new road construction would also change proposed access to Unit 19, but this would not change the acreage that would be treated. Instead of building and using a new road, existing unclassified roads and longer skidding distances would be used to access the unit’s timber. This would potentially result in increased sediment delivery to West Fork Trout Creek because the existing old unclassified road is entrenched and oriented such that water draining down the roadway cannot be diverted off the roadway into filtering vegetation, thus there is potential for sediment to enter the stream. This is the existing situation, and while it would be aggravated by new logging activity, the added impact is not significant. I feel the tradeoff of a short-term increase in sediment is worth avoiding the expense and longer-term impacts associated with constructing a new road. The new road would have involved a stream crossing, so it also carried a risk of increased sediment (though the magnitude of the sediment produced would be less with the new road than with using the old road).

Portions of Units 15, 19, 21, 22, 28 are dropped primarily to avoid logging in “late and old” or mature timber stands. Also, Units 30 and 31 will have numbers of leave trees increased slightly to increase the number of larger trees remaining after harvest. The acreage involved is relatively small, and preservation of old growth timber was an important issue to many members of the public.

Portions of Units 2, 3, 4, and 39 are dropped primarily to maintain seclusion and undisturbed habitat associated with the Kelly Mountain and Storm King Mountain areas. Though Units 2, 3 and 4 were previously logged, the acreage dropped represents an important issue to some members of the public. Unit 2 is reduced in size also because a portion is in cool-moist spruce or alpine fir forest type. Some members of the public felt it was important to avoid logging this portion of Unit 2.

Portions of Units 22 and 23 are infected with root disease. Winter logging will be required in these areas to minimize soil compaction and disturbance that could stress or weaken trees, making them more susceptible to mortality from root disease.

Unit 40 would be changed from mechanical piling to underburning in areas where adequate tree stocking will be left. Some members of the public felt that underburning on this southerly-sloping site would set the stage for the return of low intensity, frequent fires which are more manageable and for which the site is adapted.

As part of the selected alternative, I will provide a discussion and display of estimated “before” and “after treatment” trees per acre and basal area per acre by diameter class for representative logging units. This display was requested by members of the public so they could clearly understand the distribution of trees by size class that would remain after harvest, so as to address the concern about whether stand treatments would retain sufficient numbers of the largest trees in the stand.

As part of Modified Alternative B, I am choosing to proceed with logging Unit 7 as proposed by the ID Team. Logging this unit will use Road 2150030 without reconstruction, other than removing the earth mounds and cutting encroaching vegetation that currently block the road. Logging would be restricted to the dry season, and truck size would be restricted so as to facilitate log haul on the road in its current condition. The road would be re-closed following logging. I feel the impact to the stream and riparian area by using the old road in its present condition and during the dry season will be not significant, and will be less than reconstructing the road because there will be less new soil disturbance within the area immediately adjacent to the stream.

The selected alternative meets the purpose and need of the project as follows:

1. *Reduce hazardous fuels (ground fuels, ladder fuels, and forest crown continuity) for the purpose of reducing the risk of large, stand-replacing fires.* Alternative B-Modified would treat approximately 8,151 acres to reduce hazardous fuels (3% less than Alternative B, and 9% more than Alternative C).
2. *Remove diseased trees, reduce stand density, and modify tree-species composition for the purpose of improving forest health.* Alternative B-Modified would treat approximately 8,237 acres to improve forest health (3% less than Alternative B, and 9% more than Alternative C).
3. *Help sustain local sawmills and communities.* Alternative B-Modified would harvest approximately 10.9 million board feet [89% as much as Alternative B (12.3 million board feet), and 341% as much as Alternative C (3.2 million board feet)].

The selected alternative addresses the “significant issues” as follows:

1. *Water Quality:* None of the alternatives have much potential to adversely impact water quality, primarily because of Best Management Practices that are designed to mitigate adverse water quality impacts, and avoidance of road construction and timber harvesting in riparian zones. Alternative B-Modified would have less potential to adversely affect water quality than would Alternative B by not building any new roads, and not logging the lower portion of Unit 8 which was identified as having potential to contribute sediment in the event of a 30-year or larger storm event. Alternative B-Modified would not address the water quality issue as well as would Alternative C, because Alternative B-Modified retains Units 11 and 24, which were also rated as having potential to contribute sediment in the event of a 30-year or larger storm event.
2. *Wildlife:* Alternative B-Modified would be intermediate in effects to wildlife between Alternatives B and C. All action alternatives would reduce thermal cover in Forest Plan-designated winter range; however, the wildlife biologist asserts that opening up understory tree cover and stimulating winter browse by underburning will more than offset any adverse effects from opening up the tree canopy. With regards to Late and Old forest structure, Alternative B-modified would have less impact than Alternative B because it will drop several areas with Late and Old forest structure (all or portions of Units 19, 28, and 48); it will open

and/or improve fewer closed roads; and it will thin fewer acres of lynx denning habitat. However, Alternative B-modified will have more impact than would Alternative C.

3. *Fisheries*: None of the alternatives have much potential to adversely impact fisheries in area streams and Curlew Lake, primarily because of Best Management Practices that are designed to mitigate adverse water quality impacts, and avoidance of road construction and timber harvesting in riparian zones. Alternative B-Modified would have slightly less potential for impact to fisheries than would Alternative B, primarily because it would not build two new road crossings (roads to Units 8 and 19 would have crossed an intermittent Riparian Habitat Conservation Area and a non-fish-bearing perennial stream). Because new road construction would be dropped, the total number of road-stream crossings in the Trout project area would not change from the present condition. Impact under Alternative B-Modified would be slightly more than Alternative C, primarily due to more timber volume being hauled over Road 2148000 within the Riparian Habitat Conservation Area along the north fork of Trout Creek.
4. *Soil*: All action alternatives would impact soils, primarily by compacting soils with ground-based logging equipment. However, mitigation measures will be included that will keep impacts within Forest Plan standards. Alternative B-Modified would have slightly less soil impact than Alternative B, but more impact than Alternative C, primarily due to the differences in acres of ground-based logging (Alt. B = 3,046; Alt B-Modified = 2,781; Alt C = 1,638). Also, Alternative B-Modified would require winter logging on two additional units (Units 22 and 23), thus further reducing soils impacts in these two units. No areas would be affected that are prone to landslides under any of the alternatives.
5. *Noxious Weeds*: All of the action alternatives would disturb soil, so all have potential to increase the extent of noxious weeds to some degree. Noxious weed prevention measures are included so as to minimize and manage weed spread. Alternative B-Modified would disturb approximately 90% as much acreage as would Alternative B, so has slightly less potential to increase noxious weed extent. Alternative C would have substantially less potential to increase noxious weed extent.

Management Direction

Forest Plan

The Forest Plan is the guiding management direction for the Trout project area. The Trout Environmental Assessment incorporates the Forest Plan by reference, and is tiered to the Forest Plan's FEIS (Final Environmental Impact Statement) (Torrence, 1988). The Forest Plan contains Standards and Guidelines and Management Area designations and prescriptions that apply to the entire Colville National Forest, including the Trout project area. Impacts of programmatic decisions contained in the Forest Plan are disclosed in the Forest Plan FEIS.

The Forest Plan includes amendments that are also management direction for this project. They are:

Regional Forester's Forest Plan Amendment #2 entitled *Revised Continuation of Interim Management Direction Establishing Riparian, Ecosystem and Wildlife Standards for Timber Sales* (Lowe, 1995).

This direction was implemented to preserve future planning options concerning wildlife habitat associated with Late and Old structural stages, fish habitat, and old forest abundance until the Eastside EIS is completed. In this interim direction, the Regional Forester directed the National Forests in eastern Oregon and eastern Washington to maintain and/or enhance Late and Old Structural Stages in stands subject to timber harvest.

Inland Native Fish Strategy (Salwasser, Bosworth, and Lowe, 1995). This amendment replaced the interim riparian standard from Regional Forester's Forest Plans Amendment #1. The Inland Native Fish Strategy is hereafter referred to as "INFISH Direction."

Regional Forester's Forest Plans Amendment #2 and the INFISH Direction are collectively referred to as "Screening Direction" in the Environmental Assessment.

Regional Forester's October 11, 2005 amendment to forest plans in Region 6, *Preventing and Managing Invasive Plants*, (Preventing and Managing Invasive Plants Record of Decision, Appendix 1-1). This management direction includes invasive plant prevention and treatment/restoration standards intended to help achieve stated desired future conditions, goals and objectives.

Public Involvement

Project Development and Scoping

The Trout project began on January 10, 2002 when the public was invited to meetings to help develop the proposed action for the Trout project.

The initial proposal was developed by the Forest Service and was provided to the public and other agencies for comment during a scoping period that began on April 30, 2002.

In August 2002, participants in the appeal of the Scatter Ecosystem Management Projects (Republic Ranger District, 2002) met to develop an alternative to the proposed action, as specified in the informal disposition agreement for the Scatter project. The participants submitted the results of that effort (Alternative C) on September 30, 2002.

After the Forest Service completed its evaluation of the project alternatives, it was determined that Alternative C had serious shortcomings that would likely preclude its selection by the Responsible Official. To rectify this situation, the Alternative C participants (Ferry County Board of Commissioners, Kettle Range Conservation Group, and The Lands Council) and the Northeast Washington Forestry Coalition were invited on July 13, 2005 to review the alternatives and begin a process to find a solution that would meet both the participant's concerns and the Forest Service's needs.

A field trip was conducted on August 3, 2005 to review, discuss, and work toward agreement regarding harvest units and marking prescriptions. Eight members of the Northeast Washington Forestry Coalition, including two members of Conservation Northwest/Kettle Range Conservation Group and one member of The Lands Council, attended this field trip.

The Forest Service Republic Ranger District met on August 19, and August 25, 2005 with Ferry County Commissioner Brad Miller, to discuss a draft proposal for the Trout Project that Commissioner Miller had obtained from David Heflick of Conservation Northwest/Kettle Range Conservation Group. The purpose of the meetings was to help Commissioner Miller and the Forest Service understand the implications of the changes being proposed by Mr. Heflick.

