United States Department of Interior
Bureau of Land Management
Coeur d'Alene Field Office
Wallace South Hill
Environmental Assessment Number
ID-410-2006-EA-1050

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ENVIRONMENTAL ASSESSMENT
WALLACE SOUTH HILL
EA NO. ID-410-2006-EA-1050
US Department of the Interior
Bureau of Land Management
Coeur d'Alene Field Office
February 26, 2009

1.0 INTRODUCTION

In response to requests by community leaders to reduce the potential wildfire threat to Wallace, Idaho, and to implement recommendations in the Shoshone County Wildland Urban Interface (WUI) Fire Mitigation Plan prepared in 2002, the BLM is proposing the Wallace South Hill Fuels and Vegetation Project (see map in Appendix I) . The project is located due south of Wallace, and is about 45 miles east of Coeur d'Alene.

1.1 Purpose and Need for Action

Terrestrial Environment - About 100 years ago, the historic 1910 fire burned Wallace and the surrounding forest, including the project area. The forest is now a mosaic of mixed conifer species depending upon aspect and elevation. The lower elevation southern aspect is primarily dry conifer forest, the lower elevation northern aspect is mostly a wet/warm conifer forest, and the higher elevation is typically a wet/cold forest. The majority of the trees are now about 100 years old. For many species of conifer trees, their juvenile stage is over, and they're now entering a mature stage of development, except for the lodgepole pine. Lodgepole pine trees mature faster on some sites, and begin to die before they're 100 years old. These sites usually are moisture deficient, have shallower soils, and are located along ridgelines. As the trees reach maturity, they have a weakened ability to withstand attacks by the mountain pine beetle (*Dendroctonus ponderosae*) due to moisture stress. Upper elevation forests are more prone to mortality because of more frequent extremes in weather events in those areas and subsequent stress to damaged trees (Filip et al. 2007). Trees under stress (low vigor) are more susceptible to pests, primarily bark beetles (Furniss and Carolin 1977, Waring and Pitman 1983, 1985, Christiansen et al. 1987, Kolb et al. 1998).

Bark beetles are the most important forest insects causing mortality of western conifers (Furniss and Carolin 1977, Schowalter and Filip 1993). Bark beetles are opportunists that can rapidly expand their populations in trees experiencing stress caused by disease, defoliation, fire damage, lightning and wind damage, competition, drought, or soil problems (Gast et al. 1991, Schowalter and Filip 1993, Edmonds et al. 2000). Tree mortality from bark beetles is especially acute in older forests with high stocking densities that experience additional stress (Hopkins 1909, Emmingham et al. 2005). Forest inventories completed in 2004 and 2006 have confirmed this finding. About 60% of the lodgepole pine trees are now dead and the remaining lodgepole pine trees will likely exhaust all resources, die, and become snags (Filip et al. 2007). Currently, there are about 170 acres of dead and dying lodgepole pine trees located on the project area, and another 230 acres located close by (see map in Appendix II.1). Dead trees are more easily consumed by fire than live trees (Edmonds et al. 2000) and thus may increase wildfire severity more than live trees and make fire control much more difficult (Brown et al. 2004).

The Proposed Action would transition forests on public lands closer to their pre-settlement species mix, density, structure, and diversity so they would be more resilient and resistant to the effects of insects, disease, and wildfire (Fulé 2001; Graham 2004). Pre-settlement fire behavior would have typically been low intensity, frequent understory burning in the western white pine, ponderosa pine and Douglas-fir forest types at lower elevations. Higher elevation forest types would be more conducive to stand replacing crown fires in lodgepole pine and Douglas-fir forests.

Crown fires are extremely difficult for firefighters to contain and can spread rapidly. To decrease the probability of a crown fire, thinning the overstory and reducing understory fuels (ladder fuels that can lead to a crown fire) would reduce the ability of wildfire to migrate to the tree crown.

The first principle of a fire-resilient forest is to manage surface fuels to limit the flame length of a wildland fire that might enter the stand. This is generally done by removing fuel through prescribed fire, pile burning, or mechanical removal. These treatments make it more difficult for a fire to jump into the canopy (Scott & Reinhardt 2001). The second principle is to make it more difficult for canopy torching to occur by increasing the height of flammable crown fuels. This can be accomplished through pruning, by prescribed fire that scorches the lower crown or removal of small trees. The third principle is to decrease crown density by thinning overstory trees, making tree-to-tree crowning less probable. The fourth principle is to keep large trees of fire-resistant species (Hummel & Agee 2003; Brown, Agee & Franklin 2004). Reducing in-growth by thinning is essential for conserving dominant trees, and old growth Douglas-fir and western larch trees that did not burn in 1910. The Proposed Action would enhance continued development of the forests from their current mid-successional stage toward the late successional stage (mature, large tree, old growth), and initiate early seral vegetation in areas that are now dominated by dead and dying lodgepole pine forests and old brush fields.

The purpose of this project within the terrestrial environment is to reduce the possibility of wildfire burning the city of Wallace. The proposed project would reduce ground and ladder fuels; decrease the forest canopy coverage; retain large fire-resistant trees; provide for public and firefighter safety; consider long term needs for access and fire suppression actions.

Riparian Environment - Fish habitat inventory conducted in 2003 by the Forest Service in the Placer Creek watershed indicated that channel stability was good, pool-to-riffle ratio was lower than desired, and large woody debris overall was smaller than desired in both length and diameter (USDA Forest Service 2006). A lack of large wood and pools was noted by Bureau of Land Management (BLM) fisheries and hydrology specialists during site visits to Placer Creek within the proposed project area in 2008. Large wood provides cover for fish, and creates pools, which provide fish habitat. The quantity and quality of fish habitat is lowered because of the lack of pools and large woody debris. In addition, a log dam was discovered that fully blocks upstream fish passage during low water, and likely at least partially blocks upstream fish passage during high flows. This section of stream is lacking cottonwood and cedar in the riparian area, which are desirable species for providing shade and large wood to the stream channel. The proposed action includes restoration activities which would increase the amount of large wood in a section of Placer Creek, which will increase quantity and size of pools and increase cover. Partial removal of the dam would facilitate upstream fish passage. Planting cottonwood and cedar in the riparian area will increase shade and provide long-term additions of large wood to Placer Creek. These actions would benefit a variety of fish species, especially westslope

cutthroat trout. Westslope cutthroat trout stocks in the Coeur d'Alene Basin exist at a fraction of historic levels due to habitat degradation from activities such as mining, logging, development, highway construction, fishing pressure and introduction of non-native fish species (USDI Fish and Wildlife Service 1999; DuPont and Horner 2003). Westslope cutthroat trout are a BLM sensitive. A large, actively eroding scarp located downstream of the municipal water intake provides a chronic and substantial source of sediment to Placer Creek (see Appendix VI.6). The proposed action includes restoration measures that would stabilize the scarp toe, providing benefits to water quality and fisheries through habitat improvements and sediment load reduction. The primary objectives of this project within the riparian environment are to increase fish habitat and improve water quality.

1.2 Scoping, Public Involvement and Issues

Listed below is a chronology of the collaboration outreach for the Wallace South Hill Project:

June 8, 2005	Letter to interested parties about field tour;
June 14, 2005	First field tour;
July 20, 2005	Second field tour;
August 1, 2005	Letter to interested parties about third field tour;
August 9, 2005	Shoshone News Press advertisement of field tour;
August 10, 2005	Shoshone News Press advertisement of field tour;
August 13, 2005	Third field tour;
June 7, 2006	Wallace Chamber of Commerce public scoping meeting;
June 17, 2006	Shoshone News Press coverage of June 7 meeting;
May 8, 2007	Project scoping meeting with Shoshone County Commissioners;
May 11, 2007	Shoshone News Press advertisement of Wallace South Hill Project Public Meeting;
May 10-15, 2007	Notice of Public Meeting handbill distributed to prominent businesses in the Wallace, Silverton and Kellogg area;
May 15, 2007	Public Scoping meeting at the Wallace Inn. Thirty people in attendance, reached a unanimous decision that the BLM should undertake an aggressive approach to reducing the wildfire threat to Wallace;
May 17, 2007	Shoshone News Press coverage of Public Scoping Meeting;
August 19, 2007	Spokesman Review article about project;
August 20, 2007	Shoshone News Press article about project entering the conceptual groundwork phase;
December 4, 2007	Wallace South Hill Project presented to BLM Coeur d'Alene District Resource Advisory Council to request options and alternatives to proposed action;
February 8, 2008	Letter to interested parties requesting comments on proposed action.
October 13, 2008	Field tour with Jonathan Oppenheimer, representing the Idaho Conservation League. An action alternative was proposed and suggestions were made to clarify the proposed action. Although the action alternative reduced the road density on the project area and accomplished short term goals, it did not meet the purpose and need of the project to consider long term needs for access and fire suppression actions.

During the scoping process the following major issues where identified;

Watershed:
- Possible flooding and landslide concerns in the Printer Creek drainage if trees are cut.
- Overland flow of water during the spring affecting houses located on the south hill.
- Improve water quality when possible.
- Inland Native Fish (INFISH) buffers and additional conservation measures should be incorporated into the final decision.
- Analysis should disclose how many landslides occurred in the project area.
- Alternatives should be considered that would restore water quality in municipal watershed.
- Provide information regarding current status of 303 (d) impaired waters located within and downstream of project area.
- Provide information that indicates whether there are any EPA approved sediment or metals total maximum daily loads for water bodies within and/or downstream of the project area.
- Estimate sediment tons per year by alternative, and if models are used, list their limitations.

Scenic Quality:
- Improve scenic quality by scalloping existing straight cutting lines.
- Use prescriptions and yarding techniques with lightest impact and most natural appearance.

Prescribed Burning:
- Emphasize prescribed burning over commercial logging.
- Remove fuels around large diameter trees before burning.
- Smoke inversions to town and Interstate 90 are not acceptable.

Safety:
- The helicopter landings should be located in the appropriate places and be the appropriate size for a medium size helicopter.
- Access roads should be safe for fire fighters and their equipment.
- So that firefighters don't get lost, place road signs for the upper and lower helispots along the controlled access road.

2.0 PROPOSED ACTION AND ALTERNATIVES

2.1 Description of Proposed Action

As referenced in Appendix I, the proposed action would decrease existing hazardous fuels through a combination of vegetation treatments and fuel reduction actions on BLM and U.S. Forest Service (USFS) lands during the next several years to reduce the potential wildfire threat to Wallace, Idaho. Actions on USFS lands would be in conformance with the Forest Plan. Several complementary actions can improve the ability of communities to resist fire hazards to lives and property, including enhanced firefighting resources, improved access routes and rural address systems, heightened public awareness, reduction of structure flammability (Cohen 2000), and reduction of forest susceptibility to crown fire (Fulé et al. 2001). The proposed action would implement the following complementary actions; enhance firefighting resources by establishing a shaded fuel break; improve access routes for firefighters; and reducing the crown fire hazard by thinning the forest. The Shoshone County Interagency WUI Working Group is tasked with the other complementary actions of improving the rural address system; heightened public awareness; and reduction of structure flammability. Fuel reduction and vegetative treatments would remove dead and dying trees from lodgepole pine forests, thin live trees in mixed conifer stands, and restore old brushfields. The greatest concern in the wildland/urban interface is crown

fire, both "passive" crown fire (tree torching) and "active" crown fire (fire spreading through the canopy). Crownfires spread rapidly (Rothermel 1991), resist control by hand crews and often mechanical or aerial equipment (Pyne and others 1996), and threaten structures with intense heat and firebrand showers (Cohen 2000). In a typical stand of lodgepole pine with a forest litter or shrub understory, a 28 mile per hour (mph) or more wind on a 45 percent slope would push surface flames into the tree crowns (See Appendix III.1 and III.2 for BEHAVEPLUS fire runs). Following the proposed treatment even a 50 mph wind would not be capable of pushing a surface fire into the tree crowns (See Appendix III.3). Repeated understory thinning to reduce understory recovery is essential to prevent the re-establishment of an understory, which would act as a ladder fuel to create crown fires. Thinning of dense stands has been shown to significantly increase tree vigor and resistance to pests, particularly bark beetles (Mitchell et al. 1983, Waring and Pitman 1985, Kolb et al. 1998). Fuels treatments include the creation of a shaded fuel break, biomass utilization, piling and burning, slashing, and prescribed burning. The project would treat approximately 590 acres of vegetation within the 1,275 acre project area. When the project is completed the existing road system would be improved for fire fighter access. There would be a small decrease in road density on the project area as a result of decommissioning existing roads no longer needed.

The project improves the existing road so that fire fighters would have a safer route during fire suppression activities. Segments of the road would be realigned on USFS land, and on BLM administered land, a four-wheel drive road with steep grades would be decommissioned and a new road constructed with grades suitable for fire and logging trucks.

The Proposed Action involves treating about 300 acres of brush fields and 280 acres of forested land, and includes:

- Realign ½ mile of existing road which has sharp curves;
- Reconstruct <¼ mile of an old mining road;
- Construct 1½ miles of new permanent road;
- Decommission 1¾ miles of new and existing road;
- Construct <¼ mile of temporary road;
- Construct a two mile long, 60 acre shaded fuel break;
- Thin and limb understory trees along Moon Pass road;
- Construct two heli-spots for fire suppression actions;
- Conduct harvest operations on 250 acres that would produce 3.2 million board feet of timber;
- Decrease hazardous fuels on 430 acres by thinning healthy forests, removing dead and dying trees, and slashing and prescribed burning brush fields;
- Conduct prescribed burning on 300 acres of shrublands;
- Place large woody debris into Placer Creek;
- Stabilize an active scarp adjacent to Placer Creek;
- Partially remove a log dam in Placer Creek;
- Install one gate at the beginning of road segment G;
- Reforest 53 acres of clear cuts with lodgepole pine, Engelmann spruce and subalpine fir;
- Reforest openings in thinned areas with blister rust resistant western white pine and western larch;
- Plant cottonwood poles and western redcedar seedlings along Placer Creek;
- Implement hazardous fuels monitoring of treatment units 1, 2, 4 and 5;
- Implement effectiveness monitoring of the shaded fuelbreak.

• Perform maintenance of hazardous fuels within the shaded fuelbreak and treatment units 1, 2 & 4 during the next several years,

2.1.1 Transportation – The objectives are:

- Improve the existing road system accessing the ridge between the East Fork Coeur d'Alene River and Placer Creek for safe use by a fire truck or water tender;
- Consider short and long term fire suppression needs;
- No net increase in road densities on the project area;
- Close roads when possible;
- Utilize existing roads where possible; and
- No road construction in riparian areas.

Roads have many adverse ecological effects (Furniss et al. 1991; Noss & Cooperrider 1994; Rieman & Clayton 1997; Trombulak & Frissell 2000) but are paradoxical in terms of fire management. They open access so that human-caused ignitions increase but also decrease response time to wildfires, act as holding lines, and make prescribed fire easier to apply (Agee 2002). The proposed road improvements would allow fire fighters to employ a water sprinkler system along the road to support the shaded fuel break.

The current road density on the project area is 1.5 miles of road per square mile of land, and there are 2.5 miles of all terrain vehicle (ATV) trails. Two independent road systems are needed to access the proposed treatment areas because of the steep mountainous terrain. Historically, existing roads on the project area have not had any failures. Upon completion of the project the proposed road density would be 1.4 miles of road per square mile of land, and no change in the ATV trail miles (see map in Appendix I). As part of Interior Columbia Basin Ecosystem Management Plan (ICBEMP 2000), Quigley et al. (1996) categorized road densities as very low (0.02 – 0.1 mi/mi²), low (0.1 – 0.7 mi/ mi²), moderate (0.7 – 1.7 mi/ mi²), high (1.7 – 4.7mi/mi²), and extremely high (4.7 + mi/ mi²). The BLM would continue to collaborate with adjacent private property owners to close spur roads that are not required for forest management actions. Refer to the map in Appendix I for locations of new road construction, temporary road construction, old road re-construction and de-commissioning.

Table 1 – Transportation Planned Actions (Proposed Action)

Road Segment (ownership)	Proposed Permanent (feet)	Re-construction (feet)	Temporary Construction (feet)	De-commissioned (feet)
A (BLM)	945	0	0	0
B (BLM)	424	0	0	0
C (BLM)	782	0	0	750
D (BLM)	1,914	0	0	0
E (USFS)	249	0	0	0
F (BLM)	2,822	0	0	0
G (BLM)	0	980	0	0
H (USFS)	0	1,351	0	0
I (USFS)	0	1,500	0	0
J (BLM)	0	0	750	0
K (BLM)	0	0	0	2,253
L (BLM)	0	0	0	2,179
M (USFS)	0	0	0	212

N (BLM)	0	0	0	217
O (BLM)	0	0	0	2,760
P (BLM)	0	0	0	208
Q (BLM)	0	0	0	800
Total	**7,136**	**980**	**750**	**9,379**

Existing Roads – Spot rocking along existing roads would be done when it is needed to control erosion or adjust road grade. Normal road maintenance would be performed by a grader to provide proper drainage and reduce ruts from forming.

Reconstruction - Reconstructed roads would have a 14 foot out-sloped native running surface and rolling water dips placed where needed. Road grades would be less than 10 percent, and turning radiuses would be 60 feet. The average clearing width for the road would be 50 feet, and there are no riparian areas that would be crossed. Road segment G would utilize an old mining exploration to access road segment B. Brush and small trees would be removed so that fill and cut slope reshaping would occur. A ditch may be needed where out-sloping isn't feasible. Cut and fill slopes on segment G would be seeded with the District seed mix (see Appendix II.10). Road segment H and I would straighten tight curves along an old mining road so it would be used for fire and logging trucks. The road surface would be out-sloped to provide drainage. Since the road is located on top of the ridge, there shouldn't be any cut or fill slopes. Turn-around spots for vehicles would also be located on the ridge top. As shown on Appendix I, road segments H and I would be revegetated with native species such as red alder, beargrass and huckleberry.

Proposed Permanent- New permanent road construction would involve clearing of trees and brush. The physical attributes of running surface width, road grade, turning radius and revegetation would be the same as for reconstructed roads. Erosion control devices such as water dips would be installed where the proposed road crosses ridges. The road would be maintained to ensure proper drainage. Turnouts would be constructed in the saddles to allow for the passage of fire and log trucks. Roads would be slightly out-sloped where possible to effectively remove water from rain runoff, and rolling dips would be used to drain water from the roads' running surface. Culverts are not needed because no perennial or intermittent streams are crossed. Cut and fill slopes on segment G would be seeded with the District seed mix (see Appendix II.10).

Road segment A would provide access for the lower portion of the shaded fuel break and a helispot to be used for fire suppression. The helispot would also function as a landing site for helicopter yarding of thinned trees. Informational signs would be placed on Interstate 90 (I-90) warning drivers of equipment and log trucks entering the highway at a restricted access entrance to I-90. Road segment B would extend the proposed road to a ridge where a turnaround would be constructed for fire trucks. The turnaround and road would also function as a skid landing. Road segment C would conserve the existing Red Oak Gulch / Hord Gulch ATV loop trail. A *portion of road segment C, situated between the proposed gate location and road segment* K, would be pulled back so that four-wheel drive vehicles could not use the road, but leave the running surface wide enough for ATV use. The road would also access road segments J and K that would be used during harvest operations. Road segments D, E and F would be constructed so a fire or log truck could safely use the road. Currently, road grades of 20 and 30% exist.

Temporary - Road segment J would be constructed at the timber sale purchasers request to function as a landing for skidding thinned trees. The alternative to constructing the road is to

helicopter yard the lower part of Unit 9, or to have longer skidding distances to road segment K. Following the completion of skidding operations the road would be obliterated by pulling the fill slope back into the cut slope. The road would be re-vegetated with a combination of alder and the District seed mix.

Decommissioned - On road segments H and I, the old road not meeting alignment requirements would be ripped and seeded or planted to native species such as bear grass, huckleberry or alder. Road segment K would be ripped to a depth of 12 inches, except for first 100 feet of road which would be obliterated by pulling the fill slope back within the cut slope. Following obliteration the road segment would be seeded with alder. Road segments L, M, N, O, P and Q would be ripped to a depth of 12 inches and seeded with a combination of red alder, mountain ash, elderberry and the District seed mix. Large rocks or tree stumps would be used in strategic locations to discourage vehicle use. A portion of road segment C, from the proposed gate location to the junction of the Red Oak Trail, would be obliterated to prevent use by four-wheel drive vehicles, but restored to a narrow trail suitable for ATV's. For information about the treatment and monitoring of noxious weeds see page 17.