A meeting was held on September 28, 2005, with Tim Coleman of Kettle Range Conservation Group to hear and clarify his remaining concerns about harvest unit sizes, locations, and marking prescriptions.

Between August 4 and September 26, 2005, Trout project Silviculturist Mary Rourke and Conservation Northwest/Kettle Range Conservation Group representative David Heflick worked out a table in which harvest prescriptions would be displayed for representative timber harvest units.

The discussions between July 13 and September 26, 2005 resulted in proposed modifications to Alternative B that the Forest Service believes are acceptable to all parties involved (Forest Service, Conservation Northwest/Kettle Range Conservation Group, The Lands Council, Ferry County Board of Commissioners, and Northeast Washington Forestry Coalition).

Comment Period

The proposed modified Alternative B was presented to the public during the formal 30-day comment period required under regulations found in 36 CFR 215, beginning on November 10, 2005. An “Opportunity to Comment” legal notice was published in the Republic News Miner (the newspaper of record for Republic Ranger decisions) on November 10, 2005; Environmental Assessments were mailed to ten interested agencies organizations, and individuals; and “Notice of Availability” letters were sent to twenty agencies, organizations and individuals. The 30-day comment period ended on December 12, 2005. Five comment letters were received.

- Nancy McCambridge: Expressed support for Alternative C.
- Randy Abrahamson, Spokane Tribe: Concurred with “selected Alternative B,” with three qualifying provisions (keeping to forest practices of staying on old roads and skidder trails, monitoring of road construction by archaeological personnel, and opening or improving existing roads within the original course only).
 - Ed Watt, Kettle River Advisory Board and Ferry County Natural Resource Board member: Contending that the EA’s description of who participated in development of Alternative C was “a misrepresentation of the truth;” a comment implying that “restoration” is not an appropriate use of tax dollars; and an attached excerpt from USDI Fish and Wildlife Service Fire Effects Guide.
 - Marc Church, Native Forest Council: Opposing the proposed action, contending that thinning and fuel reduction projects are costly and ineffective in protecting homes and lives from forest fires.
 - David Heflick, Conservation Northwest: Urging the Forest Service to choose Modified Alternative B.

Issues

The “significant issues” and “other issues” identified through the scoping process are described in the EA on pages 16-21. “Significant Issues were:

1. Water quality
2. Wildlife
3. Fish
4. Soils
5. Noxious Weeds.

Other issues are listed on EA pages 18-21.

Alternatives Considered

No Action (Alternative A)

The No Action alternative is described as not implementing actions proposed under this environmental analysis. Actions to manage timber and reduce hazard fuels would not be implemented at this time.

Proposed Action (Alternative B)

The Proposed Action (Alternative B) was developed by the Forest Service to address the Purpose and Need within the constraints of the Forest Plan. The Proposed Action would utilize controlled burning, shaded fuel breaks, and thinning as the primary activities. The full description and map of Alternative B is in the EA on pages 22-28, and includes Project Design Elements Common to All Action Alternatives describe in the EA on pages 33-43.

Alternative C

Alternative C is an alternative proposal jointly developed by the Kettle Range Conservation Group, The Lands Council, and the Ferry County Natural Resource Board (representing the Ferry County Board of Commissioners). This alternative was designed to address issues (as stated by the alternative proponents) of unroaded areas, soils, and noxious weeds. Because Alternative C avoids building new roads and avoids or reduces timber harvest in secluded areas, it is also responsive to the wildlife, water quality, and fish issues. The full description and map of Alternative C is in the EA on pages 28-33, and includes Project Design Elements Common to All Action Alternatives describe in the EA on pages 33-43, and Project Design Elements for Alternative C on EA page 43.

There were no alternatives that were excluded from detailed consideration.

Consistency with the Forest Plan, Laws, Regulations, and Policies

The selected actions described above comply with the Colville National Forest Land and Resource Management Plan (Forest Plan), including amendments. Rationale is as follows:

- The selected actions meet all standards and guidelines prescribed in Chapter 4 of the Forest Plan for the following Management Areas:

Management Area 1, Old Growth Dependent Species Habitat (Forest Plan pages 4-69 to 4-72)

Management Area 3A, Recreation (Forest Plan pages 4-77 to 4-79)

Management Area 3B, Recreation/Wildlife (Forest Plan pages 4-81 to 4-83)

Management Area 5, Scenic/Timber (Forest Plan pages 4-93 to 4-96)

Management Area 6, Scenic/Winter Range (Forest Plan pages 4-97 to 4-100)

Management Area 7, Wood/Forage (Forest Plan pages 4-101 to 4-104)

Management Area 8, Winter Range (Forest Plan pages 4-105 to 4-108)

- The current open road density in the Management Area 6 & 8 block north of the West Fork Trout Creek during the winter season is 0.64 miles/mi.², which is in excess of the < 0.4 miles/mi.² Forest Plan standard for mule deer in Management Areas 6 and 8. All roads within the designated winter range block that the Forest Service controls are closed during the winter season. The reason the road density exceeds the Forest Plan standard is because 0.89 miles of County Road 514 is within the southern boundary of the Management Area 8 block along West Fork of Trout Creek. The Forest Service does not have jurisdiction over County Road 514; thus compliance with the Forest Plan open road density standard is outside the Forest Service's control.
- The actions are consistent with Forestwide Standards and Guidelines found on Forest Plan pages 4-35 through 4-60.
- The actions are consistent with direction contained in Regional Forester's Forest Plan Amendment #2 (EA pages III-2 through III-6, and III-11 through III-18) and with INFISH direction (EA page III-81).
- The actions are consistent with the Forest Plan because mitigation measures (Environmental Assessment pages II- 22 through II-38), and Best Management Practices (Analysis File), have been fully applied in the selected actions. The project is feasible and reasonable, and it results in applying management practices that meet the Forest Plan overall direction of protecting the environment while producing goods and services.

The selected actions which alter vegetation meet the minimum specific requirements of the National Forest Management Act (see Forest Service Handbook 1921.12). Rationale is as follows:

1. Soil, slope, or other watershed conditions will not be irreversibly damaged: See EA pages 114-130.
2. There is assurance that the lands can be adequately restocked within five years after final regeneration harvest (FSM 1921.12g): See EA page 28, and Trout Vegetation Management Project Silviculture Report by Mary Rourke, May 17, 2005, page 15.
3. Streams, streambanks, shorelines, lakes, wetlands, and other bodies of water are protected from detrimental changes in water temperatures, blockages of water courses, and deposits of sediment where harvests are likely to seriously and adversely affect water conditions or fish habitat: See EA pages 72-78 (Water) and 108-114 (Fisheries).
4. The harvesting system to be used is not selected primarily because it will give the greatest dollar return or the greatest unit output of timber: See Rationale for the Decision, above.

5. Clearcutting, seed tree cutting, shelterwood cutting, and other cuts designed to regenerate an even-aged stand of timber are not prescribed for this project.

These actions have been examined and found to be in compliance with:

- the Clean Water Act (EA page 78 and Trout Projects Environmental Analysis Hydrology Report by Bert Wasson, May 23, 2005),
- the National Historic Preservation Act (Colville National Forest Section 106 Compliance document in Analysis File),
- the Endangered Species Act (EA pages 99-108 for terrestrial wildlife; pages 108-114 for fish; and pages 154-156 for plants, and USFWS Concurrence letter in Analysis File),
- the National Environmental Policy Act (EA in its entirety),
- the National Forest Management Act (see discussion above),
- the United States Clean Air Act (EA pages 137-138 and Trout Vegetation Management Project Fuels Report by Reed Heckly, May 11, 2005, pages 37-40),

Additionally, I have reviewed the Proposed Action as it would be modified herein in the context of the effects analysis presented in the EA. Because the Selected Action is within the scope of the alternatives already analyzed in the EA, I find that the effects are also within the scope of those already discussed.

Finding of No Significant Impact

I have determined through the *Trout Vegetation Management Project Environmental Assessment* that this is not a major federal action individually or cumulatively that would significantly affect the quality of the human environment; therefore an Environmental Impact Statement is not needed. This determination is based on analysis of the context and intensity of the environmental effects, including the following factors:

1. Analysis of the beneficial and adverse impacts (see EA Chapter III for full discussion of beneficial and adverse effects):

Beneficial Effects	Adverse Effects
<p>Timber Vegetation</p> <p>Treatments would increase tree and stand vigor by reducing the number of trees per acre. This will also reduce conditions favorable to forest pests, reduce crown bulk density (vol-wt/sq ft), canopy continuity and ladder fuels. Treatments would bring the landscape closer to historical mosaics as measured by HRV (Historic Range of Variability) by targeting stands in the Douglas-fir BEs (biophysical environments) for a target structural stage of single-story old growth (Structural Stage 7).</p> <p>Prescribed burning coupled with mechanical vegetation treatments reduce the potential for damaging forest pests and uncharacteristic wildfire damage.</p> <p>Units scheduled for treatments that encourage SS7 (Structural Stage 7) will be underburned following harvest. This will reduce competition from unmerchantable seedlings and some saplings as well as reduce ground fuels caused by harvest. Reducing understory competition is expected to help increase the vigor of the residual overstory through time.</p>	

Beneficial Effects	Adverse Effects
<p>Forest Fuels</p> <p>The selected alternative would reduce all levels of the fuel profile in 42% of the planning area.</p> <p>Private properties along the National Forest boundary will become safer as hazardous fuel conditions are treated adjacent to their neighborhoods.</p> <p>Crown fire and spot fires will be less likely near private improvements in case a fire spreads from the National Forest.</p> <p>Fire suppression in the WUI (Wildland-Urban Interface) can be attempted with greater success by ground forces. Air resources can more easily suppress fires where timbered canopies have been opened up to allow aerial retardants and water to penetrate to the ground.</p> <p>Seedlings and saplings will be reduced in number so that dense thickets will no longer provide ladder fuels.</p> <p>Dead and downed fuel accumulations will be reduced.</p> <p>Tree canopies will be thinned and separated to reduce the capability of sustaining a crown fire.</p> <p>A large fire expanding from the southwest or west would burn into a mosaic pattern of fuels which would slow spread and lessen the chance of extreme fire behavior in the Trout project area.</p>	<p>Because fire has been absent from the watershed for several rotations, some damage to the residual stand is inevitable as fire burns off layers of accumulated needle duff, seedlings, saplings, and mistletoe brooms. Mitigation measures (Timber Management) 1 and 2 should minimize detrimental effects due to fuels reduction activities.</p> <p>Since burning is an unpredictable process, a certain amount of damage is expected. Burns that are too hot may burn tree tissue and encourage insect attacks. Weakened trees become more susceptible to secondary pathogens like turpentine and Douglas-fir bark beetles. Anchor roots may be burned causing trees to fall over. If burning becomes too hot, soil organic matter may be volatilized and site productivity may be reduced. However, burning within prescription is not likely to reduce soil organic matter to below recommended nutrient levels.</p> <p>Some mortality is expected in trees that are heavily infected with dwarf mistletoe and in thickets of understory trees.</p>
<p>Economics</p> <p>The Selected Action is expected to provide approximately 20,900 hundred cubic feet of timber (10.9 million board feet).</p> <p>It is expected that delivered wood-product value will exceed logging costs, and produce sufficient revenue to offset most non-timber sale project costs (i.e., fuel reduction, pre-commercial thinning, and other sale improvement activities).</p>	

Beneficial Effects	Adverse Effects
<p>Water</p>	<p>Little or no soil erosion is expected from roadwork, and the disturbance is expected to remain within the clearing limits.</p> <p>Thinning and fuels reduction by broadcast or underburning treatments would introduce low and mixed severity fire onto the landscape over a 5-year period. Under low severity fire, 95% of the duff would remain and the fire would remain in the understory. Mixed intensity fires would consume up to 50% of the duff in places otherwise it would be similar to the low intensity fire. Riparian areas would be mostly unaffected except that a low intensity creeping fire might occur. It is expected that there would be no noticeable effects on erosion and sedimentation because the duff and infiltration capacity would remain functional. The combination of these treatments may have a slight effect of increasing the access of livestock to riparian areas, which in turn may slightly increase the bacterial level of streams. Livestock hoof action may reduce stream bank stability and mobilize bank sediments.</p> <p>No direct pollution of streams is expected from the proposed activities (either harvest or burning). Water quality in the several drainages and Curlew Lake is expected to remain unchanged.</p> <p>The incremental effect of the fuels reduction projects on the soil and water resources, divided across the various drainages is expected to be slight and within the Forest Plan Standards and Guides. After assessing the current condition of the resource following past activities and prescribing highly effective BMPs for the proposed activities, it is expected that there will be no adverse cumulative effects.</p>
<p>Wildlife Northern Leopard Frogs, Common Loons, Clark's Grebes, Eared Grebes, Feuriginous Hawks, Sandhill Cranes, Pygmy Whitefish, Woodland Caribou, Northern Bog Lemming, California Wolverine, Beaver, and Bald Eagle -- These species do not occur in the project area, (or in the case of beaver and bald eagle, they do not occupy habitat within or near project activity sites) so there will be no impact to these species.</p>	
<p>Big Game -- Prescribed burning activities are expected to provide a net beneficial effect for mule deer. While project activities may not provide an immediate measurable advantage in existing cover:forage ratios, the quality and quantity of forage available within existing forage areas should improve.</p> <p>Cover and forage conditions both within and adjacent to the designated winter range are expected to improve and prove more attractive to wintering mule deer.</p>	
<p>Pileated Woodpeckers -- In addition to promoting the growth and development of larger trees, reducing and eliminating ladder-fuels and stand-replacing wildfires is one of the primary objectives of the Trout project. In this context, whatever favorable</p>	<p>Actions involving the thinning and removing of trees from an area risks the direct loss of snags from within the area. Also, exposing more of the snags for firewood cutting fairly well ensures that an undetermined proportion of all snags within a treated area will be subject to being fallen and/or removed.</p>

Beneficial Effects	Adverse Effects
<p>habitat stands to be retained in the absence of the project also stands to be completely lost in the event of stand-replacing wildfire. Therefore, the greater long-term advantage for pileated woodpeckers might be in improving increased growth of larger diameter trees and clearing the understory of the potential for uncontrolled wildfires.</p>	<p>A relatively minor proportion (11 acres) of the 352 acres in pileated woodpecker MRU (Management Requirement Unit) 4PW24DP will be affected, and within pileated woodpecker MRU 4PW43DP, 112 acres of the total 436 acres would be treated. The 58-acre shaded fuel break along the Forest boundary will have further ground and ladder fuels reduced. This loss of snags remains within acceptable levels for complying with Forest Plan standards for both nesting and foraging; however the losses of snags would result in the units having less than the average snag levels found being used in the DecAID studies.</p> <p>Applying the existing Forest Plan standards, Alternative B-Modified is not expected to have an important adverse effect on the pileated woodpecker MRUs within the Trout project area. The amount of affected area within 4PW24DP is relatively insignificant; and, while a larger proportion of area is being affected within 4PW43DP, the overall design and intentions are toward improving old-growth development.</p> <p>However, the same is not equally true when referencing the DecAID advisor. If the DecAID advisor is an applicable indication, the potential exists for the loss of at least one nesting pair in the short term. However, these losses may be more than equally compensated for through the natural creation of larger snags in the future by improving the growth potential of the remaining post-treatment stands.</p>
<p>Barred Owl -- Over the long term, the treatments proposed are expected to result in better and more stable habitat conditions for barred owls.</p>	<p>The prescribed burning treatments pose a slight risk of stand-replacing fire, which would be considered an irreversible effect on existing barred owl habitat conditions.</p>
<p>Marten and Three-Toed Woodpecker – Over the long term, the treatments proposed are expected to assist in the stabilization and improvement of habitat conditions for American marten and northern three-toed woodpecker.</p>	<p>The prescribed burning treatments pose a slight risk of stand-replacing fire, which could be considered an irreversible effect on the existing marten/three-toed woodpecker habitat conditions.</p>
<p>Blue Grouse – Project actions will enhance blue grouse habitat conditions through prescribed burning and timber harvesting, which is designed to restore single-storied open forest conditions. Blue grouse production should increase over the long-term due to improved habitat conditions.</p>	<p>Spring fires create the risk for a seasonal loss of nests and/or young blue grouse. However, loss of a few nests and/or young in the context of the overall picture would be considered as a temporary cost to be paid when compared to the net long-term advantage to be gained. These losses are not considered irreversible and irretrievable effects.</p>
<p>Franklin’s Grouse -- Controlled burning, alone or in combination with other treatments, carries the potential for incidentally encouraging favorable young lodgepole pine Franklin’s grouse habitat.</p>	<p>Alternative B-Modified would be expected to cause a small incidental net reduction in the existing Franklin’s grouse habitat.</p>
<p>Other Woodpeckers -- Restoration of more open-type of forest conditions will benefit species such as the white-headed woodpecker.</p>	<p>Proposed treatments will likely result in a net decrease in woodpecker habitat conditions through the intentional and unintentional loss and removal of snags.</p> <p>Given the magnitude of the Douglas-fir beetle infestation contrasted to the relatively smaller proportion of the area being proposed for treatment, no major reason exists to</p>

Beneficial Effects	Adverse Effects
	<p>believe project actions would cause an important and significant depression in woodpecker numbers or habitat. In total, woodpeckers will likely experience a temporary adverse effect within the treatment areas when the prescriptions are being implemented; but within less than a decade any adverse impacts should be no longer noticeable, and the benefits, particularly if complemented with the suggested mitigation measures, should begin to become apparent.</p>
<p>Large Raptors and Great Blue Heron – Restoration of single-storied open stand conditions will beneficially affect most forest dwelling raptors as a result of improving the abundance and availability of prey populations.</p>	<p>In the absence of mitigation measures, the great blue heron nest site in Unit 10 stands to be adversely affected. However, the suggested mitigation measures, to prohibit activities in the nest vicinity during the nesting season (see Mitigation Measure on 6 on EA page 41) should substantially alleviate any significant adverse effect resulting from project implementation.</p>
<p>Waterfowl --</p>	<p>Adherence to Forest Plan standards and guidelines will prevent adverse effects to waterfowl habitat conditions.</p>
<p>Migratory Birds – Single stratum old-growth forest is the habitat type in shortest supply and most in need of restoration in this area. Bird species requiring this habitat type have probably undergone the greatest decline over time in this area. Restoration activities in the form of commercial thinning and prescribed fire will promote a net improvement for future single storied old-growth habitat-type conditions.</p>	<p>Proposed timber harvests are designed to retain existing snags and downed logs to meet Forest Plan direction. Therefore, no important adverse effects to cavity nesting bird habitat should be associated with timber harvest.</p> <p>Management actions conducted for restoration of open forest habitats may reduce or eliminate habitat for some terrestrial bird species currently present within the treatment areas. The relatively minor percentage of habitat being treated will not create a significant impact on population levels of these birds.</p> <p>Restoration activities in open forest habitats conducted during the breeding season may also temporarily reduce reproductive success for representative species of the desired open forest habitat. Conducting burns during the breeding season with no provision for the protection of these areas could potentially result in reduced reproduction for those species. The exact level of this impact is difficult to predict. The proposed activities will be treating only a small fraction of the landscape per year (500 to 5000 acre burns are not considered a major loss in any one watershed during any one year). The rate of travel is relatively slow enough to allow most adult birds to escape unharmed. The project could quite likely destroy some nests and eggs, and, perhaps young, if implemented during the nesting and reproductive season, however, the losses will be more than compensated for by the benefits derived in having more restored acres.</p>
<p>Gray Wolf --</p>	<p>No adverse effects on wolves are expected. While the project is expected to benefit mule deer, it would also be detrimental to the cover favored by white tail deer, thus the prey base for wolves would not change.</p>
<p>Grizzly Bear -- Opportunities for improved grizzly bear habitat will be created through removal of the understory and groundstory and are expected to increase foraging attractions should the occasional grizzly bear visit the area.</p>	
<p>North American Lynx --</p>	<p>The project actions are well within the Forest Plan standards, and</p>