Red Oak Gulch ATV Trail – Two segments of the Red Oak ATV/4 wheel drive road that do not meet road standards for fire-fighting equipment would be re-constructed in a more suitable location. The two segments are each about one-half mile in length and have very steep grades. An alternate route on the south facing slope would be constructed with moderate grades suitable for fire-fighting equipment. Segments of the old ATV trail would be decommissioned to reduce motorized road densities on the project area. A notice would be published in the local paper informing trail users of the closure of the Red Oak trail when burning operations are occurring, or when timber sale operations are taking place. Due to fuel moisture requirements for successful prescribed burning only spring or fall burning windows are proposed. The trail would be open for weekend use during the timber sale, except when road work or yarding operations are being done. Warning signs will be placed at junctions of the Red Oak trail before operations begin. See Appendix V.1 for pre-project ATV trails, and V.2 for post-project ATV trails. To maintain the scenic quality along the ATV trail, a minimum of tree marking paint would be used, and posters and flagging used to identify the treatment areas would be removed when no longer needed. Two informational signs describing the need for the new trail location and why the old trail is decommissioned would be placed at both ends of the proposed construction. When the proposed road construction is completed, the ATV trail (USFS Trail 16a) would be appropriately signed.

Gate - A metal gate located at the beginning of road segment G would be locked when there are no fire suppression actions or vegetation treatments taking place. The BLM and the Idaho Department of Lands would have locks on the gate to allow for administrative and official access.

Helispot - Two helispots would be constructed for fire suppression actions and for yarding thinned trees. The helispot located adjacent to Units 2 and 3 would be used for decking helicopter yarded trees from Units 3 and 6. This landing, located on an existing road, would also be used to quickly respond to fires located in the lower portion of Printer Creek. The helispot located within Unit 7 would be used for decking trees from Unit 8, and possibly from Unit 9. The helispot would also provide access to the lower portion of the shaded fuelbreak.

Dust Control - Dust abatement measures would be taken as needed; usually by application of water to roads and landing surfaces that are generating dust. Dust abatement would increase the safety to public and contractors by improving visibility in the area as well as preserving the running surface of the road and reducing road maintenance needs. If road watering alone is not effective, a speed limit of 25 mph would be posted and enforced.

2.1.2 Fuel Reduction Treatments - Fuel treatments are intended to help limit wildland fire sizes and severity by directly mitigating fire behavior and indirectly by facilitating suppression. Prescribed burning and mechanical thinning can lower fire spread rates and intensities within the treated area (van Wagtendonk 1996, Helms 1979), at least until fuels and vegetation re-accumulate. Fire line construction can be faster and more effective (fewer escapes) when heavy concentrations of brush and logs are removed, and spotting from torching trees is limited (Finney 2001). Treating all fuels across an entire landscape is practically impossible (Finney 2001). Brown's transects, which measure the amount of fuel loading within a plot, indicate that the Project Area has approximately 25.8 tons of down fuel per acre within the forested sections. This amount of down fuel is above the normal amount found within other stands of similar makeup. The fuel reduction treatment objective is to decrease 50% of the fuel loading within a treated forest stand. This would decrease the fuel load below the average fuel load for this type of stand, and meet the objective (or purpose and need) of the treatment. Fuel reduction within the shrub type will consist of prescribed burning every 15 – 30 years after the initial treatment with the objective of reducing tree encroachment and maintaining historic fuel loading within the shrub type. The initial treatment within the shrub type would be conducted within five (5) years after project initiation. Parts of the shrub land areas do not have continuous fuels and would be difficult to burn. The prescribed fire objective of the shrub lands is to reduce fuels on approximately 40-60% of the shrub area, thus creating fuel breaks along the lower portions of the slopes. When it is feasible about eight live trees and eight dead trees per acre shall be retained on all treatment areas. When large trees are present they would be left as individuals, and when small trees are present, groups of trees would be left. To provide for potential old growth habitat or for future snags, trees greater than sixteen inches in diameter would be retained.

Prescribed fire treatments would take place in either the spring or fall with the goal of reducing fuels, protecting the soil from excessive heat, reduce conifer encroachment, increasing the ability of firefighters to protect the fuel break and providing wildlife forage. The method of firing would include drip torches or helitorch. Ground fuels moisture should exceed 25% to not negatively affect the soil.

Table 2 – Fuel Reduction Treatments (Proposed Action)

Unit No.	Acres	Fuel Type	Proposed Fuel Reduction Treatment
Shaded Fuel break	60	Ladder fuels, light and medium ground fuels	Conifers less than 6 inches in diameter would be cut, piled and burned. During the next several years ground fuels <16" in diameter would be machine piled and burned. The remaining trees would be limbed to a height of 8 feet.
1,2,4 & 5	70	Conifer blow down, dying lodgepole pine & brush	During the next several years all blow down and small conifers less than 6 inches in diameter would be cut, piled and burned. All ground fuels except the large logs would be hand piled and burned.
7	3	Dead & dying lodgepole pine	All trees would be cut on the eastern portion of the unit. Trees would be mechanically removed by tractor, dead trees could be used for biomass or prescription burned.

			Conifer in-growth and brush would be cut and burned during the next ten years to maintain the site as a fire suppression helibase. On the west side of the unit, large trees or groups of small trees shall be retained.
11, 13, 15, 16 & 19	51	Dead & dying lodgepole pine	The majority of the trees would be cut. About eight snags and eight large trees per acre would be retained when possible. Trees would be mechanically removed by tractor or skyline, dead trees could be used for biomass or prescription burned. Clumps of subalpine fir and Engelmann spruce trees would be planted among the naturally regenerating lodgepole pine trees.
20, 21, 22, 23, 24 & 25	307	Old brush & young conifer in-growth	The objective of the prescribed burning would be to eliminate the conifer encroachment, small diameter conifers and invigorate the current brush fields. The prescribed burn would cover approximately 30-60% of the brush fields. Approximately 30 to 50% of the small diameter (<8" DBH) ponderosa pine, grand fir and Douglas-fir would be cut and left to improve fine fuels for future prescribed burns. Large diameter conifer would be protected by removing nearby fuels before burning.
Total	**491**		

Shaded Fuel Break - A fuelbreak is a "strategically located wide block, or strip, on which a cover of dense, heavy, or flammable vegetation has been permanently changed to one of lower fuel volume or reduced flammability" (Green 1977). The primary reasons for fuelbreak are to change the behavior of a fire entering the fuel-altered zone and to reinforce defensible locations and facilitate suppression action by indirect firefighting tactics including backfiring (Green 1977, Omi 1996). Fuelbreaks may also be used as anchor points for indirect attack on wildland fires, as well as for prescribed fires (Agee et al. 2000). The shaded fuel break would vary in width (100 – 400 ft), depending upon the fuel type and the defensible space needed to contain a wildfire. Within the shrub type, a minimum fuelbreak width of 134 feet is recommended (see Appendix III.5), whereas the forested stands would need a minimum 300 foot fuel break (see Appendix III.2). This is based upon a BEHAVEPLUS model that predicts the minimum safe distance for a firefighter along this fuel type during typical firefighting conditions. The fuel break would be constructed after the vegetation treatments are completed. Chipping would be done using an excavator mounted with a rotary chipping head. Slashing would be done using chainsaws, sandviks, axes, hydraulically mounted cutting heads, etc. followed by hand piling or piling with an excavator equipped with a rake attachment. The primary method for fuels treatment would be mechanical as described above; however, broadcast burning or under burning would be considered to treat fuels when it can be done safely and with a minimal loss to residual trees. In addition to the initial fuel break treatment, maintenance would be done during the next ten years to treat any accumulations of hazardous fuel. Treatments with relatively high residual density might more rapidly grow back into a hazardous condition. Maintenance burning and/or further thinning can be used to regulate growth and keep the stands relatively resistant to crown fires (maintain understory density at less than 20%). The failure to carry out these management activities would eventually eliminate the original treatment effects on fire behavior (Fulé et al. 2001). Commercial timber products would not be removed during maintenance operations.

Ground Fuels Reduction - Units 1, 2, 4 and 5 would be treated to reduce the hazardous fuels of wind thrown trees and ladder fuels. All conifers less than 8 inches in diameter would be cut. All ground fuels except the large logs would be hand piled and burned. In addition to the initial fuel reduction treatment, maintenance would be done during the next several years to treat any hazardous fuel accumulations. The primary method for fuels treatment would be mechanical as described above; however; under burning and individual pile burning would be considered to treat fuels when it can be done safely and with a minimal loss to residual trees. There will be no commercial removal of timber products to reduce hazardous fuels. See Appendix II.6, for pictures of comparable hazardous fuels reduction treatments.

Placer Creek Thinning - Two types of thinning are proposed (see Appendix II.5 for locations) on the project area. First, to reduce the threat of wild fire along the Moon Pass Road, understory conifers less than six inches in diameter would be thinned on five acres in Units 26a, b, and c so that their crowns don't touch. This would be done on a 100 foot wide strip next to the road. Tree limbs would be removed on the lower eight feet of the stem on intermediate and overstory trees. After thinning, the slash would be placed in small piles, covered and burned when conditions are acceptable. Second, Units 26d and e would be thinned to accelerate the succession process on three acres located on two benches adjacent to the creek. Grand fir and lodgepole pine understory conifers less than ten feet tall would be cut and placed into small slash piles on-site, and then burned when conditions are acceptable. The objective is to begin the process to re-establish western redcedar groves on the river benches. The pile burning areas would also serve as cedar planting spots.

Slash and Prescribed Fire - Brush field treatments in Units 20 - 25, would be accomplished during the next ten years to coordinate with USFS prescription burning, and wildlife forage needs. About 30 to 50 percent of the young conifers and old brush would be cut to provide fuel for the prescribed burn. Efforts such as pulling back fuels or spot pre-burns around trees would be made to protect mature trees from the detrimental effects of prescribed burning.

2.1.3 Vegetation Treatment - The vegetation treatment objectives are:

- Reduce the risk of crown fire;
- Develop wind firmness in the forest by selectively removing intermediate and suppressed trees adjacent to dominate trees. Co-dominant trees would also be removed that are growing too close to dominant western white pine or western larch trees;
- Reforest openings in thinning areas with rust resistant western white pine and western larch;
- Improve the potential snowshoe hare and Canadian lynx habitat;
- Maintain the travel and security areas for elk and deer; and
- Reduce noxious weed populations.

Thinning of co-dominant trees would contribute to restoration of more open stand conditions in some areas and increase the growth of forbs and shrubs, which retain moisture until later in the season, reducing fire behavior (Agee et al. 2002). The most effective approach to reducing fire severity is to apply fuel reduction treatments simultaneously to multiple fuels strata. Fire hazard treatments intended to decrease tree mortality should reduce surface fire intensity, as well as crown fire potential, in order to minimize mortality from crown scorch (Raymond 2005).

All known or discovered wetlands, seeps, bogs, elk wallows and springs less than one acre in size would be protected with a 100-foot "no activity" buffer.

A seen area analysis tool using a geographic information system (GIS) was used to determine what is visible from three viewpoints; the Wallace Visitor Center, lower Ninemile Canyon, and the Silver Wood Good Samaritan Center located in Silverton. Based upon this analysis, all forested land proposed for treatment which is visible from these viewpoints would be managed by doing handwork (Units 1 – 6) or using helicopters (Unit 6 and 8) to minimize the visual distraction of straight lines or disturbed ground. A fourth viewpoint, located just west of Dobson Pass on BLM was used to determine where timber could be harvested without marring the relatively unblemished skyline as seen on the left side of Photo 2 (see Appendix VII.1). A view of Stripped Peak, 6,324 foot elevation, is shown in the center of the photo. The environmental assessment cover photo was taken from this peak.

Within the project area, the use of tree marking paint would be minimized so that recreationists and other visitors could enjoy the forested natural setting without the “symbols” of management, specifically painted right-of-way and harvest area boundary trees along with trees designated for removal or retention. Plastic flagging and cardboard or plastic posters would be used to designate management boundaries and would be removed after the timber sale is terminated.

Wildlife snags greater than 8 inches diameter breast height (DBH) would be retained, except for snags that must be felled to meet OSHA safety regulations or to facilitate burning operations. All trees containing nests and snags with apparent cavity nesters would be retained. The number of retention and recruitment snags would meet or exceed the snag management guidelines of 8.1 snags per acre and 8.1 future snags per acre as identified in the BLM Coeur d’Alene Resource Management Plan (RMP) June 2007. About eight live trees and eight dead trees per acre shall be retained on all treatment areas. When large trees are present they would be left as individuals, and when small trees are present, groups of trees would be retained. Trees greater than sixteen inches in diameter would be retained for potential old growth habitat or for future snags.

Logging would be done with ground based equipment (crawler tractors, skidders, tree shears, etc.), skyline logging and helicopter as indicated in Table 3. Additional information about the silvicultural prescription is shown on Table 12 in Appendix II.3.

Table 3 – Vegetation Treatments (Proposed Action)

Unit No.	Acres	Forest & Habitat Type	Proposed Vegetation Treatment Table
3	2	Wet/Warm Western Hemlock	Seed Tree - About 5 to 10 western larch, western white pine, or lodgepole pine trees would be retained per acre. Non-merchantable material would be mechanically piled and burned. Western larch and disease resistant western white pine trees would be planted. Dead and dying trees would be helicopter yarded to a helispot landing.
6 & 8	41	Wet/Warm Western Hemlock	Medium Thin - Within Unit 6 and in the south half of Unit 8 all trees smaller than 11 inches in diameter would be thinned. On the north half of Unit 8, all lodgepole pine trees smaller than 13 inches in diameter would be thinned. Cut trees would be helicopter yarded to a helispot landing.
9	27	Wet/Warm &	Medium Thin – On the north half of Unit 9 all lodgepole pine

		Wet/Cold Western Hemlock & Subalpine Fir	trees would be thinned, and on the south half of Unit 9 all lodgepole pine trees smaller than 12 inches in diameter would be thinned. Reforestation with western larch and disease resistant western white pine seedlings would be planted in openings created by dying lodgepole pine trees. Thinned trees would be tractor skidded to landings located along the road.
10	9	Wet/Warm Grand Fir	Medium Thin – All trees less than 10 inches in diameter, and all lodgepole pine less than15 inches in diameter would be thinned. Thinned trees would be skyline yarded to landings located along the road.
12	30	Wet/Warm Grand Fir	Medium Thin – All trees less than 16 inches in diameter would be thinned. Thinned trees would be skyline yarded to a landing located on the road.
14	15	Wet/Warm Grand Fir	Medium Thin – All trees less than 12 inches in diameter and all lodgepole pine trees would be thinned. Thinned trees would be skyline yarded to a landing located on the road.
17 & 18	16	Cold Mountain Hemlock	Medium Thin – Within Unit 17, all trees smaller than 9 inches in diameter would be thinned. Within Unit 18, all trees smaller than 10 inches in diameter would be thinned. Thinned trees would be tractor skidded to landings located along the road.
Total	**140**		

Skid trails would be designated and directional falling is required to reduce soil compaction and minimize the damage to residual trees. Skid trails would be at a 12 foot width, and spaced about 150 feet apart on dry ground, except where they converge. Skid trail spacing would be reduced to about 70 feet when operations are conducted on two feet of snow or on frozen ground. All logging skid trails would be rehabilitated to reduce the opportunities for them to become future roads.

Seed Tree - The objective of the treatment in Unit 3 treatment is to diminish the visual impact of a straight cutting line by creating a scalloped edge; mimicking the cutting on private land. All lodgepole pine trees would be removed and western white pine and western larch trees would be retained.

Medium Thin - For reducing fire risk, the priorities are to reduce surface and ladder fuels and raise the bottom of the live canopy (Agee et al. 2000, van Wagtendonk 1996). Thinning is most appropriate where understory trees are sufficiently large or dense so that attempts to kill them with fire would run a high risk of also killing overstory trees (Christensen 1988, Stephenson 1999, Fulé et al. 1997, Moore et al. 1999, Arno et al. 1997). Using prescribed fire alone can be desirable in that it provides the full range of ecological effects of fire. However, fire is an imprecise tool and a chainsaw or harvester can provide much more control over which trees are actually killed (Thomas and Agee 1986, Swezy and Agee 1991, and Pollett 2002, Fiedler 1996). Therefore a mechanical thinning action is proposed, rather than using prescribed fire to thin the forest. A diameter limit cut would be used for designating trees to be removed. Because of the widespread mountain pine beetle activity, one to three acre openings would be created in the

thinned stands and a mottled vegetative mosaic would result. Openings would be reforested with blister rust resistant western white pine and western larch seedlings.

Reforestation - Following completion of timber and fuels treatment, the entire project area would be surveyed to determine the need for planting of seral tree species. Natural reforestation of treated areas with western larch, grand fir and Douglas-fir is expected in some areas following mechanical or broadcast burning. In the relatively moist, cool sites where lodgepole pine was harvested, dense natural regeneration by this species is also expected. Openings in the forest canopy where natural regeneration is expected to be limited, western larch and rust-resistant western white pine seedlings would be planted 12 feet apart. Within the clear cut, patches of subalpine fir and Engelmann spruce seedlings would be planted to serve as "stepping stones" for wildlife travel. Due to the cyclic nature of the lodgepole pine, non-traditional methods of reforestation would be initiated to inhibit the amount of lodgepole pine regenerating so that in 100 years the condition won't mimic the present one.

Noxious Weeds – The objectives include preventing new weed species from entering the project area; reducing seed sources and/or plant parts and minimizing risk of spreading existing infestations and reducing opportunities for weed invasion in disturbed sites by seeding all disturbed soil (except the travel way on surfaced roads) in a manner that optimizes plant establishment for that specific site. The highest priority for protecting the area from weed invasion is to prevent any new weeds from entering the project area.

Before logging or road construction activities begin and before logging equipment is moved into the project area, BLM would treat pre-existing weed populations with herbicides to reduce sources of seed and/or plant parts and minimize risk of spreading existing infestations.

To prevent invasion of any new weeds species, pre-harvest measures would include off-site removal (not on BLM lands) of all mud, dirt, and plant parts from all off-road vehicles and off-road equipment before entering BLM lands. Cleaning requirements would not apply to vehicles that would stay on the established roadway and use the constructed landing. Disturbed areas would be seeding using a certified weed-free seed mix that includes fast-growing, early season species to provide quick, dense revegetation.

Post harvest activities would employ an integrated weed control strategy of monitoring and treatment of weed infestations on ATV trails, roads, landings, skid trails, cable corridors and treatment areas. Weed treatments would include use of biological controls, mechanical removal, and/or herbicides after considering the effectiveness of all potential methods and combination of methods.

Herbicide use in the Placer Creek watershed would be planned using carefully selected products to minimize impacts while achieving the desired result. Herbicide treatments would be limited to broadcast spraying along the ATV trails using ATV and/or UTV spray equipment and off trail spot spraying using backpack sprayers. Buffer zones of 25 ft. minimum would be placed around identified populations of BLM sensitive plant species. No herbicide applications would occur within these buffer zones. Spotted knapweed infestations would be targeted with insect biocontrol releases and selective cultural methods such as hand pulling may also be used within as well as outside the buffer zones. Treatment areas for the proposed action are greater than 700 feet from water intake locations for the East Shoshone County Water District. The water resources located at the confluence of Placer Creek, Cranky Gulch, and Experimental Draw are

well outside the necessary buffer distance (minimum 25 feet for vehicle spray applications and 10 feet for hand applications) identified in the BLM Pesticide Applicators Handbook and the 2007 Final Vegetation Treatments Using Herbicides Programmatic Environmental Impact Statement Record of Decision. Treatment planning would consider Risk Assessments completed by the BLM for specific herbicide products and would also include considerations for climate, soil type, slope and vegetation.

2.1.4 Placer Creek Riparian Restoration - The objective of the restoration actions are to improve fish migration and habitat by removing physical barriers and creating pools, decreasing water temperature, and stabilizing an active scarp that contributes sediment to the stream. A segment of Placer Creek within the project area is lacking large wood, quality and quantity of pools, and key riparian tree species. In addition, there is an old log dam that fully blocks upstream fish passage during low water, and at least partially blocks upstream fish passage during high flows. Several restoration actions are proposed that would improve fish habitat and fish passage in this segment of Placer Creek. Adding large wood to the stream channel will add cover, and increase pool number and quality, which will benefit fish and other aquatic species by improving and increasing habitat quality and quantity. Planting cottonwood and cedar in the riparian area will increase shade and provide long-term additions of large wood to Placer Creek, which will benefit aquatic species by maintaining cool water temperature and provide for future inputs of large wood to the stream. Removal of at least part of the dam would help provide upstream passage for fish, which will reduce population isolation, increase accessible habitat, and increased access to spawning habitat.

All following restoration actions, within the riparian area, are located downstream of the municipal water supply facility and would not affect the municipal water supply. All in-stream work would be done in the late- summer to early-winter when the water level is low. Tree planting and tree/snag winching actions in the riparian zone would be done with hand equipment, but the partial dam removal, in-stream placement of large logs and the scarp stabilization would require small mechanized equipment similar to those pictured in Appendix VI.1. Tree planting would occur during the springtime.

The following actions are planned to improve the riparian area:

Partial Removal of Log Dam - The top two timbers of a log dam in Placer Creek that is four timbers high would be removed to help restore fish passage (see Appendix VI.2 for location and Appendix VI.3 for photo).

In-Stream Placement of Large Logs - Along the upper reach of the stream, where a small excavator has access to the creek, several large logs would be placed to mimic a log jam to create pools and raise the creek level so that the waterfall created by a culvert on Moon Pass road would be reduced to improve fish habitat (see photo in Appendix VI.4).

Additionally, along sections of the creek without access for mechanical equipment, snags and dying trees on the east side of the creek would be felled and winched into the riparian zone with a cable to create more pools and increase hiding cover for fish (see Appendix VI.5 for proposed log jam locations).

Scarp Stabilization - Along the toe of a steep barren slope adjacent to the creek, large woody debris would be placed to stop the creek from undercutting the slope (see map in Appendix VI.2

for location of scarp). Above the woody debris, containerized aspen, thimbleberry, mountain ash, elderberry, lodgepole pine and thinleaf alder would be planted on the lower portion of the scarp to begin the stabilization process to minimize sediment entering the creek (see photo in Appendix VI.6).

Placer Creek Tree Planting - About 50 small, pole size black cottonwood trees would be hand planted adjacent to the stream where there are no black cottonwood trees. About 200 western redcedar seedlings would be hand planted on benches adjacent to the stream to restore native riparian species and provide a long-term source of shade (see Appendix VI.7).

2.2 Description of the Alternative Analyzed in Detail

No Action Alternative (Alternative 2) - Under this alternative, no forest or fuel management activity would occur and the area would continue to be susceptible to stand replacement wildfire. Reduction of stand densities would not occur and forest fuels would continue to accumulate. Fire suppression would continue and shade tolerant species including Douglas-fir, grand fir, western redcedar, and western hemlock would eventually dominate the forest. Western larch and western white pine would remain on the site as scattered individuals. Increased stocking densities of shade tolerant tree species would allow for an increase of fuel loads and ladder fuels and would also result in stand conditions more susceptible to biotic pests like bark beetles.

As a result the potential for a stand replacement wildfire would be increased. Stands dominated by Douglas-fir, western hemlock, and western redcedar easily support crown fires because the trees do not self-prune well and retain large branches low in the canopy (Graham and others 1999). The potential for attack by mountain pine beetle in the lodgepole pine stands would increase.

In the event of a fire, the potential for loss of timber on adjacent USFS, BLM and adjacent private lands would be increased. No artificial reforestation activities would occur. No permanent closure of existing spur roads would occur.

No restoration work would take place in Placer Creek and current conditions would continue.

2.3 Alternative Actions Considered but not Analyzed in Detail

During the extensive public involvement process documented previously in Section 1.2, a range of conceptual actions were presented ranging from no action to very aggressive treatments. The public made it clear that some potential actions were unacceptable due to issues such as aesthetics and hydrology. Therefore, the proposed action was crafted to meet the purpose and need while addressing those issues sensitive to the public. Actions considered but not analyzed in detail are summarized below.

Printer Creek Timber Harvest – Printer Creek is a small tributary to the South Fork with a watershed area of 164 acres within the proposed project area. The lower end of Printer Creek enters a drop inlet, adjacent to several residences, and is then conveyed under the city of Wallace in a concrete pipe. Concerns have been raised by numerous citizens regarding potential for plugging or overtopping the pipe due to recent harvest activities on private forest land within the Printer Creek watershed. To decrease the fire hazard, commercially thin all lodgepole pine and all other trees less than eight inches in diameter in the drainage excluding the riparian areas.

This treatment would provide a natural appearance of small openings where young quaking aspen trees would be planted, and over time would look like the landscape south of Kellogg, Idaho. A mixed hardwood/conifer forest is more resilient to fire, and ground fires are easier to control. Changing the forest complexion to a mixed hardwood/conifer forest is consistent with reducing wildfires in the long term, but because of the extent of recent timber harvest on private land and continued lodgepole pine mortality within the drainage, this alternative isn't feasible until Printer Creek recovers hydrologically.

Construct ATV Trail in Unit 24 – Extend the existing ATV trail in Unit 24 to the Red Oak Gulch ATV trail. This trail is not required for fire prevention or suppression actions. This alternative was not analyzed in detail since it did not meet the purpose and need for action.

Treat Hazardous Fuels and Construct a Shaded Fuelbreak – This alternative proposed a "light touch" on the landscape where concentrations of dead and dying lodgepole pine would be harvested and a shaded fuel break would be constructed. This alternative was not analyzed because it did not meet the purpose and need for action.

Alternate Access Road and Increase Prescribed (Rx) Burning Action – This alternative proposed by the Idaho Conservation League would achieve one of the project's objectives to reduce road density. However, as private forests and brush fields mature, a fire hazard would exist on the south facing slope and access would be needed to manage the hazard. Over the long term, road densities would be more than the Proposed Action. Due to the location of the alternate access road, a major big game travel route would be adversely affected. Additionally, the owner of the private land on which the alternate route would be located expressed reluctance for building new roads on his land**.**

3.0 CONFORMANCE WITH APPLICABLE LAND USE PLAN

The Proposed Action is in conformance with the Coeur d'Alene Resource Management Plan (RMP, June 2007). The project area conforms to policies guiding transportation and travel management to provide adequate administrative access for resource management needs and suitable public access for recreation opportunities. Acceptable actions include, but are not limited to:

- Road construction
- Temporary road construction
- Road decommissioning
- Road closure
- Road maintenance
- Dust control

The project area is covered under policies guiding forest management activities on lands classified for forestry and woodland products. Silvicultural treatments and forest management activities permissible under these classifications include, but are not limited to:

- Pre-commercial and commercial thinning
- Removal of individual, dead or dying trees
- Regeneration methods including single tree and group selection methods
- Slash Disposal

- Site Preparation (mechanical and broadcast burning) and reforestation planting.

The project area is covered under policies guiding aquatic and riparian restoration. Restoration activities taking place within Riparian Conservation Areas (RCAs) will be designed to enhance, restore or maintain the physical and biological characteristics of the RCA. Typical restoration activities include:

- Culvert removal or replacement
- Placement of large wood within the stream channel and floodplain
- Riparian planting
- Removal or augmentation of fish passage barriers

The project area is also covered under policies guiding invasive species and noxious weed treatments. Restoration activities will be designed to prevent and control infestations using integrated weed management techniques.

Relationship to Statutes, Regulations, or Plans

This project would be implemented under the authority of the Federal Land Policy and Management Act of 1976, as amended.

All forestry practices would meet or exceed those set forth under the Idaho Forest Practices Act, Title 38, Chapter 13, Idaho Code. All forestry practices would meet or exceed Idaho's Best Management Practices (BMP's) for protecting water quality and be in compliance with BMP's in Appendix C of the Coeur d'Alene Resource Management Plan. The U.S. Army Corps of Engineers will be notified of all in-stream actions.

In accordance with the Endangered Species Act of 1973 as amended, regulations in 50 CFR 402, and BLM policy in Manual 6840, BLM will complete necessary consultation and coordination with U.S. Fish and Wildlife Service for the protection of federally listed threatened and endangered species and critical habitat. The Proposed Action would also incorporate the Coeur d'Alene Native Fish Strategy (CNFISH).

All forest health activities would be designed to meet the following resource standards and management objectives:

- Protection of Threatened and Endangered Species
- Protection of Cultural and Historic Resources
- District Water Quality and Fisheries Objectives
- District Visual Resource Management Guidelines
- District Snag Management Guidelines within the constraints of current OSHA Safety Regulations

4.0 AFFECTED ENVIRONMENT

The affected environment documents the historic, ongoing and reasonably foreseeable actions that are analyzed in Chapter V.

Table 4 lists the historic, ongoing and reasonably foreseeable road construction actions on forested lands on and in near vicinity of the project area (see map in Appendix II.8 for road locations). City and county streets within Wallace, Silverton and Woodland Park area were not considered in the analysis.

The first road constructed on the project area was before 1950, the exact date is not known because the BLM office which manages the land was established in 1962, and BLM's records transferred from the General Land Office only go back to 1949. Road's were most likely constructed on the project area between the 1920's and 1950 for mineral exploration.

Table 4 - Historic, Ongoing and Reasonably Foreseeable Road Construction

Road Name	Location	Primary Purpose	Approximate Mileage	Timeframe	Map Symbol
Moon Pass*	Mixed Public and Private	Mining	8 mi. to Pass from Wallace	Early 1900's	A
Dobson Pass	Mixed Public and Private	Mining	6 mi. to Pass from Wallace	Early 1900's	B
Burke Canyon	Mixed Public and Private	Mining	7 mi. to Burke from Wallace	Early 1900's	C
Old Mining Roads On the Project Area	BLM	Mining	5 miles	1920 – 1950	D
Old Mining Roads Off the Project Area	USFS, IDL and Private	Mining	10 miles	1920 – 1950	E
Interstate 90	Mixed Public and Private	Federal Highway System	8 miles in adjacent area	1962-64 & 1986-91	F
Revenue Gulch	BLM	Timber Harvest	3 miles	Early 1960's	G
Rock Creek / Watson Gulch	Private, State and BLM	Timber Harvest	6 miles from I-90 to Project Area	1960 - 1986	H
McLeod	Private	Timber Harvest	3 miles	1986 - 2001	I
Kelly	Private	Timber Harvest	1 mile	1986 - 2004	J
Idaho Dept. of Lands (IDL)	State	Timber Harvest	3 miles	1987 - 1991	K
Private & Mining Companies	Private	Timber Harvest	25 miles	1995 - 2008	L
Stimson	Private and BLM	Mining and Timber Harvest	18 miles	1997-2005	M
Hagaman	Private	Timber Harvest	3 miles	2005	N

Weyer Gulch	State and Layton	Timber Harvest	8 miles	2006-2007	O
Idaho Dept. of Lands (IDL)	State	Timber Harvest	2 miles	Ongoing	P

* The Moon Pass road (see map in Appendix I) was constructed before 1900 to access the Sumner Mine and Silver Shadow mining group located near Park Creek, on the south side of Moon Pass. Land surveyors' in the late 1800's referred to the road as a wagon trail.

Table 5 lists the historic, ongoing and reasonably foreseeable vegetation treatments on forested land within and near the project area. This table also documents the BLM's past management of brush fields within the Placer Creek drainage (see map in Appendix II.9 for treatment locations). Aerial photographs were used to estimate location and type of vegetative management activity on private land.

During the past decade the forested area surrounding Wallace has been managed for commercial timber harvest as the forest attained a mature condition, or because the mountain pine beetle was infesting and killing lodgepole pine trees. This practice is likely to continue on areas where insect or disease affects the forests ability to produce timber, or the value of the timber is economically feasible to harvest. This project is BLM's first timber sale in the project area.

Table 5 - Historic, Ongoing and Reasonably Foreseeable Vegetation Treatments

Project	Location	Activity	Time Period	Map Symbol
Placer Creek Big Game Winter Range Forage Improvement	BLM	Brush Slashing and Prescribed Burning on 165 acres	Past (1981)	A
Revenue Gulch Timber Harvest	BLM	Forest Regeneration and Commercial Thinning on 375 acres	Past (1982)	B
Munson Timber Harvest (sold to McLeod)	Private Land	Forest Regeneration on 340 acres	Past (1986)	C
Kelly Timber Harvest	Private Land	Forest Regeneration and Commercial Thinning on 20 acres	Past (1987)	D
Rock Creek Timber Harvest	BLM	Forest Regeneration and Commercial Thinning on 307 acres	Past (1987 – 1988)	E
Rock Creek Timber Harvest (BLM transferred to IDL)	State	Forest Regeneration and Commercial Thinning on 184 acres	Past (1987 – 1988)	F
Tri Corp & Gary Bond Timber Harvest	Private Land	Forest Regeneration and Commercial Thinning on 20 acres	Past (2001)	G
Mining Companies, Forest Capital & Private Timber Harvest	Private Land	Forest Regeneration and Commercial Thinning on 1,040 acres	Past (199 – 2004)	H
Coeur – Silver Valley	Private Land	Facility Development on 5 acres	Past (2002 – 2005)	I
Cranky Gulch Big	BLM	Brush Slashing and Prescribed	Past (2004)	J

Game Winter Range Forage Improvement		Burning on 153 acres		
Hagman Timber Harvest	Private Land	Forest Regeneration and Commercial Thinning on 155 acres	Past (2005)	K
Wallace WUI	City of Wallace	Understory Thin, Hazardous Fuel Reduction; Cut, Pile and Burn on 160 acres	Past (2005)	L
Wallace WUI	BLM	Understory Thin, Hazardous Fuel Reduction; Cut, Pile and Burn on 20 acres	Past (2005)	M
Layton Timber Harvest	Private Land	Forest Regeneration and Commercial Thinning on 480 acres	Past (2006-2008)	N
Stimson Timber Harvest (Idaho Forest Industries sold to Stimson)	Private Land	Forest Regeneration and Commercial Thinning on 555 acres	Past (2005)	O
Idaho Department of Lands Timber Harvest	State	Forest Regeneration and Commercial Thinning on 185 acres	Ongoing	P
USFS Placer HFRA Project *	US Forest Service	Commercial Thinning, Brush Slashing and Prescribed Burning on 860 acres	Reasonably Forseeable (2010-2016)	Q
Stimson Shaded Fuel Break	Private Land	Construct Shaded Fuel Break to Enlarge the BLM/USFS Shaded Fuelbreak on 10 acres	Reasonably Forseeable (2012-2015)	R
West Placer Thinning	BLM	Commercial Thinning and Reduction of Hazardous Fuels on about 200 acres	Reasonably Forseeable (2012-2014)	S
South Hill Biomass	BLM	Commercial Salvage of Dead LPP on 50 acres & if needed reshape Unit 3 for visuals	Reasonably Forseeable (2013-2020)	T
Wallace South PCT	BLM	Precommercial Thinning on 70 acres	Reasonably Forseeable (2025-2030)	U
Wallace WUI Maintenance	BLM & City of Wallace	Understory Thin, Hazardous Fuel Reduction; Cut, Pile and Burn on 180 acres	Reasonably Forseeable (2025-2030)	V
Shaded Fuel Break Maintenance	BLM	Understory Thin, Hazardous Fuel Reduction; Cut, Pile and Burn on 60 acres	Reasonably Forseeable (2025-2030)	W
Big Game Brushfield Maintenance	BLM	Brush Slashing and Prescribed Burning on about 340 acres	Reasonably Forseeable (2025-2030)	X
Printer Creek Project	BLM	Commercial Thin and Salvage Timber Sale on about 150 acres	Reasonably Forseeable (2040-2050)	Y
Generic Private Timber	Private	Forest Regeneration and	Reasonably	Z

Harvest		Commercial Thinning	Forseeable (when feasible)	

* The US Forest Service is revising the Placer Creek HFRA Project because the original proposal did not receive any bids.

4.1 Air Quality

Air quality in the project area is good. Wind and weather patterns are generally from a westerly flow (SW to NW) with mountains and valleys providing local topographic influence to wind pattern.

4.2 Cultural Resources

A cultural resource inventory was conducted in the project area for all alternatives. No cultural resources were located.

4.3 Economic and Social Values

Shoshone County, established in 1864, encompasses 2633.91 square miles with a population density of 5.2 people per square mile. According to the 2000 census data, the county had a population of 13,771; 5,906 households and 3,856 families residing in the county. In the last three decades of the 1900s its population declined by 30.2 percent. Slightly more than 95% of the population is white, non-Hispanic and the median resident age is 41.8, slightly higher than the Idaho median age of 33.2 years. Industries providing employment include: Education, health and social services (20.8%); Agriculture, forestry, fishing and hunting, and mining (13.0%); and Arts, entertainment, recreation, accommodation and food services (12.3%). The median household income was $28,535, and the median income for a family was $35,694. About 12.4% of families and 16.4% of the population were below the poverty line, including 21.8% of those under age 18 and 10% of those age 65 and over.

According to the Idaho Department of Labor, in December 2008, Shoshone County was one of six Idaho counties with a double-digit unemployment rate. While Shoshone County has had historically high unemployment rates, the 13.3% rate was higher than the past several years. Shoshone County's unemployment rate changes quickly due to the relatively low population and fluctuates due to cyclical industries such as agriculture, forestry and mining; typically with less people employed during the winter months.

BLM, USFS and private lands in the area provide a source of economic benefit to the Wallace area from the recreational and commercial opportunities. Public land, adjacent to private property, is sometimes viewed as being an asset because public lands cannot be commercially developed; providing landowners with a landscape that is unobstructed by other residential or commercial sites. Landowners place a high value on the visual benefits derived from open space and native vegetation and, based on conversations with some adjacent landowners, are willing to accept a change to the landscape that would increase protection of their investments should a wildland fire occur.

The ATV trails surrounding Wallace attract numerous motorized recreationists to the area who eat and sleep in the local area. Annual ATV jamborees attract several hundred visitors to the area for these three to four day events. Dispersed recreationists, including hunters or berry pickers add to the local economy and supplement the traditional industries of mining and logging.

4.4 Fisheries, Including Special Status Fish Species

The proposed project is located within the Rock Creek, Placer Creek, Printer Creek, Weyer Gulch, and Watson Gulch watersheds, all tributaries to the South Fork Coeur d'Alene River. Red Oak Gulch and Hord Gulch are both tributaries of Placer Creek that are included in the project area. High levels of heavy metals (lead, cadmium and zinc) in the South Fork Coeur d'Alene River and many of its tributaries is an issue. Prior to 1968 the South Fork Coeur d'Alene River contained such high concentrations of heavy metals that it prevented any life from existing in much of the river (Mink et al. 1971). As heavy metal concentrations dropped, the first insects started appearing throughout the South Fork in the early 1970's (Rabe and Flaherty 1974) and in the early 1990's Idaho Fish and Game started receiving reports that fish were surviving in the lower river. The South Fork Coeur d'Alene River is identified as water quality impaired (303d listed) for metals, temperature and sediment. In the 2002 Integrated Report by the Idaho Department of Environmental Quality (DEQ), Placer Creek is 303-d listed as not fully supporting salmonid spawning due to elevated water temperatures.

Approximately one mile of Placer Creek runs through BLM land in the proposed project area. Though this section of stream generally has a good riparian area and adequate shading of the stream channel, it is lacking in cottonwoods and western redcedar. Fish habitat inventory conducted in 2003 by the Forest Service in the Placer Creek watershed indicated that channel stability was good, pool-to-riffle ratio was lower than desired, and large woody debris overall was smaller than desired in both length and diameter (USDA Forest Service 2006).

The South Fork Coeur d'Alene River and many of its tributaries contain westslope cutthroat trout, *Oncorhynchus clarki lewisi*, a BLM sensitive species. In the summer of 2006, the BLM and Idaho Department of Fish and Game conducted a snorkel survey of the South Fork Coeur d'Alene River from the town of Wallace downstream to the mouth. In addition to westslope cutthroat trout, rainbow trout, *O. mykiss,* brook trout, *Salvelinus fontinalis,* and mountain whitefish, *Prosopium williamsoni*, were observed. In 2003, the Forest Service conducted fish surveys in Placer Creek and tributaries, including Hord and Red Oak gulches, and observed westslope cutthroat trout, rainbow trout, westslope trout-rainbow trout hybrids, brook trout and sculpin. Brook trout are an introduced species, and the rainbow trout are likely to be introduced also, given that they have been stocked in the past. Other native species known to inhabit the South Fork Coeur d'Alene River include shorthead sculpin, *Cottus confuses,* and torrent sculpin, *C. rhotheus*. Additional native and nonnative species are found lower down in the Coeur d'Alene River and Lake Coeur d'Alene.