Beneficial Effects	Adverse Effects
	<p>should not be detrimental to lynx use of the Bodie LAU.</p> <p>Any negative impacts on lynx denning habitat are within guidelines and standards, are not significant, and, should be of a temporary nature. Denning habitat would be reduced by less than 1%.</p> <p>The proposed treatments should not cause any substantial negative impact on the foraging potential for lynx with the Bodie LAU.</p> <p>Cumulatively, within the entire Bodie LAU (adding the affected acres from the Trout project, to the acres being currently affected in the Berton project), acres being affected would still remain below that suggested by the best science available for managing lynx. The overall conclusion is that the project may affect but is not likely to adversely affect North American lynx or their habitat.</p>
<p>Peregrine Falcon -- Any effect would tend to apply to transitory migrating birds, and in this regard, any opening of the habitat through removing the forested cover would be considered beneficial.</p>	
<p>Pacific Western Big-eared Bat -- The potential indirect effects within the foraging habitat will be in the form of removing the understory “clutter” and lessening interferences for foraging activity.</p>	
<p>Pacific Fisher -- In a limited context, aside from the objective to suppress the threat of wildfire, the intentions of the project are to promote the restoration of an older, more mature forest condition. The project would include thinning to release and promote the aging and growth of standing trees. However, any benefit would not likely be soon realized.</p>	
<p>Great Gray Owl – The project will tend to promote favorable great gray owl habitat conditions by improving foraging conditions. It will promote single-storied open stand conditions and restore open areas thus improving growth and vigor of herbaceous and shrubby vegetation.</p>	<p>A small risk persists in the prescribed fires resulting in the loss of snags and/or large trees that provide potential nesting sites. However, adherence to Forest Plan standards and guidelines during timber harvest design should insure that the desired large tree and snag components are maintained.</p>

Beneficial Effects	Adverse Effects
<p>Fisheries</p> <p>There would be no effect to fisheries from harvest activities within individual unit boundaries, except that the risk of high severity fire is reduced. By reducing the risk, there is a beneficial effect to fisheries.</p> <p>Reconstruction of the roads should result in a moderate beneficial effect over the longer term (5 years or more), as sediment production from road templates decreases due to new armoring, drainage structure placement, and revegetation.</p> <p>Road wash and dust from the road is a major factor in degradation of habitat in Trout Creek. This project would reduce the effect of road wash and dust from Forest Service roads through rocking and other road reconstruction activities. Rocking of road segments within the Riparian Habitat Conservation Area will reduce the road wash entering the stream system.</p> <p>Bankfull width to depth ratios would improve overall. Road improvements from reconstruction would reduce long-term sedimentation to stream channels. This would reduce channel widening that occurs from increased bedload and loss of habitat complexity.</p> <p>The main effect to pools per mile is sedimentation of the pools and loss of habitat diversity. Long-term sedimentation would be reduced through road reconstruction.</p>	<p>Road reconstruction and use for haul can cause short-term (1-2 years) sedimentation. Very little sediment is expected to make it to Curlew Lake and impacts from the timber sale are not expected.</p> <p>Haul on roads in and near the riparian zone increases the amount of loose dirt that can be transported to the stream channel. The Forest Service portions of these roads are well-armored and have riparian vegetation between the road and the stream channel. This vegetation traps and filters most of the dust from the road system. However some road wash is entering the stream system and will continue.</p> <p>Curlew Lake and Trout Creek below the forest boundary may receive some sediment from dust and runoff from haul. The county roads will not receive treatment. This will add sediment to Trout Creek and subsequently Curlew Lake. It is expected that this will be small and similar to the existing condition. Trout populations and INFISH RMOs will still be affected by sediment. It is not expected that the affect to the populations or INFISH RMOs will be noticeable.</p> <p>Some short-term sedimentation would occur, but would be too small to impact bankfull width to depth ratios.</p> <p>Some short-term sedimentation would occur during reconstruction and construction, but would be too small to impact the number of pools per mile.</p> <p>In general, the effect to Curlew Lake and Trout Creek are expected to be minimal.</p> <p>The overall conclusion is that the project may affect habitat for threatened (bull trout) and sensitive (westslope cutthroat trout and redband trout) fish species but is not likely to lead in a trend towards federal listing or loss of viability.</p>
<p>Soils</p>	<p>The project would develop new landings. Erosion from landings may move into the fluvial system, impacting water quality and stream systems.</p> <p>The construction of landings is considered an irreversible effect on soil productivity.</p> <p>With tractor skidding, the main skid trails will experience detrimental compaction regardless of soil characteristics – unless ameliorating conditions exist such as snow or frozen ground. Design criteria are included which specify the minimum skid trail spacing. With 130 foot skid trail spacing, this project would detrimentally compact about 10% of the activity area.</p> <p>With sufficient slash or snow, a Cut-To-Length activity area would experience about 9% detrimental compaction. Mitigation is included to prevent the use of a Cut-To-Length system unless</p>

Beneficial Effects	Adverse Effects
	<p>the unit has sufficient slash or snow.</p> <p>Most of the soils in the analysis area, and most of the soils proposed for ground-based harvest treatments have a high potential for compaction when moist. Mitigation measures require all heavy equipment to remain on designated skid trails. Therefore, additional compaction off of designated skid trails would not occur in these units.</p> <p>Tractors that cross the same ground many times eventually remove the duff and forest floor material baring the soil to erosion. The soil on these heavily used skid trails is generally also compacted and the soil structure is destroyed. Because the erosion on heavily used tractor skid trails occurs on already degraded sites, this erosion does not add to the amount of ground with reduced soil productivity. Erosion from tractor skid trails may contribute to sediment to nearby streams.</p> <p>Erosion rates and the chance that sediment will enter a stream from harvest activities are highest in the first year following treatment. For the Trout project on most units and most slopes, the probability of sediment generating event is about 6-7% regardless of treatment. However, the amount of sediment that would reach the stream varies by treatment.</p> <p>Prescribed burning also bares the soil, subjecting it to erosion. In general, low and medium intensity fires burn only part of the duff and litter – leaving adequate soil cover over the majority of the site. The fires prescribed in the project are expected to burn the duff and litter in small, discontinuous areas throughout the prescribed burn areas. Because of their small size (<100 square feet) these areas are not expected to degrade long-term site productivity. In general, low intensity prescribed fire does not cause excessive erosion and sediment, because soil cover is retained in a discontinuous pattern across the landscape. Sediment may occur where low intensity fire occurs along intermittent streams.</p> <p>Timber removal can result in both soil warming and an increase in soil moisture due to reduced evapotranspiration. The soils warm in response to increased solar radiation, and removing trees reduces evapotranspiration because the total biomass of living plants is reduced. This effect typically disappears quickly as other plants reoccupy the site. Loss of canopy combined with increased soil moisture can create conditions favorable to decomposition of organic matter and increased biologic activity.</p> <p>The timber harvest would remove about ¼ to ½ of the basal area of the treated stands, generally leaving the overstory. It is unlikely the other proposed treatments would reduce crown cover enough to influence temperature or water regimes.</p> <p>Timber removal can change soil microbiology through changes in stand density, soil temperature, moisture regime, species</p>

Beneficial Effects	Adverse Effects
	<p>composition, and composition of the forest floor. Changes in types of fungi have been documented in stands that have been thinned, but these stands have had about the same total biomass of fruiting bodies.</p> <p>Logging and tree removal alone does not remove the organic material on the forest floor. All alternatives retain the larger trees, which when they die and fall down provide the refugia needed especially on drier sites.</p> <p>The prescribed fire proposed would be light intensity with small areas of medium intensity, retaining unburned islands. This kind of burn would not have a long-term adverse impact on soil biota.</p> <p>Nutrient loss from the removal of the boles of trees is typically small and can be replaced through the course of a rotation. The fire intensity proposed would not be high enough to volatilize a significant amount of plant nutrients. Typically cation plant nutrients (e.g., potassium, calcium, etc.) do not volatilize at the temperatures expected. They remain in the ash, where they may be lost through erosion or leaching. Because of the amount of organic matter to be left on the site, significant leaching is not expected to occur.</p> <p>The cumulative effect of this project, when combined with past projects, would continue to meet the Forest Plan standard with regard to detrimental soil conditions.</p>

Beneficial Effects	Adverse Effects
<p>Noxious Weeds</p>	<p>Harvesting activities may create landings and skid trails where soil is exposed and becomes open to noxious weeds invasion. Burning may create exposed soil where noxious weeds may spread or invade. Equipment used in road maintenance or timber harvesting may bring in noxious weeds or seeds from other areas.</p> <p>There would be an estimated 470 acres of disturbed soil available for invasion by noxious weeds or an additional 2.4% of the planning area under Alternative B (slightly less under Alternative B-Modified).</p> <p>It is estimated that there would be 0.2 acres under Alternative B-Modified of orange and yellow hawkweeds disturbed by road re-construction. Harvesting and burning would result in slightly less than 2.7 acres of soil disturbance in areas with hawkweeds. In addition to the increase in weed extent that is estimated to occur without any of the proposed actions these weeds would likely increase their extent. The extent of the hawkweeds would increase somewhat if hawkweeds were not in bloom, or the extent would increase substantially if hawkweeds were in bloom.</p> <p>It is similarly estimated that there would be 13.2 acres of diffuse knapweed disturbed by road re-construction, and 61.3 acres by harvesting and burning. The extent of the knapweeds would increase 27% per year if knapweeds were in bloom and spread around by equipment and equipment disturbing seeds already stored in the soil. During the life of the project (3 years), this would represent an increase of 153 acres. This would result in approximately 1.5% of the planning area having knapweeds (including pre-existing populations).</p> <p>There would be 0.7 acres of houndstongue disturbed by burning. In addition to the increase in weed extent in that is estimated to occur without any of the proposed actions the extent of houndstongue would increase because the fire would not be expected to kill the plants or the seeds and disturbed area would provide excellent seedbed.</p> <p>There would be 3.3 acres of common bugloss disturbed by harvesting. The extent of the bugloss would increase much the same as spotted knapweed or 27% per year if they were in bloom and spread around by equipment and equipment disturbing seeds already stored in the soil. During the life of the project (3 years), this would represent 7 acres. This would be less than 0.04% of the planning area (including other populations).</p>