Westslope cutthroat trout spawn mainly in small tributaries from March through July, when water temperatures warm to about 50°F. Westslope cutthroat trout stocks in the Coeur d'Alene Basin exist at a fraction of historic levels due to habitat degradation from activities such as mining, logging, development, and highway construction. Fishing pressure and introduction of non-native fish species has also contributed to reducing cutthroat numbers (USDI Fish and Wildlife Service 1999; DuPont and Horner 2003). Due to low numbers, the current fishing

regulations for westslope cutthroat trout are catch-and-release in the entire Spokane River drainage, which includes the Spokane River above Post Falls Dam, Coeur d'Alene Lake and all tributary streams (Idaho Fish and Game website).

Bull trout, *S. confluentus*, are found in parts of the Coeur d'Alene River and Lake Coeur d'Alene, but are no longer known to inhabit the South Fork Coeur d'Alene River or any of its tributaries. No bull trout were detected during the 2006 snorkel survey of the South Fork Coeur d'Alene River. The Forest Service surveyed Placer Creek and a number of its tributaries in 2003 and did not detect bull trout. The South Fork Coeur d'Alene River is not included in designated critical habitat for bull trout.

4.5 Forest Vegetation/Vegetation Communities

Distribution of forest vegetation within the action area is mainly related to slope, aspect and elevation, with ponderosa pine and Douglas fir occupying warmer areas, and on the relatively cooler sites, a combination of conifers such as ponderosa pine, Douglas fir, grand fir, western white pine, western larch, subalpine fir, and lodgepole pine. Western red cedar and western hemlock occur where sufficient moisture and shade are present. In 1981, shrub fields on southeast- to west-facing BLM land above Placer Creek were slashed and prescribed burned to increase big game forage on 165 acres within the project area. Forest vegetation would be characterized as a mosaic of mostly mid-stages of ecological succession, with the shrub fields representing earlier stages of succession.

Threatened and Endangered Plant Species: No water howellia (threatened) or Spalding's catchfly (threatened) individuals, populations or potential habitat that may occur in the action area.

No candidate plant species occur in the action area.

Sensitive Plant Species: Inventories for rare plants were conducted in the project area during 2007 and 2008. Two BLM Sensitive plant species, Constance's bittercress and clustered lady's-slipper, were found.

Constance's bittercress is a perennial, herbaceous member of the mustard family. Its global distribution is restricted to north-central and northern Idaho. This species primarily reproduces vegetatively since it does not tend to flower under dense tree canopy, where it is most often found. When exposed to increased sunlight, plants bloom from about May to June, but most developing fruits are aborted by mid-July. Constance's bittercress is generally found in lower elevation moist forests, especially in western redcedar and western hemlock dominated riparian areas. In the Wallace South action area, however, it has been found in the brush fields on the east side of Placer Creek.

Clustered lady's-slipper grows within the Constance's bittercress population in Unit 23. Clustered lady's-slipper is a long-lived, rhizomatous perennial orchid which typically occurs in fairly small, scattered populations. In Idaho, this species flowers from early May to June. A percentage of plants may remain dormant in any given year (Lichthardt, 1997). Clustered lady's-slipper seeds are minute and numerous, and little is known about their germination in the wild, except that they must be infected by a suitable mycorrhizal fungus for successful germination to occur (Greenlee, 1997). In north Idaho this plant is found most often in moist, mature forest habitats but can occur in drier, seral forests. In northern Idaho, it generally occurs in shaded,

moist to dry, western redcedar forests at low to middle elevations (about 1,700 to 4,600 feet), although it has been found in grand fir and Douglas fir forests, as well as one of the brushfields in the action area.

Potential habitat for Cascade reedgrass, deerfern, leafless bug-on-a-stick moss, and certain moonwort species is also present in the action area.

4.6 Fuels/Fire Management

Fire History

Fire has played a prominent role in forests of the area and the town of Wallace, ID. The historic 1910 fire burned half of the town of Wallace, ID and the fire consumed over 3 million acres of forested lands in Idaho and Montana in a two-day period. Forest types in the area have a history of fire ranging from frequent low severity fires to large and infrequent stand replacing fires.

This fire history indicates that fire has changed or altered forest vegetation by thinning and removing trees and reducing biomass; keeping the forest more open. The recent effectiveness of fire suppression, lack of vegetation management combined with the continuing expansion and encroachment of residences into the wildland fuel environment have created an unnatural and unacceptable fuel mosaic in need of treatment.

Fuels

Based on fuels and forest inventory data collected during the summer of 2002, the current condition of the Wallace project area can best be described by Fire Behavior Fuel Models TU5 and SH4. The TU5 is a timber/shrub/small tree understory, this fuel model contains heavy shrub/small tree understory and create moderate flame length and spreads. Fuel model SH4 is a low load, high climate timber shrub category. The primary carrier of fire in this fuel type is woody shrubs or shrub litter. Fire spread rates can be high and flame lengths moderate.

4.7 Invasive, Non-native Plant Species

Invasive weeds threaten our public lands by outcompeting native vegetation and adversely affecting wildland plant and animal communities, damaging watersheds, and increasing soil erosion. Plant communities in the proposed action area have been affected by prior disturbances such as fire, adjacent timber harvest, road building, and firewood cutting. Several weed species have invaded the proposed project area. The brush fields (Units 23 & 24) on the western portion of the project area have ATV trails with populations of spotted knapweed (*Centaurea maculosa*) and meadow hawkweed (*Hieracium pratense*). Roads in the eastern portion of the project area have populations of meadow hawkweed and orange hawkweed (*Hieracium auranticum*), as well as bull thistle (*Cirsium vulgare*). Spotted knapweed heavily infests the ATV trails described and has extended into the surrounding native vegetation. The hawkweed and thistle populations are currently at low levels and are limited to trail and roadside areas, but can be a significant seed source.

4.8 Recreation Use, Existing and Potential

The project area has no developed recreation sites. Two designated off- highway-vehicle (OHV) routes traverse the area, and are open to all motorized travel with the exception of full-size vehicles year-round. Cross country over-snow vehicle use is allowed off designated routes. The main recreational uses are hunting, OHV use, and other dispersed non-motorized activities primarily by local users. In general, use levels can be characterized as low.

An undesignated dead-end ATV trail traverses portions of treatment Units 23 and 24. For the location of existing routes, see Pre-Project ATV Trails Map in Appendix V.1. There are about four miles of ATV trails and four miles of OHV trails within the project area.

4.9 Soils

Soil information was obtained primarily from the 2002 USDA/ NRCS publication, Soil Survey of St. Joe Area, Parts of Benewah and Shoshone Counties, Idaho. There are no known landslides within the project area, based on field reconnaissance and interpretation of aerial photography.

The most common soil type is the Honeyjones-Ahrs association, which is classified as gravelly to extremely cobbly silt loams. Rock content increases with depth. The profile is deep, well-drained and derived from metasedimentary bedrock, primarily siltite and argillite. Permeability is moderate. Average annual precipitation is 30-42 inches.

The proposed new road construction is located on Latour gravelly silt loam, found on 15-35 percent slopes and ridges. Permeability is moderate, the soil is well-drained, and erosion hazard is classified as slight.

4.10 Visual Resources

The area is classified as a Class III Visual Resource Management (VRM) area. The objective of this class is to partially retain the existing character of the landscape. The level of change to the characteristic landscape should be moderate. Management activities may attract attention but should not dominate the view of the casual observer. Changes should repeat the basic elements found in the predominant natural features of the characteristic landscape (Manual H-8410-1 - Visual Resource Inventory).
Private land in the towns of Wallace, Silverton and Woodland Park has been developed for home sites and businesses. The greater Wallace area has seen substantial historic disturbances from mining and timber harvest activities on the surrounding landscapes. The 1910 fire was extremely intense and consumed nearly all the vegetation within the project area at that time. Since 1910, successful fire suppression actions and lack of timber management activities has allowed a much different forest type to develop within the area. The area has evolved from the post-1910 fire with burned, fallen trees to a continuous cover of trees. This one-time fire event has created a “carpet like” covering of the hillside where the vast majority of the trees are the same height. The project area is characterized by steep, north facing slopes covered with dense forest composed of cedar, hemlock, fir and larch trees. The view south of Wallace (see Photo 1 in Appendix VII.1) is a hillside blanketed with mature evergreen trees. Pockets of brush fields interrupt the tree covered slopes on the upper terraces and south facing slopes. Roads, OHV and ATV trails are not visible on the project area from downtown Wallace, the visitor center, the Silver Wood Good Samaritan Center located in Silverton or from Dobson Pass. The north, east

and west views from town, outside of the project area, have changed recently due to timber harvest operations performed with ground based tractors or skyline cables on private land.

4.11 Water Quality, Surface and Ground Water

The following section substantially is largely condensed from portions of the Specialist's Report on Aquatic Resources in the Placer Resource Area, prepared by the Forest Service in 2006. The BLM Wallace South Hill project area falls entirely within the Lower and Middle Placer Creek sub watersheds.

Table 6 – Summary of Existing Conditions in Placer Creek

Subwatershed Name	Acres	% BLM lands	Ave. Precip. (inches/ year)	Ave. Road Density (mi/mi²)	303d water quality limited?
Placer Creek *(entire watershed)*	**9,984**	**67**	**36**	**2.12**	**None**
Lower Placer Creek	3,712	40	32	1.42	**None**
Middle Placer Creek	4,352	78	45	1.93	**None**
Upper Placer Creek	1,920	0	45	3.88	**None**

Summary of Conditions in the Entire Placer Creek (6th Code) Watershed

Stream Flow Regime: WATSED model results estimate that average peak month flows in the whole Placer Creek watershed are currently modified to approximately 2% above baseline conditions. This level of modification is not measurable in the field. Stream flow conditions and hydrologic recovery are still responding to many types of activities, such as timber harvest and stream channelization on other ownership in the lower reaches.

Designated Beneficial Uses in Placer Creek as described by DEQ include:

- salmonid spawning and rearing habitat
- cold water biota
- primary contact recreation
- secondary contact recreation
- drinking water

Public Water Supply

Placer Creek watershed is a primary drinking water supply for the City of Wallace. Best Management Practices and Coeur d'Alene Native Fish Strategy (CNFISH), RMP ROD June 2007 Appendix A guidelines would apply to any management activities within the watershed to protect water quality and beneficial uses. Lands will be managed for multiple-uses within the water quality standards for public water supplies. The East Shoshone County Water District-Wallace Source Waters Assessment Report (Idaho DEQ 2000) provides the BLM and other land management agencies with guidance and protection measures within Placer Creek because it is a designated public water supply.

Impaired Waters (303d listed)

Placer Creek

In the 2002 Integrated Report by the Idaho Department of Environmental Quality (Idaho DEQ 2000), Placer Creek is 303-d listed as not fully supporting salmonid spawning due to elevated water temperatures. The proposed project would not affect temperature as no canopy removal would occur in areas providing shade to live water. All streams in the Placer watershed flow through private land or BLM-managed land in their lower reaches, and then flow into South Fork Coeur d'Alene River.

South Fork Coeur d'Alene River

The South Fork Coeur d'Alene River is identified as water quality limited (303d listed) for metals, sediment and temperature.

Subwatersheds

The USFS Geographic Assessment lists the entire Placer Creek watershed as "Properly Functioning," which is a high priority to maintain and protect aquatic resources. Field review and data analysis was used to further scale down the conditions call from the Geographic Assessment to the subwatershed scale, and Lower Placer Subwatershed was determined to be "Functioning at Risk." The lowest reach of Placer Creek is highly altered and probably would rate as "Not Properly Functioning" it would not meet beneficial uses. This is a result of flood control infrastructures such as a dam and concrete lined channels constructed through the town of Wallace. Lower Placer Subwatershed, was found to be "Functioning at Risk" based on field reviews and data on channel conditions.

4.12 Wildlife

Threatened, Endangered, and Sensitive Wildlife

The following table displays an assortment of Federally Listed and BLM-Idaho sensitive species and their preferred habitats that are likely to inhabit the Wallace South Hill project area.

Table 7 – Federally Listed and BLM – Idaho Sensitive Species			
30 Special status wildlife species that are likely to inhabit the Wallace South project area.			
Species Status	**Preferred Habitat**	**Number Species**	**Representative Species**
Federally Endangered	Conifer Forest	0	None
Federally Threatened	Conifer Forest	0	None
Federally Proposed	Conifer Forest	1	Gray Wolf
Sensitive and Watch	Conifer Forest	2	Fisher
"	Wet Cold Conifer	4	Blue Grouse
"	Wet Warm Conifer	11	Northern Goshawk
"	Dry Conifer	5	Flammulated Owl
"	Riparian	6	Coeur d'Alene Salamander
State Listed	Wet Warm Conifer	1	Northern Flying Squirrel

The Fish and Wildlife Service prepared an Idaho Sensitive Species list dated December 1, 2008. No wildlife species on this list are likely to occur either in or near the proposed action area. However, a recent federal court decision (07/18/08) restored endangered species protection for gray wolves in the northern Rocky Mountains, which are likely to inhabit the proposed action area. One wolf was photographed near Moon Pass during a recent winter and BLM foresters have seen a wolf on the Rock Creek access road during the winter of 2007. Wolves that reside south of Interstate 90, where the proposed action is located, are actually designated as nonessential experimental (50 CFR 17.84 (i)). Nonessential experimental animals located outside of national parks or national wildlife refuges are treated, for purposes of section 7 of the Endangered Species Act, as if they were only proposed for listing (Federal Register, 11/22/94).

Selected sensitive species are discussed in this document because they were identified during the scoping process. Three wolverines were previously reported within three miles of the proposed action area, but none within the project boundary. Two northern goshawks were previously reported within six miles of the proposed action area, but none within the project boundary. Five fishers have been previously reported within eight miles of the proposed action area, but none within the project boundary. One black-backed woodpecker was previously reported about 9.6 miles north of the proposed action area. No blue grouse, flammulated owls, Coeur d'Alene salamanders, nor northern flying squirrels have been reported either in or near the proposed action area (Idaho CDC 2008).

With assistance from the USFS and BLM, the Idaho Department Fish and Game (IDFG) examined the range and distribution of rare and sensitive forest carnivores (including fisher and wolverine) in northern Idaho for more than a decade (Knetter and Hayden 2008). No animals were reported within the proposed action area, and denning habitat for wolverine is absent. The BLM and IDFG also conducted nesting surveys of northern goshawks throughout the St. Joe Mountains from 1994 to 1996 (Draheim et.al. 1998). No nest sites were discovered within the proposed action area.

With assistance from the BLM, the Idaho State University conducted amphibian surveys within the Coeur d'Alene basin from 1994 to 1996 (Beck et.al. 1998). Coeur d'Alene salamanders were widely dispersed and locally abundant within their study area. Neither Idaho giant salamanders nor western toads were widely distributed or abundant. The Idaho State University also conducted bat surveys within the Silver Valley from 1994 to 1999 (Keller 2001). Populations of seven bat species within the Silver Valley were noticeably lacking when considering the availability of abandon mine sites.

The BLM did not conduct field surveys for black-backed woodpeckers, which normally inhabit recently burned areas in search of tree-boring beetles. Except for prescribed fires on brush fields, the proposed action area has not experienced burning within the past 20-30 years. Recent field investigations conducted by the BLM wildlife biologist confirmed that habitat conditions within the proposed action area have not significantly changed during the past 17 years of his tenure in the Coeur d'Alene Field Office. The remaining 12 sensitive species are also migratory birds that are adequately analyzed below.

Migratory Birds

The following table displays an assortment of migratory birds and their preferred habitats that are likely to inhabit the Wallace South Hill project area.

Table 8– Migratory Birds			
85 migratory birds that are likely to inhabit the Wallace South project area.			
Species Status	**Preferred Habitat**	**Number Species**	**Representative Species**
Migratory Birds	Brush	3	Spotted Towhee
	Wet Cold Conifer	8	Gray Jay
	Wet Warm Conifer	36	Pileated Woodpecker
	Dry Conifer	3	White-breasted Nuthatch
	Riparian	35	Black-capped Chickadee

Measured habitat parameters provide a surrogate for evaluating the effects to animals when population numbers are not available. The Forest Vegetation Simulator (FVS), which grows trees over time, provided selected habitat parameters for this analysis (Wykoff et.al. 1982, Forest Service 2005). For migratory birds, the number of trees, their height and diameter, percentage of canopy closure, crown area, crown volume, and foliage biomass can be analyzed to evaluate bird habitat relationships (Moeur 1985 and 1986). Changed values of trees per acre would affect the available habitat for migratory birds. Changed values of canopy closure would affect the composition of migratory bird species (i.e. preference for either closed or open canopy) within the project area. Changed values of crown volume may predict richness of bird species, possibly because of available nesting opportunity and food. Changed values of crown area would affect nesting opportunities for migratory birds. Also, changed values of foliage biomass would affect feeding opportunities (i.e. conversion to insect biomass) for migratory birds.

Live trees eventually die, and dead trees eventually fall to become logs. The FVS also predicts snags per acre by diameter size class and year after treatment. Soft snags are assumed to be hazard trees that will be fallen and will not be counted in this assessment. Bigger trees, dead or alive, and logs are normally more valuable to the animals that live in or near them (Bull et.al. 1997). The benefit for migratory birds and other animals is leaving sufficient amounts of habitat structure after the proposed treatment is completed.

General Wildlife

The following table displays an assortment of other wildlife and their preferred habitats that are likely to inhabit the Wallace South Hill project area.

Table 9 – Other Wildlife and Their Preferred Habitats			
53 other wildlife likely to inhabit the Wallace South project area.			
Species Status	**Preferred Habitat**	**Number Species**	**Representative Species**
Other Wildlife	All Conifer Forests	22	Elk
	Wet Cold Conifer	2	Snowshoe Hare
	Wet Warm Conifer	8	Red Squirrel
	Dry Conifer	5	Golden-mantle Grey Squirrel
	Riparian	16	Mink

Measured habitat parameters provide a surrogate for evaluating the effects to animals when population numbers are not available. Elk, for example, need habitat composed of about 40% cover and 60% forage of proper size and arrangement in the Blue Mountains of Oregon and Washington (Thomas 1979). The distribution of cover areas should be mostly on northerly and easterly aspects to provide relief from the summer sun, and forage areas should be mostly on southerly and westerly aspects to take advantage of the winter sun. Sufficient hiding cover offers shelter from predators including people at a distance of 200 feet.

Because vegetation treatments are expected to increase forage areas and decrease cover areas for deer, elk, and moose, this assessment will focus on the Multispecies, Multistory Elk Hiding Cover output of the FVS (Wykoff et.al. 1982, Forest Service 2005). The input data comes from the BLM's (2001) Forest Vegetation Information System (FORVIS), and the anticipated results are the average percent of an elk hidden at 200 feet from three replications of ten observation points (Smith and Long 1987, Van Dyck 2005). Hiding cover is provided mostly by vegetation less than ten feet tall, but transitions into thermal cover when the trees grow to 40 feet high and provide more than 70% canopy cover. However, FVS does not allow the separation of canopy values for shorter trees from taller trees. Therefore, canopy values presented in this analysis is for all trees. The benefit for these animals is finding the proper balance of both cover and forage areas to support their local populations.

5.0 ENVIRONMENTAL EFFECTS

5.1 PROPOSED ACTION – ALTERNATIVE 1

5.1.1 Air Quality

Mechanical fuel treatments, temporary and permanent road construction, road realignment, road decommissioning, and road maintenance along with gravel and log hauling activities would increase the amount of dust in the area depending on the time of year, soil moisture, and the amount and kind of vehicle traffic.

Treatments using a combination of mechanical and prescribed fire are the primary activities that may affect air quality within and around the project area. The mechanical vegetation treatment would be accomplished using a variety of machines to modify the vegetative biomass in the project area as presented in the description of alternatives in Chapter II. The primary effect to air quality from these activities would be the generation of dust on roads from vehicle traffic during dry periods from July to September. Road dust would be contained to the project area and the access roads. Air quality impacts from dust would be minor and short term with the application of BMP's. Air quality impacts from smoke would be short term and minimized by following the guidance and regulations from the Idaho/Montana Airshed Group which complies with all state Department of Environmental Quality regulations. Following procedures and permissions of the Airshed Group and prescriptive parameters in the site specific burn plan required by BLM Policy, managers pick the time and conditions to burn that are best suited for achieving resource objectives and minimizing effects to air quality from smoke and particulates. Depending upon transport winds within the airshed on approved burn days, smoke from prescribed burning or slash pile burning operations should not affect local residents or residents of downwind communities and airsheds. Burning activities would be stopped if on-site conditions are not providing the loft, mixing dispersion and transport to mitigate production of smoke and

particulates as forecasted. Burning would cease until conditions allow for good smoke dispersion to maintain acceptable air quality. The majority of the slash and non-merchantable material would be utilized by the local Kellogg School District for their biofuel-incinerator for heating the high school. In the immediate local proximity of the activity, dust may have a short term affect to visibility and safety issues related to traffic on project area roads, but dust is not expected to interfere with traffic on Moon Pass road or Interstate 90. Production of dust is temporary and occurs only while activities are taking place within the project area.

Dust impacts are easily mitigated by dust abatement measures; typically by applying water, using a water tender truck equipped with a spreader bar, to wet roads and work areas to keep down dust levels.

5.1.2 Cultural Resources

There will be no known impact to cultural resources.

5.1.3 Economic and Social Values

The economic discussion below shows the estimated "real" dollars that would be derived from the project areas. While the number of times that a dollar is cycled through the community is not projected, each dollar winds up benefitting several people and/or businesses as it is used to cover wages, supplies, operating expenses, living expenses, etc.

The Wallace South Hill project would contribute to the local economy by providing jobs needed to accomplish the work described in the Proposed Action and by providing forest products to local sawmills and other manufacturers ranging from Shoshone County south to Benewah County and west to Kootenai County (depending on who purchases the various forest products derived from the project area). The various forest products that would result from implementing the Proposed Action range from saw logs, studs from hew wood, hog fuel for cogeneration plants, pulp, chips for strand board, posts, poles and firewood.

Due to the volatility of the wood product market, an accurate estimate of the type of forest products, quantity of forest products and the value of these products cannot be made. However, saw logs and hew wood quantities can be estimated as these are the most common forest products to arrive at an estimated forest product value. This estimated value would reflect the potential minimum value of forest products which would be removed from the project area based on the criteria in the proposed action.

Using April 2008 average delivered log prices for saw logs and hew wood, it is estimated that the value of saw logs and hew wood removed from the sale area would be approximately $500,000. Delivered Log Price is the amount a mill pays for loggers and/or land owners for wood delivered to the mill. Most often the basis for payment is either board feet or tons. No estimate of quantity is being made of other forest products that would be removed from the project area. However, any other forest products removed from the project area, such as biomass, would provide additional economic support to the local community.

It is difficult to arrive at a total value for all forest products and to estimate how much more economic value is poured into the local economy from these manufacturers. For purposes of this discussion, it was assumed that two-thirds of the final product value covers the cost of getting it

to the manufacturer (in this case delivered log price). Based on the above discussion, the sale of forest products would add another $50,000 to $100,000 to the local economy.

5.1.4 Fisheries, Including Special Status Fish Species

The analysis area for fisheries and aquatic habitat is the Placer Creek and Printer Creek watersheds. The project area in relation to Weyer and Watson Gulches is only located in the very upper end of these watersheds on ridge tops (except for the access road), therefore is highly unlikely to have any impact on aquatic habitat in these watersheds. Fisheries discussions include the South Fork Coeur d'Alene River for context; however impacts would not be expected outside the Placer and Printer Creek watersheds.

The primary impacts from timber and fuels management activities and associated roads on fish habitat come from an increase in sediment and temperature in streams, and a decrease in the amount of large downed wood in the stream channel and adjacent riparian floodplain (Chamberlain et al. 1991; Everest et al. 1985). Elevated water temperature can cause physiological stress in fish, reducing overall health and survival. Excess sediment in streams reduces spawning and pool habitat, and may decrease food supply by altering the aquatic macro invertebrate composition (Chamberlain et al. 1991; Everest et al.1985).

Increase in stream temperature is likely to occur if trees that provide shade to the stream channel are removed. Roads can cause an increase in sediment input to streams (Furniss et al. 1991), as can soil disturbance caused by yarding and skidding of logs (Chamberlain et al. 1991). Sediment input to streams can also be caused by removal of trees adjacent to the stream channel, as this can cause bank instability and removes the ability of the riparian area to stop the sediment before it enters the stream (Chamberlain et al. 1991; Everest et al. 1985). Large wood is often recruited to the stream channel from the adjacent riparian and upslope areas, thus removing adjacent trees would reduce future inputs of large wood (Murphy and Koski 1989; May and Gresswell 2003).

Wildfire, prescribed fire and other types of fuels treatments can also impact fish and aquatic habitat. Fires can increase erosion and sediment input to streams, alters water chemistry, and cause increases in water temperature (Benda et al. 2003; Rieman et al. 2003; Wondzell and King 2003). Effects can even be beneficial, such as increase in large wood input to the stream channel (Bisson et al. 2003), and even a pulsed sediment input to a stream may help increase aquatic habitat complexity (Benda et al. 2003). The extent of impacts from fires can vary greatly depending on fire patchiness and intensity, the preexisting conditions of the watershed and riparian communities, potential for recolonization of fish and other aquatic fauna, and the nature of fire suppression and post fire management (Rieman et al. 2003; Dunham et al. 2003; Gresswell 1999). Mechanical fuels treatments would have similar impacts to those caused by timber harvest activities.

The amount of new road construction equals the amount of road decommissioning, amounting to no net gain of roads. The new construction, decommissioning and reconstruction is all located on ridge tops well away from any riparian areas and streams, therefore no impact to fish or aquatic habitat is anticipated. The access road to the project area goes through the Watson Gulch and Rock Creek watersheds; this is an existing road in good condition and use of it is unlikely to have any impact on fish or aquatic habitat.

Riparian Conservation Areas (RCAs) are lands that are likely to affect the condition and/or function of aquatic habitat, and are usually adjacent to streams, ponds, lakes and wetlands. In RCAs, riparian-dependent resources receive primary emphasis, and management activities are subject to specific guidelines. The RCAs within the project area are defined as follows, in accordance with the Coeur d'Alene Native Fish Strategy in the CDA RMP: Red Oak Gulch, Hord Gulch and Printer Creek would have a RCA of at least 150 feet on either side of and including the stream channel, and Placer Creek would have a RCA of 300 feet on either side of and including the stream channel. Placer Creek is the only stream that contains fish within the proposed project area. Red Oak and Hord gulches are both fish bearing streams, however the area inhabited by fish is downstream of the proposed project area. Printer Creek is not known to contain fish.

No activities would take place within the Red Oak Gulch, Hord Gulch and Printer Creek RCAs. Within the Placer Creek RCA, some work would occur, including handwork to reduce ground fuels, planting of cottonwood and western redcedar, and placement of large wood pieces within the stream channel and floodplain. The fuel reduction work within the RCA would not occur within 20 feet of the stream channel; vegetation may be removed closer to the stream channel to clear areas for planting cottonwood and western redcedar. Little to no reduction in shading of the stream would occur along Placer Creek, and no reduction in shading would occur along any other streams within the project area; thus no impact on stream temperature is anticipated. Adequate riparian tree species for future recruitment to the stream channels would remain in the RCAs. Additional trees would be planted along Placer Creek for future recruitment of wood to the stream and large wood would be added to Placer Creek to augment the current deficit of large wood.

The potential for sediment to reach any streams from all activities other than placement of large wood within Placer Creek would be negligible due to very limited activities occurring with the RCAs. The placement of wood in the Placer Creek stream channel is expected to cause some sediment to enter the stream channel and create some amount of turbidity within the water column. This effect would be short-term and the long-term benefits of restoring large wood to the stream channel would outweigh any short-term impacts. Large wood creates pools, increases the size of pools, helps sort substrate to increase spawning gravel for trout, and provides cover for fish and other aquatic species. Sediment input to the stream channel and turbidity would be minimized by implementing the wood placement during low stream flow. Instream work would not occur during the period of westslope cutthroat trout spawning in the spring and early summer.

Timber harvest and mechanical treatment of fuels would occur only outside RCAs. If prescribed fire is used to treat fuels, the areas targeted for treatment would be outside of RCA. It is possible that fire may burn inside the RCA; however the relatively low intensity of a prescribed burn would limit the potential for negative impacts. Timber harvest and fuels treatments could result in sediment input to stream channels within the Placer Creek and Printer Creek watersheds. Incorporation of the RCAs adjacent to and including the streams into the project design ensures that sediment movement to the streams and impacts to fish, including westslope cutthroat trout, and aquatic habitat is negligible.

5.1.5 Forest Vegetation/Vegetation Communities

Transportation - Continued use and maintenance of the existing roads would deter vegetation from re-colonizing and closing-off those corridors. Plants growing within the areas proposed for reconstruction, permanent road, temporary road and heli-spot construction would be removed. Use and maintenance of the routes would discourage vegetation from re-establishing in these areas, although a swath of lower-growing, shade-intolerant vegetation may eventually establish adjacent to the road running surfaces and on the perimeter of the heli-spots. Weedy species may be introduced into these disturbed areas by passenger vehicles, wildlife, or OHV traffic. Seeding the cut-and-fill slopes on Segment G would enhance vegetation recovery and discourage weed invasion.

Decommissioning existing road segments, as well as the temporary road associated with the project, would allow vegetation to begin re-colonizing those road corridors. Using seed mixes and plantings to augment re-establishment of desirable vegetation would potentially reduce weed invasion and competition for sunlight, water, nutrients, and pollinators.

Fuel Reduction Treatment - Fuel reduction treatments vary from the removal of excessive down wood and thinning to prescribed fire. Thinning treatments are further described within the Vegetation Treatment section.

The brush fields (Units 20, 21, 22, 23, 24) would be prescribed burned in a mosaic pattern with approximately 30-60% of the unit receiving treatment.

The objective for burning the slash piles, in either the spring or fall, would be to reduce 80-90% of the slash pile, without affecting the soil or spreading noxious weeds, and to not allow smoke to negatively affect the town of Wallace or Interstate 90.

Mechanical fuels treatment with “slash buster” type equipment was considered but eliminated because the chips the equipment produces would remain on the site, and be a hazard for the next several years.

Vegetation Treatment

Harvest Operations - The amount of change in forest composition and structure of project treatment units would be related to species’ retention priorities, diameter cut limits, and reforestation objectives. Removal of smaller diameter tree in-growth and intermediate and suppressed trees growing into the crowns of healthy dominant and/or co-dominant trees, as well as clear-cut harvest of trees affected by insects and disease, would visibly change the current forest structure, as well as reduce competition with retention trees for water, sunlight, and nutrients. Reducing the average number of trees per acre would open the forest canopy, with openings initially dominated by shade-intolerant shrub and herbaceous species, until re-planting or natural regeneration of trees occurs. Retention and management of larger diameter trees would further develop the large tree structural component. Retaining larger woody debris on the forest floor would be important for tree seedling establishment, soil carbon cycling, nutrient and water storage, and wildlife activity.

On the acres designated for helicopter harvest, vegetation in the immediate vicinity of trees marked for cutting would be injured or killed by tree falling and slinging activity. However,

these acres would be subject to less ground disturbance overall than would occur in the cable and tractor logging areas. Vegetation would be most impacted in the landing areas where trees are stockpiled by the helicopter. On the acres designated for cable logging, vegetation would be injured or killed where the cable tower system is set up, along the cable corridors themselves, where individual trees are cut, and where trees are stockpiled for loading onto logging trucks. Logging with ground-based equipment would cause the most ground disturbance and injury to plant communities in the action area, when compared with helicopter or cable logging. However, measures such as restricting skid trails to certain spacing intervals and widths could concentrate the most intense impacts into certain areas, helping reduce more widespread disturbance to vegetation due to skidding activities. Impacts to vegetation would be further reduced if tractor operations occurred on two feet or more of snow, while operating over frozen ground probably would not reduce damage to the above-ground portions of plants. Disturbance to vegetation in tractor landing areas would be similar to that which would occur with helicopter or cable logging methods.

Reforestation - Planting western larch, western white pine, lodgepole pine, Engelmann spruce, and subalpine fir would aid re-establishment of diverse, resilient, and/or resistant forest vegetation in the action area. However, managing for seral tree species would require subsequent actions to discourage re-growth of tree species (such as grand fir and Douglas fir) that may dominate sites to which they are adapted where natural disturbance regimes have been altered. Planting cottonwood and western redcedar would enhance species diversity, structural development, and recovery of the riparian community along Placer Creek.

Threatened and Endangered Plant Species - The proposed action would not affect water howellia or Spalding's catchfly individuals, populations, or potential habitat.

Sensitive Plant Species - Constance's bittercress' response to certain disturbances was discussed in the USFS Placer Resource Area Environmental Assessment—Specialist's Report on TES (Threatened, Endangered, Sensitive) Plants (2006),

> "***Constance's bittercress*** *(*Cardamine constancei*) reacts favorably to openings in the forest canopy as long as the ground is not severely scarified by equipment…. It does not tend to flower under shaded conditions, but may be able to maintain itself indefinitely by vegetative growth as long as competitive pressures are not too great…. Populations along the St. Joe and Selway rivers which were affected by crown fire have been observed to multiply vegetatively in response to increased sunlight, but successful flowering and seed set was low due to hot, dry conditions later in the summer. Indications are that survival of this species after canopy removal may be dependent on the availability of moist microsites.*"

The proposed action includes vegetation treatments that would have effects similar to those described above; therefore, *Constance's bittercress'* response to project disturbance is expected to be similar to that described in the USFS Placer Resource Area Environmental Assessment.

Transportation - No Sensitive plant species have been found along any of the road corridors.

Fuel Reduction Treatment - Proposed brush slashing or ground fuels reduction in units 22, 23 and 24 could injure or kill Constance's bittercress or clustered lady's-slipper individuals if plant locations closely overlap with fuels targeted for treatment. Burning units 23 and 24 in the spring could injure or kill Constance's bittercress or clustered lady's-slipper individuals. Although fire intensity in the spring would likely be low enough that the overall Constance's bittercress

population would survive, the clustered lady's-slipper population might be at high risk for obliteration due to its very small size. Fall burning would occur after Constance's bittercress or clustered lady's slipper has gone dormant for the year, with above-ground plant parts dried up and deteriorated; however, fall fire intensities would be greater causing more severe fire effects to surrounding habitat. If weeds such as spotted knapweed or cheatgrass expand or invade following these disturbances, Constance's bittercress and clustered lady's-slipper would have more competition for water, sunlight, pollinators or nutrients.

Vegetation Treatment - No Sensitive plant species have been found in any of the treatment units.

Recommended Mitigation -

1) Coordinate with the Coeur d'Alene Field Office Botanist during all phases of the Wallace South project that could potentially impact BLM Sensitive plant species.

2) When slashing Units 23 and 24 avoid piling slashed materials directly on or near Constance's bittercress and clustered lady's-slipper plants to minimize impacts to individuals.

3) Ground fuels work along Placer Creek Road would be designed to minimize direct effects to Constance's bittercress and clustered lady's slipper individuals. This may involve flagging areas to avoid or being on-site when work is being done to ensure workers know where sensitive areas are located.

4) Weed control efforts in the vicinity of the Constance's bittercress and clustered lady's-slipper population will be designed so that treatment(s) involving herbicides do not inadvertently affect non-target plant populations.

5) Monitoring of Constance's bittercress, clustered lady's-slipper and adjacent weed populations in the project area would occur both during and after the project.

Residual Effects -

Direct project impacts to Constance's bittercress and clustered lady's-slipper and indirect impacts associated with weeds would be minimized.

5.1.6 Fuels / Fire Management

Post treatment, the TU5 should move to a TL1, which is a light compact understory of forest litter. Spread rates are low and flame lengths are very low. All fuel models pre- / post-treatments are based upon existing projected 1-hr, 10-hr and 100-hr fuel loading, probable fire behavior and intensity.

Post-harvest broadcast burning of vegetation would benefit shade-intolerant plant species, which may have less competition for sunlight, water, and nutrients due to removal of adjacent vegetation. Other shade-tolerant plant species may be negatively impacted, such as by sun scalding, due to the resulting warmer, drier growing conditions. Plant response to treatment with fire depends on many factors, including soil and duff moisture, plant vigor, phenological state at time of burning, and fire severity. Response also depends on stand history. As organic material

accumulates between fire events, seedlings and new rhizomes of some species become established in the organic horizons, where they are more vulnerable to fire than plants established in mineral soil (especially if heavy fuels have accumulated and increased potential fire severity exists).

Douglas-fir trees develop fire-resistant bark as they mature, so only seedling, sapling and small-pole size trees may be vulnerable to low-intensity surface fire. In comparison, other tree species such as western redcedar and grand fir do not possess characteristics that protect them as well from fire, and are therefore, less resistant to its effects.

Low-intensity fire may not be lethal to most of the shrub species and several of the herbaceous species that occur in the action area. It is recognized that some plant species or propagules may die as a result of fire treatments, but it is anticipated that site populations adapted to fire would survive, and some species' growth actually would be enhanced. Although aerial portions of fire-tolerant shrubs or herbs may be killed, the plants would survive by resprouting from roots, stems, rhizomes, or stored seed. Fire may also remove competing vegetation, allowing regeneration by decreasing competition for light, water, and nutrients.

Where fuels are piled and burned, the concentrated intensity of fire would probably kill most plants directly under the piles, and kill or injure plants immediately adjacent to the piles. Over time, burn pile sites would likely be reseeded or recolonized from adjoining, surviving native vegetation, but additional replanting or seeding may be necessary at these sites to inhibit post-burn weed invasion

Common native plant species that may be less tolerant of burning may not be as well-represented in the post-burn plant community, resulting in a change in the composition of site habitats over time. The structure and composition of habitats in the analysis area would change as ecological succession proceeds.

Old fire-resistant trees seem to be especially susceptible to imminent mortality after burning, even in low-intensity fires, because the long duration of heat generated by the smoldering accumulation of debris and duff is situated directly against the root collar and over the root system (Sackett and Hause 1998, Kaufmann and Covington 2001, Arno and Fiedler 2005).

5.1.7 Invasive, Non-native Plant Species

Road building, road obliteration, landing construction and skid trails would disturb existing vegetation and soils. Weed seeds and plant parts may be transported along these disturbed areas by vehicles during construction, maintenance activities, and logging operations. Sources of weeds may be from onsite weed populations and/or offsite weed populations, potentially introducing weeds species new to the site.

Logging activities including tractor skidding, slash reduction, and burning would increase the risk of weed expansion into forest areas. These activities would remove existing vegetation, disturb soils, increase light to the forest floor, and provide transport of weed seeds and plant parts. Weeds are often better adapted to colonizing newly disturbed areas than native species.

5.1.8 Recreation Use, Existing and Potential

Temporary disruption of travel on designated motorized routes would occur during the road construction and prescribed burning phases of the project. The public would be restricted from using the project area during active burn phases, leading to temporary disruption of common recreational activities. However, the high-profile nature of the project and the relatively low overall use within the project area would make this an acceptable and minimal impact upon the recreating public.

Snowmobile use within the project area can be expected to increase and become more dispersed due to thinning and harvest operations. Unauthorized cross-country OHV travel may increase as a result of forest vegetation treatments as trees and fuels are reduced and thinned.

In the long-term, the roadway improvements would make vehicular travel safer. Road improvements could, however, encourage illegal use by full-size vehicles after construction.

5.1.9 Soils

Direct effects include compaction, severe burning, or displacement of the soil surface, which is the most productive layer and also the easiest to disturb. Compaction, displacement and severe burning can affect the soil's physical, chemical and biological properties, which can indirectly affect the growth and health of trees and other plants. Compaction reduces soil permeability and infiltration, which can cause soil erosion. Displacement reduces plant growth where topsoil and organic matter are removed. Severely burned soils can become water repellant, leading to increased erosion and runoff, and/or reduced productivity.

Indirect effects to soils include the loss of site productivity due to the removal of large woody debris and potassium.

Minor disturbances would occur on skyline and helicopter yarded harvest units and where hand line is constructed around specified units. Activity areas that propose tractor yarding, new roads or road reconstruction, and new helicopter landings would have the highest probability of detrimental effects to the soil resource. Skyline and helicopter logging systems that are proposed in conjunction with spring under burning and no new road construction would have much lower detrimental effects, usually one to three percent.

Effects of Road Construction - Under the Proposed Action, the construction of 1.5 miles of new road would produce an irreversible effect to site productivity through compaction and displacement. This would be offset by the decommissioning of old roads, as they would be ripped and seeded or planted to native species such as alder. Once sale activity ends, the temporary roads would be obliterated, which would begin to reduce compaction of the soil and return a portion of the topsoil to the surface, which helps restore soil productivity and decreases hydrologic effects from road surface runoff.

Effects of Road Maintenance/Stream Restoration - No additional soil impacts would occur from proposed road maintenance activities such as blading, drainage improvements, and surfacing on existing dedicated roads. Where large woody debris is installed to increase stability and fish habitat, there would be short durations of increased sediment yields while in-stream work is accomplished.