Beneficial Effects	Adverse Effects
Air	<p>Direct effects will be seen as smoke from controlled underburning in both natural fuels units and commercial thinning units. Smoke is generated most copiously during the first few hours of a controlled burn, tapering off as the fuels consume. Smoke from residual burning may settle into the valleys during the night. Based on past experience, the smell of wood smoke from controlled burning may be detectable by the average citizen only occasionally in localized valley bottoms the morning after a burn.</p> <p>Smoke produced from combustion has potential to combine with smoke from other burn areas on the District or combine with smoke from burning being done on adjacent Forest Service Districts, other agency lands, and/or private lands. Smoke can also mix with residual smoke from the previous day's burning adding to the total production of smoke. In general, smoke emissions from controlled burns are occasional short-term events that disappear in the large-scale motions of daily wind and rain. State and national air quality regulations work to limit the rate of emissions so the production of particulates does not exceed the natural cleansing processes of the atmosphere. The everyday activities that produce vehicle exhaust, dust, home-stove smoke and other emissions are taken into account before smoke from forestry and agricultural burning is permitted. Therefore, controlled burning smoke, when compared to other human activities, is a transient product unlikely to produce lasting effects on a localized area.</p>
Heritage	<p>Ten heritage sites have the potential to be affected. All are Management Class 2 sites. Project activities have the potential to damage or destroy these sites directly by heavy machinery, falling trees, road building, fuels treatments, etc., or indirectly as a result of discovery and increased access to each site. Having a buffer left around each one of the sites will protect the Management Class 2 sites. With the buffering, each site will be protected.</p>

Beneficial Effects	Adverse Effects
<p>Range Over the long-term, the conversion of stands into the more-open stand conditions may help to reduce the complexity of the permittees' management. Management of the cattle may be easier since the more open stand conditions may make the cattle more visible to the permittees when they need to gather or move them from one location to another. Movement of cattle from one grazing area to another is anticipated to become less difficult since it will not only be easier to see where the cattle are but will also be easier to herd them from one site to another.</p> <p>A total of approximately 3,466 acres under Alternative B (slightly less under Alternative B-Modified), are expected to result in improved forage conditions and easier access to the forage for livestock grazing.</p>	<p>The proposed management activities will open up new areas for the cattle to graze, and until the permittees become familiar with the new use patterns, can make it difficult for them to determine how to best achieve proper distribution.</p> <p>There is some potential to burn man-made range improvements.</p> <p>There is no harvesting within riparian areas so it is anticipated that there will not be any additional cattle access to those sensitive areas. However, there could be an increase in cattle use of harvested areas in response to the quality of forage, which may, in turn, result in cattle trying to gain access to nearby riparian areas. While the objective is to not burn in the riparian areas there is still a risk that some of the slash and debris, which currently serve as barriers, could be burned.</p>
<p>Recreation Displacement of Recreational Users --</p>	<p>Active timber sale operations or active prescribed burning operations may displace some recreational users. Most likely they would be displaced to other nearby portions of the National Forest. Such displacement would be temporary, usually lasting from a few days to a few weeks in duration for active operations, or a few years (1-5) where vegetation is trampled or burned. It is not expected that recreational users would be displaced from the project area or the National Forest, only displaced from the immediate logging or burning activity area to another nearby area.</p>
<p>Dispersed Camping -- It is expected that logging will create new dispersed camping sites, as log landings would create spots that are suitable for dispersed camping.</p>	<p>Logging and burning activities are expected to adversely affect some dispersed camping sites by burning trampling, or otherwise damaging the surrounding vegetation. In most cases, it is expected that the damage would be light to moderate, and will recover in 3-10 years.</p>
<p>Hunting, Wood Gathering, Berry Picking -- It is expected that big game hunting, wood gathering, and berry picking would all be improved under both action alternatives. Substantial acreages of the forest would be thinned and/or underburned, resulting in increased visibility for hunting; increased logging slash and dead trees (for a few years) available as firewood, and increased sunlight that should stimulate huckleberry production.</p> <p>Snowmobiles --</p>	<p>Logging and timber hauling would occur during the winter months, which would necessitate the timber sale operator plowing portions of snowmobile routes for access to and from logging sites. This would affect snowmobilers and the State grooming contractor. On weekdays, portions of the routes into the area would not be available to snowmobilers. On weekends, all routes would be available, though one of the trailheads might be relocated.</p>
<p>Secluded, Undeveloped Recreational Settings --</p>	<p>Logging is considered to be an adverse effect on an otherwise undeveloped recreational setting. Logging leaves behind stumps and skid trails that persist 50 years or more before they become</p>

Beneficial Effects	Adverse Effects
	<p>“not evident.”</p> <p>Logging creates noise from vehicle traffic and heavy equipment that can be heard for miles across an otherwise quite forest setting.</p> <p>Underburning would likely be helicopter-assisted, which has the potential to disturb persons desiring quiet and solitude. Duration of such disturbance would be no more than a few days for each burning unit.</p> <p>In the Storm King Area, in Units 39 and 40, all logging would be within 1/4 mile of existing roads. The total affected acreage within the undeveloped area is less than 10 acres, which is less than one percent of the undeveloped area.</p> <p>Unit ZD/28 would have logging in the undeveloped area between Storm King Mountain and County Road 514 in West Fork Trout Creek drainage. Alternative B-Modified would reduce the undeveloped area by 112 acres (estimated to be approximately 10% of the area).</p>
Health and Safety of the Recreating Public	<p>Under Alternative B-Modified, up to 2,600 log- truck trips could occur over one to four logging seasons. If one were to assume that the entire project was logged over a single 180-day season, there would be approximately 14 loads of logs hauled per day. There would also be other traffic associated with the timber harvesting operation of 3-10 vehicles (mostly pickup trucks) per day while the timber sale is active. While the potential for accidents would increase with this increased logging traffic, with mitigation the potential for accidents is still considered to be low.</p>
Dust --	<p>Timber hauling and other project-related traffic will generate considerable amounts of dust during dry periods. Most of this dust settles on or within a few hundred feet of the roadway, so the primary impact will be to vehicles following other vehicles, or to people recreating on or near the roadways. This may include people picking huckleberries, gathering firewood, or camping in dispersed campsites. During periods of heavy timber hauling, it is expected that people recreating in the area will be displaced to another nearby area where dust is not being generated.</p>
Sensitive Plants	<p>The Likelihood of Adverse Effects is "Low" (1). The Consequence of Adverse Effects is "Moderate" (5) because of possible effects to the plants or habitat. The resulting Risk Assessment value is 5 -- proceed with the Project as planned. All alternatives may have an impact on individuals, but are not likely to cause a trend to federal listing or loss of viability.</p>

Beneficial Effects	Adverse Effects
<p>Visual Quality</p>	<p>At all viewing zones except the immediate foreground, it is expected that timber cutting treatments would be seen as nothing more than a textural change in the forest canopy.</p> <p>At the foreground viewing distance, the visual effects of timber thinning treatments are expected to meet the partial retention visual quality objective.</p> <p>At immediate foreground viewing distances, all timber cutting treatments have potential to be seen: Distances between trees would be increased; logging slash and damaged understory vegetation would be visible for a few years; and soil in skid trails and landings would be visible for a few years.</p> <p>Skyline logging has the potential to introduce vertical lines through treated stands; however, only a very small portion of one unit (Unit 17, background from State Route 21) would be potentially visible from any Concern Level 1 or 2 travelway or use area. Because of the small area affected and the long viewing distance involved, this treatment would be nearly impossible to detect.</p> <p>Hand pile, mechanical pile, and landing pile burning have the potential to scorch nearby trees or tree limbs, and will leave a blackened area on the ground where the pile burned. What will be seen are scattered orange foliage on conifer trees, and spots of blackened ground. It is expected that the visual effect will only last for a few seasons, until scorched needles fall and vegetation becomes re-established in burned spots.</p> <p>Broadcast burning or underburning has the potential to blacken tree trunks, low branches, and the ground, and turn low-hanging tree foliage orange. The effect can be visually dramatic immediately following the burn, but the effect becomes less as scorched foliage drops and understory vegetation re-grows, usually within a few seasons after the burn. The visually effects of underburning or broadcast burning are usually minimal to the casual observer in five years or less.</p> <p>At the foreground viewing distance, the visual effects of prescribed burning are as described above, and are expected to meet the partial retention visual quality objective. As the viewing distance increases, the visual effects become less evident. At the middleground viewing distance, one is likely to see only occasional black or orange tree crowns widely scattered through the green forest canopy; the result of trees that torched or became excessively heated/scorched during the burn. At the background viewing distance, little if any visual effect should be discernable.</p>

Beneficial Effects	Adverse Effects
<p>Effects on Consumers, Civil Rights, Minority Groups and Women (Includes Environmental Justice Analysis)</p> <p>The selected action would contribute to consumers, but only in a limited capacity. All action alternatives would provide wood products to one or more area sawmills, thus contributing raw materials that would become available to consumers. Because the amount of such material is small when compared to the regional wood products market, making this material available to the market will not measurably affect the price or availability of finished wood products.</p> <p>With regards to Environmental Justice concerns for potentially affected populations, hunting for members of the Tribes of the Colville Indian Reservation may be improved as mule deer habitat would be improved and sight distances increased in treated stands. Traditionally gathered plants may be improved with the opening of closed forest canopies and reintroduction of fire.</p> <p>With regards to Environmental Justice concerns for low income residents of Ferry County, the Trout project would temporarily open several roads for timber harvest, and leave these roads open for firewood gathering for a short firewood-gathering period. Firewood (snags and downed wood that has been behind road closures, and logging slash created by the project) would be more available for a few years as a result of the Trout project.</p>	

2. The degree to which the proposed action affects public health and safety:

There are a number of health and safety hazards to Forest Service Employees, private contractors involved with carrying out the Selected Action, and the general public. None are unusual or unique to the Trout project. These are discussed in the EA on pages 164 through 166, and include discussions of effects related to Smoke, Dust, Increased Traffic, Logging Hazards, Prescribed Burning Hazards, Weed Treatments, Improved Road Safety, and Reduced Wildfire Risk.