Effects of Harvest Treatments - This analysis assumes that all proposed harvest treatments would occur during non-winter conditions when the disturbance potential would be the greatest. If some harvest units are logged during the winter months, the effects from compaction and soil displacement would be reduced. Proposed management activities would increase detrimental soil disturbances (specifically related to soil compaction and displacement), especially where roads and log landings are proposed. There would be no increase in detrimental impacts from the proposed brush field burn units. The highest harvest equipment-related disturbance would occur on the units that are proposed for tractor yarding and associated slash reduction. Designating skid trails and use of a slash mat can reduce soil impacts from equipment.

There would be minor disturbances as a result of skyline and helicopter yarding in proposed harvest units. The effects from proposed helicopter log-landing sites have been calculated into the overall effects related to the proposed harvest treatments. Helicopter landings average one acre in size; disturbance to these sites from compaction, displacement and pile burning are considered irreversible effects. All of the proposed helicopter landings would remain dedicated as helicopter landing sites after project completion.

Effects of Prescribed Burning and Slash Disposal - Before the slash piles are ignited, the soil moisture should be 25 percent or greater, which would reduce the potential for soil resource damage. There would be detrimental effects to the soil as a result of severe burning if, after curing, the logging slash should ignite with soil moistures below 25 percent and before the proposed fuel treatments are implemented. The only effect is from prescribed fuel treatments in the drier brush fields with scattered timber to reduce hazardous fuel loadings that have built up over the past 70+ years.

Before the areas are burned, soil moisture must be greater than 25 percent. This would maintain the integrity of the soil surface organic layer and its capacity to infiltrate water, and also reduce the potential of severe burning to the soil resources. If these management concerns are addressed, there would be little to no effect on the soil resource concerning the proposed fuel treatments.

Residual Effects (Effects to Soils with Mitigation) - Given the decades of fire suppression in the Placer Creek area, the chance of a lethal wildfire occurring would be high if an ignition starts in an untreated area during extreme, dry weather conditions. As stated in the USFS Specialist's Report on Fire and Fuels (USDA 2006), the proposed vegetation and fuels treatment in the USFS Placer Creek HFRA Project would not necessarily prevent lethal wildfires from occurring, but would increase the ability to suppress such a fire should the ignition occur in the treated areas. Vegetation and fuels treatments would reduce the chance that a wildfire would have as severe an effect on the soils in treated areas as it could in untreated areas because there would be a reduction in the tons per acre of fuels on those treated sites.

As stated in the USFS Specialist's Report on Soils (USDA 2006), the occurrence of a high intensity wildfire would have a high potential for impacts to soils and soil productivity in severely burned areas, especially since the risk of soil erosion increases proportionally with fire intensity. Ashes that have burned white or a reddish color indicate that much of the organic carbon was oxidized and is no longer available to the soil. Other effects would include the loss of organics, loss of nutrients and a reduction of water infiltration. When the soil moisture content is low, burns can create high surface temperatures that can result in a complete loss of almost all of

the woody debris and usually the entire organic layer, exposing mineral soil. Nutrients stored in the organic layer (such as potassium and nitrogen) can also be lost or reduced through volatilization and as fly ash.

If hydrophobic soils result from severe, high temperature fire, moderate surface erosion would occur but the potential for mass failures would be low to moderate because of the overall land type characteristics in the project area. The areas of primary risk after a severe burn are toe slopes adjacent to streams, stream banks and possible debris flows. Following a severe fire, rehabilitation efforts to mitigate the fire's effects on erosion and sediment delivery would be performed as funding became available. If completed in a timely manner, rehabilitation work would negate most of the erosion concerns.

5.1.10 Visual Resources

Consultation with the USFS Landscape Architect and use of a GIS visual simulation led to mitigation measures being built into the project to lessen the visual effects of the project. In historical terms, a return to a more fire-resistant pre-fire suppression vegetation regime would reduce the chances of a stand replacing fire event (and accordant visual disruption) in the long term. Changes to the visual nature of the area are therefore acceptable within the Class III VRM designation of the project area.

Replanting within the project area using appropriate tree species would return the area to a more sustainable and stable species composition over the long-term.

5.1.11 Water Quality, Surface and Ground Water

The following discussion of water quality is based substantially on the Placer Creek Aquatic Resources Specialist's Report (USDA 2006) available at the BLM Office or the USFS Coeur d'Alene River Ranger District Office.

The main concerns related to water quality and aquatic resources from this project are effects to drinking water, stream channels, and fish habitat. Environmental consequences to these resources were measured through predicted changes in the magnitude, intensity or duration of water yield, peak flows, and sediment yield.

The Proposed Action, treatment activities would have little to no risk of measurable effects to the magnitude, intensity and duration of peak flows and sediment yields. The risk of stream channel changes would be low to none. The proposed road reconstruction would occur on a ridge-top road far from streams; therefore the activity would create sediment during reconstruction but, due to its' location, routing of sediment to any stream course would be unlikely and a very low risk.

Recommended Mitigation - Features Designed to Protect Water Quality and Soils

Best Management Practices (BMPs) – All activities would be designed to protect water quality and aquatic resources through the use of BMPs, which are the primary mechanism to enable the achievement of water quality standards. A list of these BMP's can be found in Appendix C of the BLM Coeur d'Alene Resource Management Plan (USDI 2007). Applicable BMP's are

contained in numerous sections of the document including: road drainage, timber harvesting, and source water protection.

Sediment Reduction Activities – On roads, spot graveling (with approximately 6 inches of gravel) would be required at all stream crossings, rolling dips, and in any wet areas. This measure is highly (92%) effective in reducing the amount of sediment delivered to streams.

In addition, BMPs would be incorporated into many different phases of the project. A BLM hydrologist would review the design of all proposed temporary roads and all road maintenance to assure compliance with BMPs. The engineering representative and the district hydrologist would monitor all temporary and reconstructed roads to ensure that they were built or restored to specifications.

Water Quality Monitoring - The BLM has completed pre-project, high-flow monitoring of turbidity within the project area in May 2008. In addition, hydrocarbon levels were analyzed before and after prescribed fire activities on BLM-administered lands within the Placer Creek watershed. Idaho Department of Environmental Quality has conducted similar analysis (East Shoshone County Water District Source Water Assessment Report, November 9, 2000; PF Doc. AQ-55) and will continue to monitor water quality. The East Shoshone County Water District performs daily water quality monitoring with independent lab analysis to assure water quality standards are met.

Construction of new temporary spur roads would disturb slope hydrology and soils which can intercept and disrupt subsurface drainage patterns. Tractor and cable yarding can also have an effect on slope drainage and site productivity due to soil compaction and displacement of soils. Well-designed road drainage BMPs (rolling dips, filter windrows), the use of designated skid trails, and the post-project removal of the temporary roads would effectively minimize these adverse effects. The tractor units are all located high on the slope near the ridge line.

Overall, sediment delivery from tractor yarding disturbance would be minimal due to the relatively long slope distances to water across most of the tractor ground. Sediment delivery efficiency is generally much higher in the draws where flow is concentrated but much of this can be effectively controlled with adequate no harvest buffers along the channel. A small change in the volume and timing of runoff may result from the removal of timber. Numerous studies have documented that both differential snow accumulation and rates of melt during rain-on-snow events contribute greater runoff from openings than from forested sites.

5.1.12 Wildlife

Threatened and Endangered Species

The BLM used the best scientific and commercial data available to review the effects of the proposed action to Threatened or Endangered Species (50 CFR 402.14(d)). The proposed action would not affect any listed T/E species because none are likely to occur in or near the proposed action area. Although gray wolves, which are treated as a proposed species, may follow deer, elk, and moose in and around the proposed action area, the BLM is unaware of any den and rendezvous sites within known pack territories. If any of these sites are discovered in the future, then the BLM would implement RMP Action 1.1.8. Consequently, the proposed action is not likely to jeopardize the continued existence of gray wolves, which agrees with a similar

conclusion for the BLM's RMP (BLM 2006 and FWS 2006). Therefore, the BLM will not confer with the U.S. Fish and Wildlife Service regarding the proposed action (50 CFR 402.10).

Wolverines tend to occupy unroaded, backcountry where they feel secure from human-related disturbances. Although the proposed action plans to reduce the existing road density by one-tenth of one mile per square mile of land, this action would not significantly change the amount of available habitat for wolverine. Also, the proposed action would not affect denning habitat because none have been identified within the proposed action area.

Except for the brush fields on south and west aspects, the forest has grown back since the big burn of 1910. Except for an individual or group of trees that either escaped the deadly flames or grew quickly on productive sites, most of the forest has not returned to a large-size, old-growth structure. Consequently, habitat is generally lacking for northern goshawk, flammulated owl, great gray owl, white-headed woodpecker, Williamson's sapsucker, Hammond's flycatcher, olive-sided flycatcher, pygmy nuthatch, fisher, and northern flying squirrel. Recent field examination by the BLM wildlife biologist has confirmed that habitat conditions for these species have not developed since that time. Black-backed and Lewis' woodpeckers, however, probably were abundant during the first few years after 1910, but subsequently have moved out of the proposed action area due to the lack of recently burned forests. Therefore, the proposed action should not affect these species because their habitats don't occur or are minimal within the proposed action area.

Bats, such as the Townsends' Big-eared bat (*Plecotus townsendii*), can and do roost underneath loose bark on snags. The effects to snags from the proposed action would be similar for bats as it would be for migratory birds.

Habitat for sensitive species that are also migratory birds is adequately analyzed in the following section about migratory birds.

Habitat for blue grouse is available, but the lack of logs (see other wildlife below) may affect their populations.

The proposed action should not affect the six species that may occupy the riparian habitat along Placer Creek and other streams because buffer zones would be left intact.

Recommended Mitigation - Additional dead trees equal to or greater than 12 inches diameter (or largest available) per acre should be left on the ground to satisfy 10.1 logs per acre for wet-cold conifer forests (RMP Action FW-2.4.3).

Residual Effects (after mitigation is included) - If accomplished, then the effects to blue grouse would be reduced.

Migratory Birds

Direct and Indirect Effects - The proposed action would remove an average of 73% of the trees, which provide both nesting and feeding opportunities for migratory birds, on 264 acres of fuels reduction and vegetation treatment units. The number of trees would not return to 100% stocking on fuel reduction units during the next 50 years, but young trees would achieve 100% stocking in ten years on the vegetation treatment units. This reduction of trees would open the

canopy by an average of 55% on these units. Fifty years would pass, however, before the average canopy cover for all units would return to 100% of pre-treatment values. Meanwhile, bird species which prefer closed tree canopy such as Swainson's Thrush would be replaced by bird species which prefer an open tree canopy such as Chipping Sparrow (Rosenberg and Raphael 1984). The populations of migratory birds which nest in the forest canopy are expected to initially decrease on 264 acres as the crown volume, crown area, and biomass are anticipated to decrease 50-60%. However, these birds may return to these areas 30-40 years later as the forest canopy returns to 100% of pre-treatment values.

As living trees die, they provide additional nesting opportunities for migratory birds which excavate and nest inside cavities in the boles. Not all snags are created equal, however, because trees smaller than 12 inches DBH are less valuable than trees larger than 12 inches DBH. The average number of snags equal to or greater than 12 inches for all treatment units would decrease from 7.5 to 5.6 per acre during the first 40 years following treatment. This apparent trend is less than the 8.1 per acre for wet-cold conifer forests identified by RMP Actions FW-2.2.1 and FW-2.2.4. Therefore, the population of migratory birds which nest in tree cavities would consequently decrease on 264 acres of treatment units.

Recommended Mitigation - Additional trees equal to or greater than 12 inches DBH should be left standing to satisfy 8.1 snags per acre for wet-cold conifer forests.

Residual Effects (after mitigation is included) - If accomplished, then the effects to migratory birds that nest in tree cavities would be reduced.

Other Wildlife

Direct and Indirect Effects - As standing dead trees fall to the ground, the resultant logs would provide abundant food and cover for populations of many small wildlife (Bull et.al. 1997). As the case with snags, logs which are smaller than 12 inches in diameter are less valuable than logs larger than 12 inches diameter. Because of an increasing number of larger snags falling during the first 40 years after treatment, the average number of larger logs for all units would increase from about one to 2.7 tons per acre. If a log is eight feet long, then these values meet or exceed the RMP's requirement of 10.1 logs per acre for wet cold conifer forest. Consequently, many populations of grouse and other small wildlife would benefit from the proposed action.

All treatment units would initially loose elk hiding cover, but it would return to pretreatment values about ten years later. All treatment units would reduce thermal cover for elk by about one-half and return to pre-treatment values 50 years later. This reduced cover for elk is a reflection of reduced canopy cover for migratory birds.

Slashing and burning 307 acres of existing brush fields would improve existing forage for deer and elk during winter. The following list of EAs should have adequately addressed the potential effects from this portion of the current proposed action.

Table 11 – Previous Forage Improvement Actions

Environmental Assessments for previous brush slashing and prescribed fires within the Placer Creek drainage.

NEPA Document	Action Name	Action Type	Legal Location
EA ID060-80-13	Placer Creek	Brush Slashing	T47N R04E Sec. 03
EA ID060-81-03	Placer Creek HMP	Activity Plan	T48N R04E Sec. 34

EA ID060-90-20	Placer Creek Burn	Prescribed Burn	T48N R04E Sec. 34
EA ID060-91-11	Red Oak Hord Gulch	Prescribed Burn	T47N R04E Sec. 02
EA ID060-97-10	Placer Creek II	Prescribed Burn	T47N R04E Sec. 03
EA ID080-01-04	Cranky Gulch	Prescribed Burn	T47N R04E Sec. 03

Road densities provide a surrogate for evaluating animal security. The Idaho Fish and Game has learned that (1) elk in roaded habitats are more than twice as likely to be killed by a hunter than those in unroaded areas; (2) selective road closures help reduce the number of bull elk taken and allowed longer hunting seasons; (3) the number of hunters in an area is often directly related to the number of roads; and (4) with more roads (i.e. easy access) and more hunters in an area, more elk are taken, resulting in lower bull:calf ratios and fewer mature bulls. The proposed action would slightly improve animal security by reducing 1,493 feet of permanent road and installing one gate.

Control of noxious weeds promotes more native vegetation as food for wildlife.

Recommended Mitigation - Additional dead surface fuels (aka logs) equal to or greater than 12 inches diameter (or largest available) per acre should be left on the ground to satisfy 10.1 logs per acre for wet-cold conifer forests.

Residual Effects (after mitigation is included) - If accomplished, then the effects to small animals would be reduced.

5.2 PROPOSED ACTION – CUMULATIVE EFFECTS

5.2.1 Air Quality

No cumulative effects to air quality are expected as a result of the mechanical treatments; continued ATV use and activities on adjacent non-federal land.

Prescribed burning projects are carefully considered on a daily basis by the Montana/Idaho Airshed Group. Limitations and restrictions are put into place based on atmospheric conditions and the amount of proposed burning by other airshed group members. Airshed group members are not allowed to burn if conditions are present that may cause smoke impact to any local community. Therefore, no cumulative effects are expected to the air quality as a result of smoke.

5.2.2 Cultural Resources

There are no cumulative effects of the proposed action.

5.2.3 Economic and Social Values

It is difficult to quantify monetary benefits from the private, State, BLM and USFS managed lands in the cumulative effect area due to volatility of delivered log prices. The proposed project is expected to bolster the economy of the area by providing additional raw material to manufacturers, creating or increasing jobs. Increased supply of raw material would help hold down prices for finished products.

5.2.4 Fisheries, Including Special Status Fish Species

Ongoing activities in the analysis area include timber harvest; recreational pursuits; road maintenance; and WUI fuels management efforts. Reasonably foreseeable future actions include timber harvest; recreational pursuits; road maintenance; and WUI fuels management efforts.

Cumulative effects on fish and aquatic habitat are analyzed at the scale of the Placer Creek and Printer Creek watersheds. Past activities within these watersheds have mainly been timber harvest on private, State, Forest Service, and BLM lands. Other past actions include mining, road building, tree planting, and recreation including OHV use. Impacts from the earliest activities were likely to have had the most impact because streams and fish habitat were often not taken into consideration. Even if fisheries habitat was considered, the impacts of roads, vegetation removal and other aspects of timber harvest were not fully understood. In the 1970s, guidelines on forest practices began to be used, including streamside buffers, and these guidelines have continued to evolve to the present (Chamberlin et al 1991). Current timber management activities are implemented in a manner that minimizes impacts to fish and aquatic habitats, though rules vary among land ownerships with some being more protective than others. In general, the oldest of the past activities probably would have had the greatest impact on fish and aquatic habitat, but the streams have also had a relatively long time to recover from these early impacts.

Ongoing and future actions in the analysis area include timber harvest, recreation including OHV use, road maintenance, and fuels management efforts. Future timber harvest and fuels management activities include the current BLM proposal and activities on Forest Service, private and State land. Fish and aquatic habitat within the Placer Creek watershed are generally in good condition on both BLM and Forest Service lands with riparian areas providing shading, large wood input and sediment filtration. The proposed BLM project has RCAs incorporated into the project design to maintain the riparian area and ensure sediment movement into streams and impacts to fish or aquatic habitat are negligible. In addition, the restoration work on Placer Creek would have long term benefits to the watershed. All the instream restoration work, particularly the work on the dam to improve fish passage, will temporarily increase sediment movement downstream. As the dam is lowered, sediment that is trapped behind will move downstream; however, downstream structures would be incorporated to help trap the sediment as well as to raise the stream level and further facilitate fish passage. In addition, stabilization of the eroding hillslope immediately upstream of the dam is expected to help reduce the sediment loading into this stream reach. Over the long term it is expected that the amount of sedimentation in this stream reach will be reduced and the short term increase in sediment is not anticipated to cumulatively impact the Placer Creek watershed. The recent past, ongoing and future Forest Service projects incorporate riparian buffers similar to the BLM RCAs and would likely also include aquatic habitat restoration components. If Alternative 1 is implemented, no long-term impacts are anticipated that would alter the viability of fish species or quality of aquatic habitat at the scale of the Placer and Printer Creek watershed.

5.2.5 Forest Vegetation/Vegetation Communities

Information regarding cumulative effects to vegetation found in Appendix B of the USFS Placer Resource Area Environmental Assessment (2006) is incorporated by reference into this section. The U.S. Forest Service Placer Creek HFRA project was not implemented due to lack of interest by private contractors. The USFS project is currently being revised.

The analysis area includes the Placer Creek drainage (15.68 square miles or 10,035 acres); and three "face drainages": Printer Creek drainage (0.25 square miles or 160 acres); Weyer Gulch drainage (1.15 square miles or 736 acres); and Watson Gulch drainage (1.52 square miles or 973 acres) (USGS 2008). Total analysis area acreage is 11, 904 acres. For purposes of discussion, these drainages will be referred to as Placer Creek (10,035 acres) and Face Drainages (1869 acres).

Recent regeneration timber harvesting on private lands adjacent to or near the project area is estimated at 700 acres (see map in Appendix II.7 for locations).

Several types of natural or human-caused disturbance in the analysis area have created the present mosaic of vegetation in various stages of succession. Past events which have shaped upland vegetation include wildfire activity (especially the Fire of 1910) and prescribed burning; fire suppression; WUI fuels management efforts; insect and disease outbreaks; timber harvest; tree planting; mining; road building and use; and OHV trail use. The current condition of the Placer Creek riparian zone is due to combined effects of fire activity (especially the fire of 1910); road encroachment; stream re-alignment; city water source development; flooding; erosion; and restoration projects.

Ongoing activities and reasonably foreseeable future actions in the analysis area include timber harvest; recreational pursuits; road maintenance; and WUI fuels management efforts.

Past, ongoing, and future vegetation-disturbing activities in the analysis area would continue to promote a mosaic of plant communities in various stages of ecological succession. Ecological succession would proceed where vegetation is left undisturbed. Plant communities that revert to earlier succession stages due to disturbance such as logging, wildland fire, insect infestation, or disease would begin the process of maturing all over again.

Ongoing and proposed timber harvest activities would open up sites favorable to weed invasion due to ground disturbance and reduction of tree canopy cover. Where left untreated, weeds would continue to threaten native plant communities.

Therefore, due to past, ongoing, and future activities, vegetation composition and structure would be altered on approximately 586 of 11,904 acres (5%) in the cumulative effects analysis area if the proposed action is selected. (525 of 10,035 acres in the Placer Creek analysis unit and 61 of 1,869 acres in the Face Drainages analysis unit)

5.2.6 Fuels / Fire Management

The proposed fuels treatments, in combination with existing treatments and future treatments on adjacent FS lands, would provide additional buffers in the WUI by keeping wildfire on the ground. The reduction of natural and activity fuels and reduction of ladder fuels would increase the forest resiliency to disturbance from wildfire events. These treatments on public lands would enhance firefighter and public safety by increasing effectiveness of fire fighting forces in suppressing wildland fire starts.