3. The unique characteristics of the geographic area:

The Trout project area contains no unique characteristics or features. See discussion on EA page 166.

4. The degree to which the effects on the quality of the human environment are likely to be highly controversial:

There has been no scientifically backed information presented that indicates substantial controversy about the effects disclosed in the Trout EA.

5. The degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks:

There were no highly uncertain, unique, or unknown risks identified for the Trout Project (EA page 166).

6. The degree to which the action may establish a precedent for future actions with significant effects:

None of the selected actions set precedents. See discussion on EA page 166.

7. Whether the action is related to other actions with individually insignificant , but cumulatively significant impacts:

Each effects analysis contained in the EA discusses cumulative effects; none were found to be significant. For Timber Vegetation, see EA page 62; for Forest Fuels, see EA page 69; for Water, see EA pages 75-78; for Big Game, see EA page 81; for Pileated Woodpecker, see EA page 86; for Barred Owl, see EA page 87; for American Marten and Three Toed Woodpecker, see EA page 91; for Blue Grouse, see EA page 92; for Franklin's Grouse, see EA page 93; for Other Woodpeckers, see EA page 94; for Large Raptors; see EA page 96; for Migratory Birds, see EA page 98; for Gray Wolfe, see EA page 99; for Grizzly Bear, see EA pages 100-101; for North American Lynx, see EA page 105; for California Wolverine, see EA pages 106-107; for Pacific Fisher, see EA pages 107-108; for Great Gray Owl, see EA page 108; for Fisheries, see EA page 114; for Soils, see EA pages 127-130; for Noxious Weeds, see EA page 135; for Air, see EA page 138; for Range, see EA pages 143-144; for Recreation, see EA pages 153-154; and for Visual Quality, see EA page 161.

8. The degree to which the action may affect scientific, cultural, or historical resources.

There are no scientific resources in the Trout Project Area. The effects on cultural or historical resources are discussed in the EA on page 139. The project has been certified as complying with Section 106 of the National Historic Preservation Act.

9. The degree to which the action may adversely affect endangered or threatened species or habitats:

The effects on endangered or threatened species and their habitats is discussed in the *Biological Evaluation* in the Analysis File, with results summarized in the EA on pages 78, 99-114; and 154-156.

Endangered or threatened species which may inhabit the area will not likely be adversely affected. These include the gray wolf (endangered), grizzly bear (threatened), and North American lynx (threatened). The proposed action is expected to have no effect on bull trout.

The U.S. Fish and Wildlife Service (February 7, 2006) has concurred with the Biological Evaluation's findings.

10. Whether the action threatens a violation of environmental laws or requirements.

The Trout project has been examined in relation to a number of environmental laws and requirements, and has been found to be in compliance in all cases. Discussion of compliance with environmental laws or requirements was discussed on the following EA pages:

- *the Clean Water Act (EA page 78 and Trout Projects Environmental Analysis Hydrology Report by Bert Wasson, May 23, 2005),*
- *the National Historic Preservation Act (Colville National Forest Section 106 Compliance document in Analysis File),*
- *the Endangered Species Act (EA pages 99-108 for terrestrial wildlife; pages 108-114 for fish; and pages 154-156 for plants, and February 7, 2006 USFWS concurrence letter in Analysis File),*
- *the National Environmental Policy Act (EA in its entirety),*
- *the National Forest Management Act,*
- *the United States Clean Air Act (EA pages 137-138 and Trout Vegetation Management Project Fuels Report by Reed Heckly, May 11, 2005, pages 37-40),*

There are no known significant irreversible resource commitments or irretrievable losses of timber production, wildlife habitats, soil productivity, or water quality (discussions about irreversible effects are included in the EA on pages 61, 67, 87, 89, 92, 123, and 144). Irreversible effects were identified soils (EA page 123). The risk of prescribed fires escaping control was identified as having irreversible effects to wildlife habitat (EA page 87 and 89), but the occurrence of this is rare. There were no irretrievable effects associated with the selection action.

Prime farmlands, prime rangeland, wetlands and floodplains near the planned actions will not be significantly affected (see EA pages 70-78, 96-97, 108-114, 116, 118-119, 141, 156, and 166, for discussions relating to wetlands and floodplains, and page 162 for prime farmlands and prime rangelands discussion);

Consumers, civil rights, minority groups, and women will not be significantly affected (see EA page 161-162);

The Selected Action does not substantially alter the undeveloped character of any areas that are considered to have roadless status under the Forest Plan (see EA page 151).

Appeal and Implementation

This project will not be implemented for 50 days from the date the legal notice of this decision appears in the Colville Statesman Examiner newspaper (Colville, Washington). The Trout-North Timber Sale is expected to be implemented in late summer or fall of 2006, and the Trout-West Timber Sale is expected to be implemented in 2007; burning may be initiated in Fall 2006 or Spring 2007.

This decision is subject to appeal pursuant to 36 CFR 215. Any written notice of appeal of the decision must be fully consistent with 36 CFR 215.4, "Content of an Appeal," including the reason for appeal and how the decision fails to consider comments previously provided. The notice of appeal must be filed with the Regional Forester, ATTN: 1570 APPEALS, P.O. Box 3623, Portland, Oregon, 97208-3623, within 45 days of the date legal notice of this decision appears in the Colville Statesman Examiner

This decision is subject to administrative review (appeal) pursuant to 36 CFR Part 215. Individuals or organizations who submitted substantive comments during the comment period specified at 36 CFR 215.6 may appeal this decision.

Any written notice of appeal of the decision must be fully consistent with 36 CFR 215.14, "Appeal Content." It is the appellant's responsibility to provide sufficient project- or activity-specific evidence and rationale, focusing on the decision, to show why the Responsible Official's decision should be reversed. At a minimum, an appeal must include the following:

1. Appellant's name and address (§ 215.2), with a telephone number, if available;
2. Signature or other verification of authorship upon request (a scanned signature for electronic mail may be filed with the appeal);
3. When multiple names are listed on an appeal, identification of the lead appellant (§ 215.2) and verification of the identity of the lead appellant upon request;
4. The name of the project or activity for which the decision was made, the name and title of the Responsible Official, and the date of the decision;
5. The regulation under which the appeal is being filed, when there is an option to appeal under either this part or part 251, subpart C (§ 215.11(d));
6. Any specific change(s) in the decision that the appellant seeks and rationale for those changes;
7. Any portion(s) of the decision with which the appellant disagrees, and explanation for the disagreement;
8. Why the appellant believes the Responsible Official's decision failed to consider the substantive comments; and
9. How the appellant believes the decision specifically violates law, regulation, or policy.

It is the responsibility of persons making an appeal to submit it by the close of the appeal period. It is the responsibility of persons submitting appeals by electronic means to ensure that their appeal has been received. The appeal must have an identifiable name attached or verification of identity will be required.

The notice of appeal must be filed hard copy with the Appeal Deciding Officer, Regional Forester, ATTN: 1570 Appeals, 333 SW First Ave., PO Box 3623, Portland, OR 97208, or sent electronically to **appeals-pacificnorthwest-regional-office@fs.fed.us**. The appeal must be postmarked or delivered within 45 days of the date the legal notice for this decision appears in the *Colville Statesman Examiner* newspaper. The publication date of the legal notice in the *Colville Statesman Examiner* is the exclusive means for calculating the time to file an appeal and those wishing to appeal should not rely on dates or timeframes provided by any other source.

If no appeals are filed within the 45-day time period, implementation of the decision may occur on, but not before, 5 business days from the close of the appeal filing period. When appeals are filed, implementation may occur on, but not before, the 15th business day following the date of the last appeal disposition.

For further information, contact James L. Parker, Colville National Forest Environmental Coordinator, at Republic Ranger District, 650 East Delaware, Republic, WA 99166, or at (509) 775-7400.

/s/ Betty M. Higgins
BETTY M. HIGGINS
Acting Forest Supervisor
Responsible Official

March 20, 2006
Date

Trout Vegetation Management Projects
Appendix A (Alternative B Corrected)

Unit No.	Treatment Prescription	Acres in Treatment Unit	Management Area	BioPys Env.	Logging System	Current Structural Stage/ Condition	Target Structural Stage/ Condition	Fuels Treatment
10 (Incl ZA/ 10, ZB/ 10)	Release overstory to enhance wildlife habitat, keeping stand in a multistory structure. Uneven-aged selection targeting intermediate, suppressed, and pathogen infested trees. Quarter acre group openings may be used to accomplish desired objectives. Standing deadwood greater than 12" in diameter at breast height (DBH) will be protected if possible. Target crown closure is 50% or greater	298	7/5/3A,	WDDF	Ground Based	M5, DF and Mt pine beetle, WL/DF DMT, Past overstory removal followed wildfire. Habitat not meeting old growth dependant species requirements, lacking snags, large trees and down wood High/mod crown fire potential.	SS-6 Pmp Habitat Rx#1	Mechanical pile, selective pile burn for habitat. leave large down wood (177 ac) Underburn on western steep slope (136 ac).
11	Reduce stand BA by ½-1/3, reduce I & D, some just weed & release	233	7	WDDF	Ground Based	E3/M5 stand with DMT and DF beetle. Past overstory removal.	SS-7	Mechanical pile and burn piles.
12	Release overstory to enhance wildlife habitat, keeping stand in a multistory structure. Uneven-aged selection targeting intermediate, suppressed, and pathogen infested trees. Quarter acre group openings may be used to accomplish desired objectives. Standing deadwood greater than 12" in diameter at breast height (DBH) will be protected if possible. Target crown closure is 50% or greater.	169	5/7,	WDDF	Ground Based	M5, Heavily infected with DMT, Habitat not meeting old growth dependant species requirements. Past OSR, variable stand, overstocked, diseased.	SS-6 PMP habitat Rx#1	Jackpot E ½ / Underburn W ½ where it meets habitat obj.
13	Reduce stand BA by ½-1/3, reduce I & D	235	7/5	WDDF CMA	Ground Based	M5 stand with DMT, Lynx. Part past overstory removal,	SS-6	Mechanical pile, selective pile burn for habitat.