5.2.7 Invasive, Non-native Plant Species

There are many factors in the analysis area that contribute to the spread of noxious weeds including: logging, transportation, wildlife, wildland fires, recreation and other uses.

Noxious weed control efforts in the project area would be conducted as part of the Inland Empire Cooperative Weed Management Area (IECWMA). These cooperators have noxious weed control responsibilities and interests on adjacent and co-mingled lands in the area. Uncontrolled weed populations in one jurisdiction greatly affect the ability of other land managers to control weeds on lands they administer. The IECWMA promotes an integrated weed management program throughout the area that includes public relations, education and training in the noxious weed arena, along with coordination of weed control efforts and methods, and sharing of resources.

Past events such as road-building and use; logging; mining; fire; and OHV activity have contributed to weed invasion on BLM and non-BLM lands. Where left untreated, these weeds may have persisted and continued to threaten native plant communities; although in areas where plant canopy has provided sufficiently shaded conditions, weeds may have not established or decreased in extent over time. Where effective treatment has occurred, weeds have been either eradicated or their spread into native vegetation was curtailed. Ongoing and reasonably foreseeable actions on non-BLM land which would increase the threat of weed invasion into native plant communities include road-building and use; logging; fire; wildlife, and OHV activity.

The short term effects of the proposed action may result in increased weed establishment and spread in areas of ground disturbance. Over the long term, the reduction in threat of wildfire in the analysis area along with weed control activities undertaken by BLM on public lands would contribute positive cumulative effects on noxious weeds through participation in the IECWMA and implementation of the proposed action.

5.2.8 Recreation Use, Existing and Potential

As described within the affected environment section, the surrounding landscape has been subjected to significant disturbance from mining, timber harvest, and other human activities since the 1800s. The mitigation measures and design features built into the proposed action will minimize any cumulative impacts from the project as compared to other timber management practices observed in the surrounding area over the last several years. Nearby private lands have undergone significant timber harvest and road construction during that time period, and has significantly changed the visual nature of the area. When considered from a larger-scale visual perspective, the modest levels of harvest, burning, and mechanical thinning on the subject 491 acres will not detract significantly from the overall visual appeal of the Silver Valley area. In the longer-term, the return of the project area to a more sustainable forest type will help ensure the area remains visually appealing, particularly from the primary viewpoints described above.

5.2.9 Soils

Since direct and indirect effects on soils are measured only within the project, the cumulative effects analysis area for the soil resource is the Proposed Action area. The historic uses (road construction/use, mining and the 1910 fire) along with the reasonably foreseeable activities

would have a net benefit to soils by reducing the potential for accelerated erosion due to wildfire impacts.

5.2.10 Visual Resources

As described within the affected environment section, the surrounding landscape has been subjected to significant disturbance from mining, timber harvest, and other human activities since the 1800s. The mitigation measures and design features built into the proposed action will minimize any cumulative impacts from the project as compared to other timber management practices observed in the surrounding area over the last several years. Nearby private lands have undergone significant timber harvest and road construction during that time period which has significantly changed the visual nature of the area. When considered from a larger-scale visual perspective, the modest levels of harvest, burning, and mechanical thinning on the subject 491 acres will not detract significantly from the overall visual appeal of the Silver Valley area. In the longer-term, the return of the project area to a more sustainable forest type will help ensure the area remains visually appealing, particularly from the primary viewpoints described above.

5.2.11 Water Quality, Surface and Ground

The entire 6th code Hydrologic Watershed (all of Placer Creek), is the appropriate scale to analyze and summarize cumulative effects from this proposed project.

For this analysis, the project area was subdivided into manageable units referred to as "sub watersheds". Each of the sub watersheds in the Project Area was analyzed as its own cumulative effects area using WATSED to look at cumulative effects at a smaller scale. Limitations of the WATSED model are discussed in Appendix VIII.

The entire South Fork Coeur d'Alene River including Placer Creek was not selected as the appropriate cumulative effects area for these reasons:

1. The Placer Resource Area occupies only 12% of the South Fork Coeur d'Alene Basin from the confluence with Placer Creek, upstream to the headwaters.

2. The past and current mining activities in the South Fork Coeur d'Alene River are unrelated to the potential impacts from fuels related activities. Hard rock mining in the South Fork has left behind metal contaminants that leach into surface water and placer mining has altered aquatic habitat.

3. The drinking water supply that Placer Creek provides for the City of Wallace is a high priority for protection from potential effects of the proposed activity. Disturbances in the South Coeur d'Alene River do not influence the quality of water in Placer Creek.

Aerial photographs were used to estimate location and types of vegetative management on non-federally managed lands and BLM records were used on BLM-managed land so that all land management activities would be accounted for in each of the cumulative effects analysis areas.

Water quality in the South Fork Coeur d'Alene River at the confluence with Placer Creek is qualitatively addressed based on changes in contribution of pollutants.

The aquatic ecosystems of the project area were identified as falling into one of the following three condition classes, as defined in the Geographic Assessment (USDA Forest Service, 1998, pages 59-61; PF Doc. AQ-12); available at the Coeur d'Alene River Ranger District Office in Coeur d'Alene or the BLM office.

• Properly functioning - Within the scope of this assessment, a properly functioning watershed system is one that is exhibiting dynamic equilibrium characteristics and whose streams are operating and responding appropriately under their current environment. These systems can absorb and respond to disturbances that they have evolved under their historic range. Typically, parts of these systems, or the system as a whole, can move toward a more stable condition over time following a disturbance (or a series of disturbances) within a certain time period. As a system, these watersheds will not benefit from large-scale watershed restoration actions (although local, site-specific improvements may be productive).

• Functioning-at-risk - A watershed system that is functioning-at-risk is one that is essentially still properly functioning. However, it may be exhibiting trends or it may contain known risks that are likely to compromise that status and the ability to fully support beneficial uses in the future. This status may be assigned where the apparent watershed status is uncertain because of the complexity of the system and disturbances. These systems are the first priority for large-scale watershed system restoration and improvement programs. Such programs will often produce effective and timely responses in the near future.

• Not properly functioning - Watershed systems that are not properly functioning often exhibit rapid adverse trends and may not fully support beneficial uses. These systems may appear to be responding to their own last adjustment, rather than toward stabilizing the last disturbance. They are "out-of-balance" with their environment and may not be in dynamic equilibrium, in periods of at least several decades. These systems are in need of large-scale restoration. These watersheds are usually second priority due to limited availability of resources, uncertain technology, and the long time period expected for positive responses.

Stream information was collected in the main stem of Placer Creek and some of its tributaries during the 2003 and 2008 field seasons. Representative segments within the lower reaches and those that are most sensitive to watershed disturbance were selected for collecting information to determine stream channel types, cross sectional profiles, longitudinal profiles, woody debris composition, bank erosion, and stream temperature. These sites are mapped, documented, and marked on the ground so that repeat measurements can be accomplished to track changes in stream conditions.

Stream Channel Morphology - Only portions of USFS Road 456 near the lower reaches of Placer Creek are known to encroach on the stream channel and the floodplain of Placer Creek. These encroaching segments were able to withstand flooding in 1996 and 1997 without catastrophic negative impact to channel stability and stream health. The stream channels are mostly steep sided, high gradient channels in their upper reaches, with lesser gradients in the lower reaches. Some channel down-cutting and bank erosion is occurring on private lands in the lower stream reaches. This is probably a result of stream sections that have channelized and straightened in small isolated locations. Several road crossings on private lands pose an unknown risk to roads in the drainage area.

Water Quality - Fine sediment sources have been identified throughout the watershed and they are primarily associated with the road/stream crossings. Encroaching roads are present and do cause channel restriction and channel adjustments but only at isolated segments and mostly in the lower reaches of Placer Creek. Several culverts are undersized and the initial installation of some culverts has been inadequate causing erosion and scour at the outlets. Past management activities such as harvest, prescribed fire, and mining have had some minor impacts to the watershed but the fast re-growth of vegetation has caused background levels to be what they are. Recovery trends of stream flow regimes and sediment yield are neither positive nor negative but remain constant.

Sediment Yield - All the major streams in the Project Area have experienced some increased sediment yield from past timber harvest and/or prescribed fire activities except for Experimental Draw. Observations in the field concerning existing bedload movement and high deposition in downstream reaches support the conclusion that sediment yields are elevated but constant as a result of past activities. The following graphs display past changes to sediment yield and existing conditions based on WATSED modeling. The degree of regeneration and amount of ground cover in the harvested units were estimated from observable evidence in aerial photographs.

Sediment yield in the whole Placer Creek watershed is displayed in percent change over natural conditions. The timber data base shows some harvest in the early 1980s with the model predicting recovery in approximately 1987. Roads do remain in place and the predicted sediment yield is persistent over time from the existing condition. Sediment yield has fluctuated over the last 20 years, increasing with each timber harvest or fire related activity. Prescribed burning was modeled in WATSED, based on records that show activity in 1998 over 205 acres. WATSED modeling shows upward sediment trends with each activity, followed by downward trends as the ground disturbance recovers. The existing roads are the primary sediment producer within the Project Area. It generally takes about seven years after disturbance caused from tractor-based yarding systems for the vegetation to re-establish and for the disturbance area to stop producing sediment erosion and transport.

Table 10 - Placer Creek Sediment Yield

% increase over existing under the No-Action Alternative	% increase over existing under the Proposed Action Alternative		Difference in % Increase Between the No-Action and Proposed Action Alternatives
WATER YIELD Effects of commercial harvest and resulting canopy openings on % increase in water yield.	Lower Placer 0% West Fork Placer 0% Middle Placer 0% Experimental Draw 0% Upper Placer 0% **Entire Placer 0%** Range = 0 to 0% Mean = 0% Lower Placer 2%	West Fork Placer 3% Middle Placer 1% Experimental Draw 0% Upper Placer 3% **Entire Placer 2%** Range = 0 to 3% Mean = 1.8% Lower Placer 2%	West Fork Placer 3% Middle Placer 1% Experimental Draw 0% Upper Placer 3% **Entire Placer 2%** Range = 0 to 3% Mean = 1.8%
PEAK FLOW Effects of commercial harvest and resulting canopy openings on % increases in peak flows. Lower Placer 0%	West Fork Placer 0% Middle Placer 0% Experimental Draw 0% Upper Placer 0% **Entire Placer 0%** Range = 0 to 0% Mean = 0% Lower Placer 3%	West Fork Placer 4% Middle Placer 2% Experimental Draw 0% Upper Placer 4% **Entire Placer 3%** Range = 0 to 4% Mean = 2.7% Lower Placer 3%	West Fork Placer 4% Middle Placer 2% Experimental Draw 0% Upper Placer 4% **Entire Placer 3%** Range = 0 to 4% Mean = 2.7%

SEDIMENT YIELD Effects of commercial harvest and road activity on % increase in sediment yield. Lower Placer 4%	West Fork Placer 6% Middle Placer 0% Experimental Draw 0% Upper Placer 0% **Entire Placer 2%** Range = 0 to 6% Mean = 1.7% Lower Placer 4%	West Fork Placer 6% Middle Placer 2% Experimental Draw 0% Upper Placer 4% **Entire Placer 6%** Range = 0 to 6% Mean = 3.7% Lower Placer 0%	West Fork Placer 0% Middle Placer 2% Experimental 0% Upper Placer 4% **Entire Placer 4%** Range = 0 to 4% Mean = 1.7%

Proposed Action - The Proposed Action would have a short-term increase in sediment yield, with most impacts occurring in year one, primarily from the new roads. Sediment yield drops rapidly by year two, particularly when roads have been decommissioned. By year five, most of the sediment yield is back to pre-existing levels.

In 1980, Dr. Walt Megahan reported the average soil disturbances for various logging systems in the Pacific Northwest and British Columbia: 21 percent from tractor logging, 13 percent from ground cable logging, 8 percent from skyline logging, and 4 percent for helicopter logging. There would be additional disturbance and soil compaction from the machine piling of slash, though this would be minimized by use of a small, tracked excavator and minimal passes over any given area.

The cable yarding portions of Treatment Units # 15 and 19 in the Proposed Action are situated on generally straight to convex slopes which are less likely to concentrate groundwater. These units contain no drainage dissections to efficiently transport sediment to tributaries of Placer Creek. Line skid corridors would have the potential to erode towards the buffers along the Placer Creek tributaries. With adequate buffer distance between live water and the down slope end of the cable corridors sediment delivery to live water would be minimal.

Cumulatively, the ongoing and reasonably foreseeable activities would not have any effect on sediment yield, water yield, peak flows, stream channel morphology, or fisheries populations or habitat; therefore this project would not impair beneficial uses within the Placer Creek watershed or downstream in the South Fork Coeur d'Alene River.

5.2.12 Wildlife

Threatened and Endangered Species - The proposed action should not contribute to the need for sensitive and state-listed species to become listed (BLM Manual 6840). Likewise, the Forest Service (2006) determined their proposed action may impact individuals or habitat, but would not likely contribute to a trend towards federal listing or cause a loss of viability to the population or species for fisher, northern goshawk, wolverine, black-backed woodpecker and Coeur d'Alene salamander.

Migratory Birds - No single silvicultural treatment will satisfy all the needs of all migratory birds that inhabit the forest. Hejl et.al. (1995) summarized studies where 26 species were generally less abundant in treated areas than unlogged areas and 15 species were generally more abundant in treated areas than unlogged areas. As the forest canopy changes, the less abundant species in treated areas would either experience a population decline or be eliminated from the treatment units until favorable habitat returns (Whitcomb et.al. 1981). Consequently, populations of 11 migratory bird species (N=26-15) would be negatively affected by the proposed action and other anticipated actions for about one-third of the cumulative effects area defined for other wildlife.

This means fewer birds to eat the bugs that eat the trees. The cumulative effects of all actions should not adversely impact migratory birds (RMP Action FW-2.2.6) because the total habitat conversion is 12% more than the current condition.

Other Wildlife - The cumulative effects area for deer, elk, and moose is bounded by Interstate 90 to the north, Rock Creek to the east, and Placer Creek to the south and west (see Appendix IV.1), which encompasses 5,185 acres of forested land. Approximately 1,088 acres presently provides mostly forage, while the remaining 4,137 acres provides mostly cover. This represents a ratio of 21% forage to 79% cover (see Appendix IV.2). The existing and anticipated amounts of forage areas will change these values to 1,722 acres of forage, which represents 33% forage to 67% cover. Considering the standard measurement is 60% forage and 40% cover for elk, the proposed action is moving in a positive direction for these animals.

5.3 NO ACTION – ALTERNATIVE 2

5.3.1 Air Quality

The analysis area is Airshed 11 as defined by the Idaho/Montana Airshed Group (see Appendix III.6). Under this alternative, there would be no increase in the generation of dust from BLM public land. Fugitive dust levels would remain at their current background level generated by users of the public and private land in the project area, and by any management activity occurring on those adjacent lands.

With the continued efficiency of fire suppression forces, the generation of smoke and particulates from wildfire would remain at current levels. Down woody fuel loads would continue to increase as natural fuel accumulates. With the role of natural fire eliminated by effective fire suppression, forests grow denser with increased stocking, shifts in species composition and fuel profile. Where fire historically thinned the forest and favored fire dependent and fire tolerant species, fire suppression has shifted species from fire tolerant to fire intolerant species and forest density (number of trees/acre) has increased. Increases in ground and ladder fuel as well as closure of the forest canopy are making fire control efforts less effective and increase the probability of a small fire escaping initial attack suppression efforts to become a large wildland fire. Wildfire would occur when ignitions occur and weather and fuel conditions combine to favor sustaining combustion and spread. Under these conditions greater consumption of fuel and organic material from the site occur which may have detrimental effects to long term site productivity. Burning in these conditions would generate greater amounts of smoke and particulate matter than treating the fuels under the Proposed Action.

Should a wildland fire occur, air quality would be negatively impacted possibly for several weeks. Emissions from wildland fires have been shown to contain many pollutants and toxic compounds that would adversely affect the air quality within the local communities. While the same materials and compounds exist in smoke from prescribed fires, the amount is greatly reduced due to the shorter duration, lower volume of material burned, and the controlled conditions under which prescribed fire occur.

5.3.2 Cultural Resources

There are no effects.

5.3.3 Economic and Social Values

The situation as described in the Affected Environment would remain the same until such time as a crown fire, high intensity fire, insect infestation, or disease begins to affect the forest overstory. Over time, the scenic and recreational values placed on public lands by adjacent private land owners may change. As the healthy green forest turns to red and then brown, the possibility of a wildland fire increases and subsequently property values could decline. Also, as a result of no action, the residents and businesses may become increasingly uncomfortable with the increased likelihood of a wildland fire and the effects a fire would have on their safety and livelihood. Depending on the degree or severity of the change to the area, the recovery period would range from a few years to decades.

No economic benefits would be added to the local community in the immediate future. As noted in the Proposed Action, the area is outside of its historic species mix and composition and, as a result, would be far less resilient to the effects of wildfire, insects and disease. If no management actions are taken in this area, a wildland fire event can be expected which would require actions to protect adjacent private lands and/or public lands at no cost to the community. If the fire entered town and burned houses as it did in 1910, then there would be substantial financial loss, especially for those individuals without insurance. At that time, economic benefits may be realized to the local community, most likely in the form of jobs that provide support for fire suppression, ie. contract firefighters, food preparation and fire camp services. It is anticipated that much of the material that would have been removed under the Proposed Action, would not be available to local forest industry because the material would be consumed by fire, insects, and/or disease. If no forest materials are delivered to the various manufacturing mills, there would be no need for additional jobs.

5.3.4 Fisheries, Including Special Status Fish Species

No timber harvest or fuels treatments would occur, and no riparian planting or addition of large wood to Placer Creek would occur, therefore aquatic habitat conditions would remain in their current condition. Under this alternative there is a greater possibility of a large stand replacing fire occurring, which could have harmful effects to the Placer Creek and the South Fork Coeur d'Alene watersheds and affect both fish and aquatic habitat (impacts of fire are discussed above under Alternative 1). If extreme impacts occurred to the watershed either due to immediate direct effects of the fire (such as temperatures reaching lethal levels for fish), or indirect effects (erosion and high levels of sediment moving into the stream), it is possible that the fish population in Placer Creek, including westslope cutthroat trout, would be reduced. Without the restoration work occurring, short-term sediment movement as a result of the restoration would not occur. The current erosion occurring along the stream in this reach would continue on a yearly basis, and lack of habitat and barriers to fish migration would remain the same, all which would continue to negatively impact the fish population.

No action would occur on BLM land, and the recent past and ongoing Forest Service projects incorporate RCAs similar to those on BLM land, which would maintain the riparian areas and ensure sediment movement into streams and impacts to fish or aquatic habitat are negligible. If the action alternative is not implemented, potential adverse impacts would be avoided; however no long-term impacts that would alter the viability of fish species or quality of aquatic habitat at the Placer Creek and Printer Creek watersheds were anticipated. The beneficial effects of planting riparian tree species along and adding large wood to a mile of Placer Creek also would

not occur. The possibility of a large stand replacing fire occurring is slightly increased under this alternative, which could affect both fish and aquatic habitat within the Placer Creek and Printer Creek watersheds, with the possibility of at least some of the fish being eliminated. The fish species found within Placer Creek, including westslope cutthroat trout, are also found in the South Fork Coeur d'Alene River and its other tributaries. Westslope cutthroat trout are found throughout much of northern and central Idaho and western Montana. Reduction or elimination of the Placer Creek native fish populations would not impact these species throughout their range.

5.3.5 Forest Vegetation/Vegetation Communities

Plant succession would continue toward the potential natural community where possible, in the absence of disturbance. Over time, sites in the area capable of supporting more dense forest vegetation would be dominated by shade-tolerant species, until a future disturbance such as logging, wildland fire, insect infestation, or disease creates openings in the forest. Weeds would still remain in and adjacent to the action area. Undesirable numbers of Douglas fir, grand fir, and lodgepole pine vulnerable to insect and disease outbreaks would continue to compete with western larch and western white pine. Impacts to common, native plant communities due to a wildfire may be more severe due to the amount of fuel accumulated in unthinned areas, and possibly spread beyond the boundaries of the proposed action. A wildfire has the potential to be stand-replacing but may also create a mosaic of burned and unburned vegetation, depending upon variation in fire behavior.