Trout Vegetation Management Projects
Appendix A (Alternative B Corrected)

Unit No.	Treatment Prescription	Acres in Treatment Unit	Management Area	BioPys Env.	Logging System	Current Structural Stage/ Condition	Target Structural Stage/ Condition	Fuels Treatment
14	Release overstory to enhance wildlife habitat, keeping stand in a multistory structure. Uneven-aged selection targeting intermediate, suppressed, and pathogen infested trees. Quarter acre group openings may be used to accomplish desired objectives. Standing deadwood greater than 12" in diameter at breast height (DBH) will be protected if possible. Target crown closure is 50% or greater.	37	7	CMA	Ground Based	E3/M5, LLP with beetle, DMT; Lynx, ½ in PMP, Pole sized, overstocked. Habitat not meeting old growth dependant species requirements	SS-6 PMP habitat Rx#1	Mechanical pile as needed, selective pile burn for habitat.
15	Release overstory to enhance wildlife habitat, keeping stand in a multistory structure. Uneven-aged selection targeting intermediate, suppressed, and pathogen infested trees. Quarter acre group openings may be used to accomplish desired objectives. Standing deadwood greater than 12" in diameter at breast height (DBH) will be protected if possible. Target crown closure is 50% or greater.	79	7/5	WDDF,CMA	Ground Based	Lynx, E3; LPP, WL, DF Mt Pine beetle, 22 acres in PMP, Pole sized, overstocked. Habitat not meeting old growth dependant species requirements	SS-6, PMP habitat Rx#1	Leave tops attached
16	Joined w/15							
17	Reduce to ½ BA West part - weed & release.	17	7	WDDF CMA	Ground Based /cable	E3/M5 DF, WL. Pole to mid-sized, overstocked, diseased with beetles, DMT. Lynx	SS-7	Mechanical pile, selective pile burn for habitat.
18	Reduce to ½ BA, weed & release.	86	7	WDDF CMA	Ground Based	E3/M5; DF,WL. Pole sized, overstocked, diseased, beetles, DMT. Lynx	SS-7	Underburn S1/2 Mechanical pile N ½ , selective pile burn for habitat.

Trout Vegetation Management Projects
Appendix A (Alternative B Corrected)

Unit No.	Treatment Prescription	Acres in Treatment Unit	Management Area	BioPys Env.	Logging System	Current Structural Stage/ Condition	Target Structural Stage/ Condition	Fuels Treatment
19	Reduce stand BA by ½-1/3, reduce I&d, patches of w/r only	213	5/7	WDDF	Ground Based	M5; DF with beetle, DMT. Past selection cut dense.	SS-7	Underburn
20	Salvage	13	7	WDDF	Cable	M5, Mixed conifer, DF beetle	SS-6	Underburn
21	Thin & Salvage, Plant	51	7	WDDF	Ground Based	E3/M5 Mixed conifer, DF beetle	SS-7	Underburn mechanical pile, selective pile burn for habitat.
22	Thin & Salvage	51	7/5	WDDF	Ground Based	E3/M5 Mixed conifer, DF beetle	SS-7	Underburn
23	Release overstory Retain hiding cover clumps	90	5/7	WDDF	Ground Based	E3/M5 Mixed conifer, DF beetle, Some big PP	SS-7	Underburn
24	Thin & Salvage, Plant	43	5	WDDF CMA	Ground Based	M5, Mixed conifer, DF beetle	SS-6	Mechanical pile, selective pile burn for habitat.
25	Reduce stand BA by ½-1/3, reduce i&d, rd probs.	47	8	WDDF	Ground Based Winter log	M5, Mixed conifer, DF beetle, high crown fire potential. Past overstory removal.	SS-6	Underburn
26 (Incl ZC/ 26)	Reduce stand BA by ½-1/3, reduce i&d, rd probs	38	8	WDDF	Ground Based Winter log	M5 small pole sized stand, DMT and poor form. Past overstory removal.	SS-7	Underburn (15 ac) mechanical pile (23 ac)
27	Added to 28							
28 (Incl ZD/ 28)	Release overstory to enhance wildlife habitat, keeping stand in a multistory structure. Uneven-aged selection targeting intermediate, suppressed, and pathogen infested trees. Quarter acre group openings may be used to accomplish desired objectives. Standing deadwood greater than 12" in diameter at breast height (DBH) will be protected if possible. Target crown closure is 50% or greater	162	7	WDDF CMA	Ground Based Winter log	M5, mixed conifer stand, DMT & beetles. Habitat not meeting old growth dependant species requirements	SS-6 Pmp Habitat Rx#1	Mechanical pile and burn piles
29	Thin & Salvage	51	7	WDDF, CMA	Ground Based	M5, mixed conifer stand, DMT & beetles	SS-7	Underburn

Trout Vegetation Management Projects
Appendix A (Alternative B Corrected)

Unit No.	Treatment Prescription	Acres in Treatment Unit	Management Area	BioPys Env.	Logging System	Current Structural Stage/ Condition	Target Structural Stage/ Condition	Fuels Treatment
30	Thin & Salvage	216	7	WDDF CMA	Ground Based	M5, Variable stand. LPP and mixed conifer, beetles	SS-7	Mechanical pile and burn piles east of 2086 rd and pile burn, jackpot burn west of 2086 rd
31	Salvage & Thin	49	7	WDDF CMA	Ground Based	M5, Mixed conifer stand; DMT, beetles, lynx area	SS-6	Mechanical Pile, selective pile burn for habitat.
32	Reduce stand BA by ½-1/3, reduce I & D	29	7	WDDF	Cable	M5, Mixed conifer stand; DMT, beetles. Past overstory removal.	SS-6	Underburn
33	PCT	44	7	WDDF CMA	none	E2, Mixed conifer stand; DMT, beetles	SS-6	Lop & leave slash. (Handpile funding permitting, burn handpiles)
34	Salvage, thin	15	7	WDDF	Ground Based	M5, Mixed conifer stand; DMT, beetles	SS-6	Underburn
35	Dropped							
36	Reduce stand BA by ½-1/3, reduce I & D	28	7	WDDF	Ground Based	M5, Mixed conifer stand; DMT, beetles. Past overstory removal.	SS-6	Underburn
37	Reduce stand BA by ½-1/3, reduce I & D	110	7	WDDF CMA	Ground Based	E3/M5/L6; PP with DF; beetles and DMT in DF. Past overstory removal.	SS-7	Mechanical pile E ½ , Burn piles
38	Salvage, thin, part weed & release	7	7	WDDF CMA	Ground Based	E3/M5; PP with DF; beetles and DMT in DF	SS-6	Leave Tops Attached/ Jackpot burn
39	Salvage, thin	31	7	WDDF	Ground Based	M5; PP with DF; beetles and DMT in DF	SS-7	Underburn
40	Reduce stand BA by ½-1/3, reduce I & D	112	7	WDDF	Ground Based	E3/M5; PP with DF; beetles and DMT in DF. Past overstory removal.	SS-7	Partial underburn and mechanical pile, pile burn
41	Reduce stand BA by ½-1/3, reduce I & D	18	7	WDDF CMA	Ground Based	E3; PP with DF; beetles and DMT in DF. Past overstory removal.	SS-7/6	Mechanical pile and burn piles

Trout Vegetation Management Projects
Appendix A (Alternative B Corrected)

Unit No.	Treatment Prescription	Acres in Treatment Unit	Management Area	BioPys Env.	Logging System	Current Structural Stage/ Condition	Target Structural Stage/ Condition	Fuels Treatment
42	Pre-Commercial Thin	22	7	WDDF	none	E3	SS-6	Lop & leave slash. (Handpile funding permitting, burn handpiles)
43	Reduce stand BA by ½-1/3, reduce I & D	24	7	WDDF	Cable	M5	SS-7	Underburn
44	Reduce stand BA by ½-1/3, reduce I & D	61	7	WDDF	Ground Based	E3, M5, L6	SS-7	Underburn
45	Reduce stand BA by ½-1/3, reduce I & D	56	5/ 7	WDDF CMA	Ground Based	E12, E3	SS-6	Mechanical pile and burn piles
46	Reduce stand BA by ½-1/3, reduce I & D	44	7	WDDF CMA	Ground Based	E3, M5	SS-6	Mechanical pile and burn piles
47	Reduce stand BA by ½-1/3, reduce I & D	44	7	WDDF CMA	Ground Based	E3, L6	SS-6	Mechanical pile and burn piles
48	Reduce stand BA by ½-1/3, reduce I & D Reduce stand BA by ½-1/3, reduce I & D	35	7	WDDF	Ground Based	E3, L6	SS-6	Mechanical pile and burn piles
49 (incl ZE/ 49)	Pre-Commercial Thin	38	7	WDDF	none	E3	SS-6	Lop & leave slash west ½ (Handpile funding permitting, burn handpiles). Handpile, burn handpiles east ½ (ZE/49)
A	Prescribed burn	25	7	WDDF	N/A	M5	SS-7 (or N/A for open areas)	Controlled underburn/ broadcast burn
D	Prescribed burn	163	7	WDDF, VMSB	N/A	E3, M5	SS-7 (or N/A for open areas)	Controlled underburn/ broadcast burn
E	Prescribed burn	55	7	WDDF	N/A	E3, M5	SS-7	Controlled underburn
F	Prescribed burn	177	5	WDDF, VMSB, CMA	N/A	E3, M5	SS-7	Controlled underburn
G	Prescribed burn	795	5, 7	WDDF, VMSB	N/A	M5, L6	SS-7 (or N/A for open areas)	Controlled underburn/ broadcast burn

Trout Vegetation Management Projects
Appendix A (Alternative B Corrected)

Unit No.	Treatment Prescription	Acres in Treatment Unit	Management Area	BioPys Env.	Logging System	Current Structural Stage/ Condition	Target Structural Stage/ Condition	Fuels Treatment
I	Prescribed burn	96	7	WDDF	N/A	L6	SS-7 (or N/A for open areas)	Controlled underburn/ broadcast burn
J	Prescribed burn	511	5, 7	WDDF, VMSB	N/A	E3, M5	SS-7 (or N/A for open areas)	Controlled underburn/ broadcast burn
M	Prescribed burn	201	7	WDDF, VMSB	N/A	E3, M5, L6	SS-7 (or N/A for open areas)	Controlled underburn/ broadcast burn
N	Prescribed burn	336	3A, 7	WDDF, VMSB	N/A	E12, E3, M5, L6	SS-7 (or N/A for open areas)	Controlled underburn/ broadcast burn
O	Prescribed burn	766	5, 6, 7, 8	WDDF, VMSB, CMA	N/A	E12, E3, M5, L6	SS-7 (or N/A for open areas)	Controlled underburn/ broadcast burn
P	Prescribed burn	70	7	WDDF, CMA	NA/	E12, M5	SS-7	Controlled underburn
R	Prescribed burn	157	1, 7	WDDF	N/A	M5, L6	SS-7 (or N/A for open areas)	Controlled underburn/ broadcast burn
S	Prescribed burn	358	7	WDDF	N/A	M5, L6	SS-7 (or N/A for open areas)	Controlled underburn/ broadcast burn
T	Prescribed burn	341	5, 7	WDDF, VMSB, CMA	N/A	M5, L6	SS-7 (or N/A for open areas)	Controlled underburn/ broadcast burn
U	Prescribed burn	340	5, 7	WDDF, CMA	N/A	E12, M5, L6	SS-7 (or N/A for open areas)	Controlled underburn/ broadcast burn
V	Prescribed burn	81	7	WDDF, VMSB	N/A	E3, M5	SS-7	Controlled underburn
W	Prescribed burn	213	5, 7	WDDF, VMSB, CMA	N/A	E3, M5	SS-7 (or N/A for open areas)	Controlled underburn/ broadcast burn
X	Prescribed burn	299	7, 8	WDDF	N/A	M5, L6	SS-7 (or N/A for open areas)	Controlled underburn/ broadcast burn

Unit No.	Treatment Prescription	Acres in Treatment Unit	Management Area	BioPys Env.	Logging System	Current Structural Stage/ Condition	Target Structural Stage/ Condition	Fuels Treatment
YA	Shaded Fuel Break, Non-commercial Thin	10	N/A	N/A	N/A	N/A	N/A	Hand Pile
YB	Shaded Fuel Break, Non-commercial Thin	21	N/A	N/A	N/A	N/A	N/A	Hand Pile
ZA	Shaded Fuel Break, Non-commercial Thin	28	7	WDDF, VMSB	N/A	M5	SS-7	Hand Pile
ZB	Shaded Fuel Break, Non-commercial Thin	34	3B, 7	WDDF, VMSB, CMA	N/A	E3	SS-7	Controlled underburn (22 acres) and mechanical pile (12 acres)
ZC	Shaded Fuel Break, Non-commercial Thin	43	8	WDDF	N/A	E3, M5	SS-7	Hand Pile
ZD	Shaded Fuel Break, Non-commercial Thin	20	7, 8	WDDF, VMSB	N/A	M5, L6	SS-7	Hand Pile
ZE	Shaded Fuel Break, Non-commercial Thin	69	5, 7	WDDF, VMSB	N/A	E3, M5	SS-7	Hand Pile

DF = Douglas-fir, WL = western larch, LPP = lodgepole pine, ES = spruce, SAF = subalpine fir. DMT = dwarf mistletoe, BB= bark beetles. WDDF=Warm dry Douglas-fir, CMA=cool moist subalpine fir, VMSB= very moist spruce bottoms. Structural Stages (SS) are defined as follows: E12 = stand initiation, or early structure, stem exclusion, open canopy; E3=early structure, stem exclusion stage, closed canopy; M5 = middle structure, multi-stratum, without large trees; L6 = multi-stratum, with large trees; L7 = single stratum, with large trees.

Alternative B Supplemental Specifications

Units located in pileated woodpecker or pine martin areas (units 10, 12, 14, 15, 28): The management objective in these units will be to speed development of the desired wildlife habitat and to reduce fuels. The primary habitat component lacking in these areas is large live and dead standing trees. Thinning will be aimed at increasing the growth rate of the overstory and creating canopy layers. This will be accomplished by uneven-aged selection targeting intermediated, suppressed, and pathogen infested trees. Quarter acre group openings may be used to accomplish desired objectives. Standing deadwood greater than 12" in diameter at breast height (DBH) will be protected if possible. Target crown closure is 50% or greater (this will vary according to site specific conditions).

Units that have acres in early structural stage (units 1, 5, 11, 12, 13, 15, 21, 24, 33, 38, 40, 42, 49): The management objective for these stands is to reduce overstocking to encourage growth of large overstory and reduce insect and disease. Thinning will be an approximate spacing of 20 feet removing the least desirable trees based on incidence of forest pathogens, vigor, and species mix (eg. Thin from below removing those trees with greatest risk of forest pathogen infection. If available, large snags will be protected by surrounding them with retention trees.

Units located in the LAU (Lynx Analysis Unit) (units 1, 2, 13, 14, 15, 17, 18, 21, 22, 24, 30, 31, 37, 46):

The management objective for these units is to hasten development of denning habitat. This will be done by thinning areas and opening up small patches to attain large overstory, and leaving clumps of trees for multistory stands. Down trees will be left.

Other Units: The management objective is to encourage attainment of either single storied old growth (for the Douglas fir plant associations) or multi-story old growth (for subalpine fir plant associations). Trees to remove will include suppressed, intermediate and some co-dominant trees, genetically inferior trees left by past diameter limit cuts; trees with forest pathogen infestations. Where the unit and the rural interface overlap, additional techniques such as requiring removal of smaller trees ; pruning; and whole tree harvesting with tops piled at the landing may be used. Where access and landing space permit, firewood removal by the public will be allowed. Removal of firewood is expected to reduce smoke emissions during prescribed burning and to provide fuel for the public.

Harvest method will be ground based (approximately 3046 acres) or by cable systems (approximately 131 acres). Helicopter yarding is not planned for this project.

Planting of larch and ponderosa pine may occur in openings as necessary to achieve objectives and keep stand fully stocked.

Definitions applicable to both Alternative B and C

“Commercial Thin” implies that at least a portion of the trees to be removed meet Forest Service Timber Sale contract sawlog specifications [i.e., at least 7” dbh (diameter at breast height, or 4.5 feet above the ground), with 5” dib (diameter inside bark) top, or for lodgepole pine, 6” dbh with 5” dib top].

“Small Pole Thin” means to thin a stand such that most of the trees to be removed are smaller than Forest Service Timber Sale Contract sawlog specifications (i.e., smaller than 7” dbh with 5” dib top, or for lodgepole, 6” dbh with 5” dib top), but many of the cut-trees are large enough to make wood products (poles, posts, pulpwood, hew-wood, etc.). For the purpose of evaluating effects, it is assumed that these treatments would be accomplished with a machine capable of severing, limbing, topping, and bucking the trees, followed by a machine capable of picking up products and transporting the products to the roadside or landing. Leave tree spacing would be 20 to 30 feet.

“Precommercial Thin” means to thin a stand of sapling-sized trees. Trees that are cut are too small to have any commercial value. Leave tree spacing is usually 12-20 feet.

“Non-Commercial Thin” means to thin a stand without removing any wood products. Most of the cut-trees would be smaller than Forest Service Timber Sale Contract sawlog specifications, but some may be larger. No trees would be removed because of access or Riparian Habitat Conservation Area restrictions.

“Controlled Burn” or “Prescribed Burn” (Underburn in timbered stands; Broadcast Burn in non-timbered areas) means to introduce a low-intensity surface fire under prescribed conditions for the purpose of consuming surface fuels and seedlings, killing unwanted small-diameter saplings, and scorching low-hanging limbs. This kind of fire has a cleaning and thinning effect, and reduces the possibility of intense wildfires that would easily climb into the tree crowns. Underburning or broadcast burning of natural fuels across the landscape typically creates a mosaic of burn patterns and rarely consumes 100% of the surface fuels as a wildfire might do in the heat of summer.

Whipfalling will be included in some underburning areas. Whipfalling is cutting and lopping sapling-sized trees in preparation for underburning, for the purpose of providing fuel to carry fire through the stand, and to aid in reducing ladder fuels where understory trees are not desired. The intent is not to thin the entire stand, but just to cut enough to enhance fire behavior to make the prescribed underburn effective.

“Shaded Fuelbreak” means to create a strip of land where a wildfire is deprived of surface and ladder fuels, causing the fire’s rate of spread to slow, and also decreasing the likelihood that long flamelengths will advance fire into the overstory canopy. A shaded fuel break is a stand of trees where hand or mechanical work reduces surface fuels, seedlings, saplings, and low-hanging limbs. Some overstory trees, usually from the smaller diameter size classes, may be thinned to increase

space between tree crowns. The debris would be either removed from the site, underburned, or placed in small piles for burning.

“Mechanical Pile and Burn Piles” means that logging equipment would drop limbs and tops into small piles along the skid trail as it tops, limbs, and bucks logs. Sub-merchantable trees would also be severed from the stump, processed as needed, and dropped into piles in the same operation. These piles would be loose concentrations of logging slash.

“Leave Tops Attached, Pile Debris at Landings” Trees would be skidded or yarded to log landings with tops and limbs attached. The trees would be processed at the landing, and tops, limbs, and other debris would be piled at the landing for subsequent disposal by firewood removal, hauling off site, or burning. Where access and landing space permit, firewood removal by the public will be allowed.

“Buck, Leave Debris to Decay” means old logs, logging debris, and/or small, unmerchantable cut-trees would be cut into pieces so they lie on or nearly on the ground, so that soil organisms will facilitate decay of the woody material.