This alternative would cause fewer disturbances to native plant communities in the action area, compared to the proposed action, which may allow them to compete better with the weeds that are currently grown in the action area. However, given the fire suppression history of forests in northern Idaho, a wildfire burning in unthinned forests may open more sites to weed invasion than the proposed action.

Threatened and Endangered Species - Same effects as described for as Alternative 1

Sensitive Species - As more trees invade the shrub field habitat, more canopy would develop, which would moderate the current warm, dry conditions. Constance's bittercress and clustered lady's-slipper could possibly expand into surrounding habitat as more favorable moisture conditions developed. The bittercress reproductive activity could also shift more toward a vegetative rather than a flowering mode. However, as fuel loads increase, wildfire intensities have the potential to increase, resulting in the possibilities that the canopy would be re-opened in the future and more severe fire effects to plants would occur. Weed invasion associated with wildfire activity could threaten Constance's bittercress and clustered lady's-slipper.

5.3.6 Fuels / Fire Management

The average interval of fire in a stand of lodgepole pine is typically between 100 and 150 years. After that time they begin to deteriorate with beetles and disease, which add fuel loading to the surface. The typical fire in lodgepole pine will consist of a crown fire of sufficient intensities to consume the entire stand (ie stand replacing fire). The stands of lodgepole pine are along the ridgetop, which would allow for long fire spotting distance from a crown fire. Some BEHAVE Plus model runs indicate spotting distances during a fire season could exceed a half mile. The

increase fuel load from the deteriorating stand would also increase fuel loads on the ground, which in turn would increase fire intensities and the fire's rate of spread.
The brush fields would continue to grow and age and provide less forage and lower quality of forage for wild ungulates. Fuel loading would increase marginally, as leaf litter would decompose within the shrubfields.

Cumulative Effect of No Action - The Forest Service proposed actions in the Placer Creek Drainage will be less effective at containing the spread of a wildfire, decreasing the intensities of wildfire and protecting the structures/houses in the community of Wallace.

5.3.7 Invasive, Non-native Plant Species

With no management activities, current populations of weeds would continue to expand along ATV trails. Assuming little to no disturbance, expansion of weed populations into forested areas is unlikely due to low light levels reaching the forest floor. However, lack of treatment would result in increased fuel loading and an increased risk of stand-replacing fire. Fire, with the loss of competing vegetation and subsequent potential for soil erosion, leaves a burned area primed for noxious weed invasion. Spotted knapweed is known to resprout quickly following a fire and spotted knapweed seed is known to be viable in the soil for up to 10 years. The increased fuel loading and untreated spotted knapweed population combine to create a potential for weed infestation of burned areas following a wildfire event. Within the analysis area weed populations would expand, and depending upon climatic conditions, would be exacerbated by drier weather conditions that favor weed expansion.

5.3.8 Recreation Use, Existing and Potential

Reconstruction of the designated motorized route along the ridge would not occur. This would minimize access for full-size vehicles on a route designated only for motorbikes and ATVs. Any safety improvements to the road would not be realized.

Temporary access restrictions would not occur due to road work and prescribed burning.

5.3.9 Soils

There would be no direct impacts to soils because no new road construction, logging or fuel treatment activities would occur. There would be no compaction or displacement beyond what currently exists. Throughout the silvicultural landscape, tree mortality from pathogens and weather events would continue as in the past, which have a direct influence on the area's recycling of organic matter and changes in fuel loading. In moist habitat sites the increase in organic matter is a benefiting function to overall soil productivity. In dry habitat types, increases of organic matter may result in a negative response. Soil damage risks would increase as fuel loading levels rise and are followed by a high severity fire. The effects of such a fire would result in a greater loss to the soil's organic matter, nutrient availability, and would reduce water infiltration, which affects soil productivity. In addition the effects of such a fire followed by heavy storms could greatly increase surface erosion and sediment deliveries.

Under the No-Action Alternative, no management actions would occur on the project area. Stands currently at high risk for mortality would not be treated, which may increase the risk of stand loss due to wildfire, severe burning, and loss of soil nutrients. Moreover, the introduction

of weeds and unwanted flora following a fire would lead to higher competition between less desirable and native vegetation. In the absence of such a hot fire, nutrients would be retained on site. However, stand conversion back to more site-appropriate tree species would be delayed in comparison to the Proposed Action.

5.3.10 Visual Resources

No change from current situation. The potential for intense wildfire would remain a threat within the area, which would dramatically alter the visual character of the area.

5.3.11 Water Quality, Surface and Ground

There would be no aquatic restoration activities such as riparian plantings, or stabilizing an active scarp that chronically produces sediment, so the net associated risk of sediment delivery would remain at the current level. Drainage crossings currently at risk would likely fail in the event of a large stand-replacing fire followed by a high intensity rain or rain-on-snow event. The risk of wide-spread, high severity fire would be greater when compared to the proposed action because a fire of this type would damage soils, increase surface run-off, and increase sediment into Placer Creek and its tributaries. This would have a detrimental effect on water quality (impacting beneficial uses), altering stream channel morphology, impacting fish habitat, and disrupting efficiency of the water system that supplies drinking water to the City of Wallace.

5.3.12 Wildlife

Threatened and Endangered Species - The potential for a stand replacement wildfire would increase with the No Action Alternative. A wildfire would create habitat for many animals, especially black-backed and Lewis' woodpeckers (Smith 2000). Meanwhile, local populations of these animals would not be effected by activities associated with the removal of fuel and vegetation from the forest.

Migratory Birds - The potential for a stand replacement wildfire would increase with the No Action Alternative. A wildfire would create habitat for migratory birds which nest in tree cavities (Hejl et. al. 1995, Brown and Bright 1997, Smith 2000). Meanwhile, local populations of birds would not be effected by activities associated with the removal of fuel and vegetation from the forest.

Other Wildlife - The potential for a stand replacement wildfire would increase with the No Action Alternative. A wildfire would create forage for animals such as deer, elk, moose, bear, and small mammals (Smith 2000). Stand replacement fires can also create habitat for animals which den and nest in tree cavities (Hejl et. al. 1995, Brown and Bright 1997). Meanwhile, local populations of wildlife would not be effected by activities associated with the removal of fuel and vegetation from the forest.

6.0 TRIBES, INDIVIDUALS, ORGANIZATIONS OR AGENCIES CONSULTED

Ronald Garitone: Mayor of Wallace
Jim Vergobbi, Sherry Krulitz, Jon Cantamessa & Vince Rinaldi: Past and Present Shoshone County Commissioners
Coeur d'Alene Tribe of Idaho
Idaho Department of Fish & Game
US Forest Service – Fernan and Silver Valley Offices
US Fish and Wildlife Service
Idaho Conservation League
Kootenai Environmental Alliance
The Ecology Center
The Lands Council
Idaho State Historic Preservation Office
Idaho Native Plant Society

7.0 LIST OF PREPARERS

Larry Kaiser, Forester: Project Coordinator, Air Quality, Economics	Date
David Sisson, Archaeologist: Cultural Resources	Date
Cindy Weston, Fisheries Biologist: T&E Fish Species	Date
LeAnn Abell, Botanist: Plants, T&E Plant Species, Vegetation	Date
Kurt Pindel, Fire Ecologist: Fuels	Date
Doug Evans, Biological Technician: Invasive, non-native vegetation	Date
Brian White, Recreation Planner: Recreation and VRM	Date
Mike Stevenson, Hydrologist: Water & Soil Resources	Date
Scott Robinson, Wildlife Biologist: T&E Animal Species	Date
Stephanie Snook, P&E Coordinator: EA Review	Date

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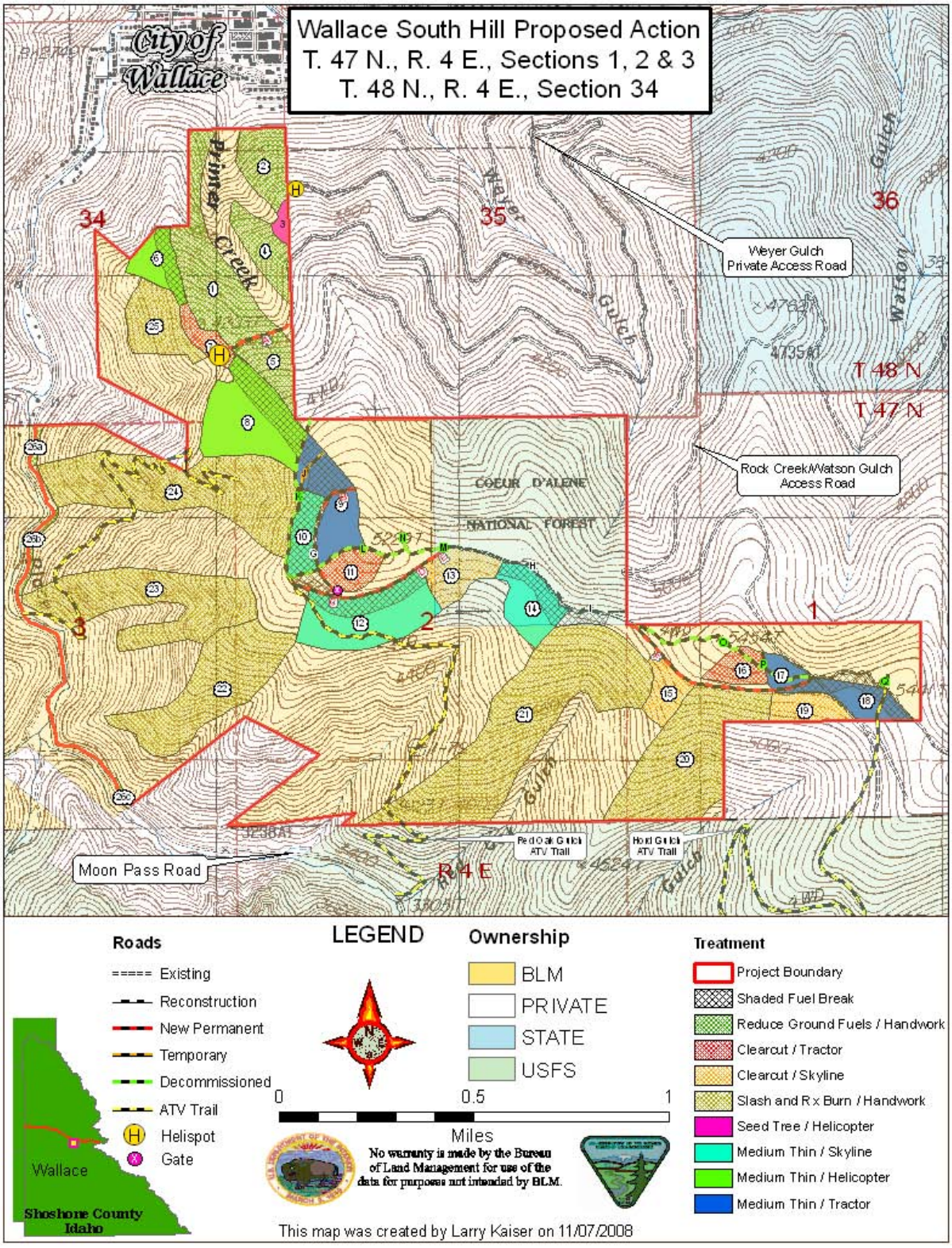
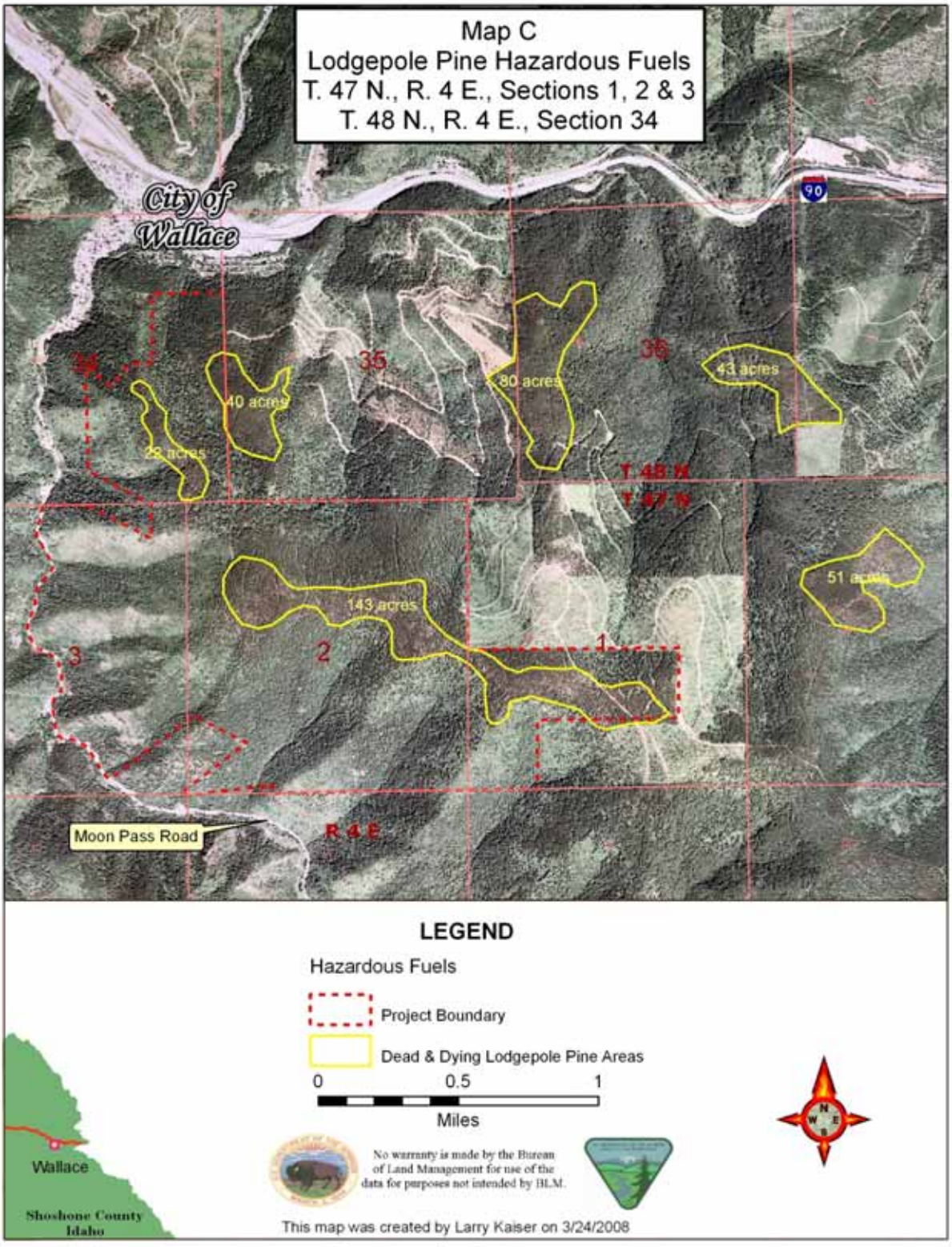

Wallace South Hill Proposed Action
T. 47 N., R. 4 E., Sections 1, 2 & 3
T. 48 N., R. 4 E., Section 34
City of Wallace
Prime Creek
Weyer Gulch
Watson Gulch
Weyer Gulch Private Access Road
Rock Creek/Watson Gulch Access Road
COEUR D'ALENE NATIONAL FOREST
Moon Pass Road
Red Oak Gulch ATV Trail
Hoyt Gulch ATV Trail
T 48 N
T 47 N
R 4 E
34
35
36
1
2
3
LEGEND
Roads
Existing
Reconstruction
New Permanent
Temporary
Decommissioned
ATV Trail
Helispot
Gate
Ownership
BLM
PRIVATE
STATE
USFS
Treatment
Project Boundary
Shaded Fuel Break
Reduce Ground Fuels / Handwork
Clearcut / Tractor
Clearcut / Skyline
Slash and Rx Burn / Handwork
Seed Tree / Helicopter
Medium Thin / Skyline
Medium Thin / Helicopter
Medium Thin / Tractor
0
0.5
1
Miles
Wallace
Shoshone County Idaho
No warranty is made by the Bureau of Land Management for use of the data for purposes not intended by BLM.
This map was created by Larry Kaiser on 11/07/2008


Map C
Lodgepole Pine Hazardous Fuels
T. 47 N., R. 4 E., Sections 1, 2 & 3
T. 48 N., R. 4 E., Section 34
City of Wallace
90
34
35
36
40 acres
28 acres
80 acres
43 acres
T 48 N
T 47 N
143 acres
51 acres
3
2
1
Moon Pass Road
R 4 E
LEGEND
Hazardous Fuels
Project Boundary
Dead & Dying Lodgepole Pine Areas
0
0.5
1
Miles
N
W
E
S
Wallace
Shoshone County
Idaho
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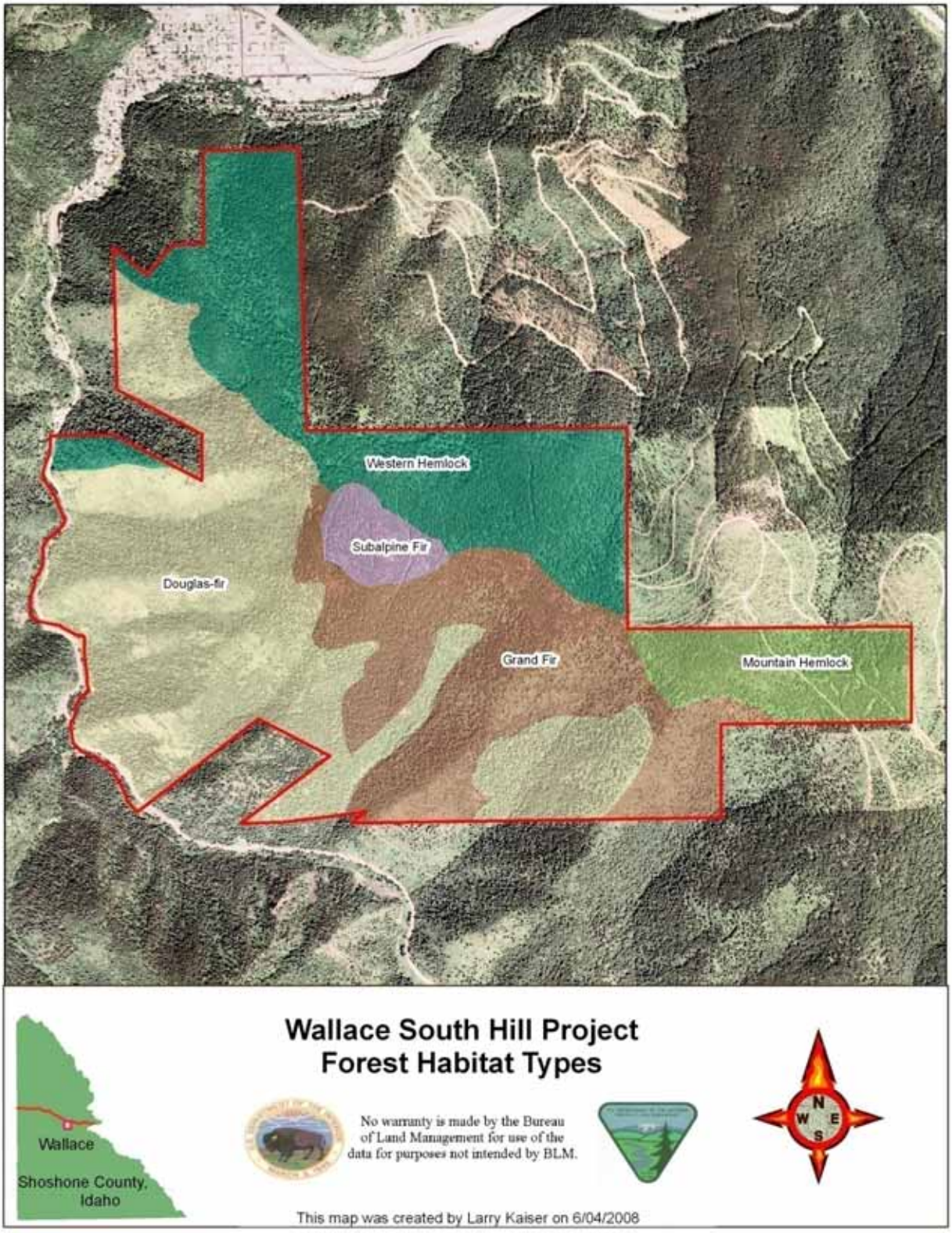
This map was created by Larry Kaiser on 3/24/2008

Appendix II.2



Appendix II.3

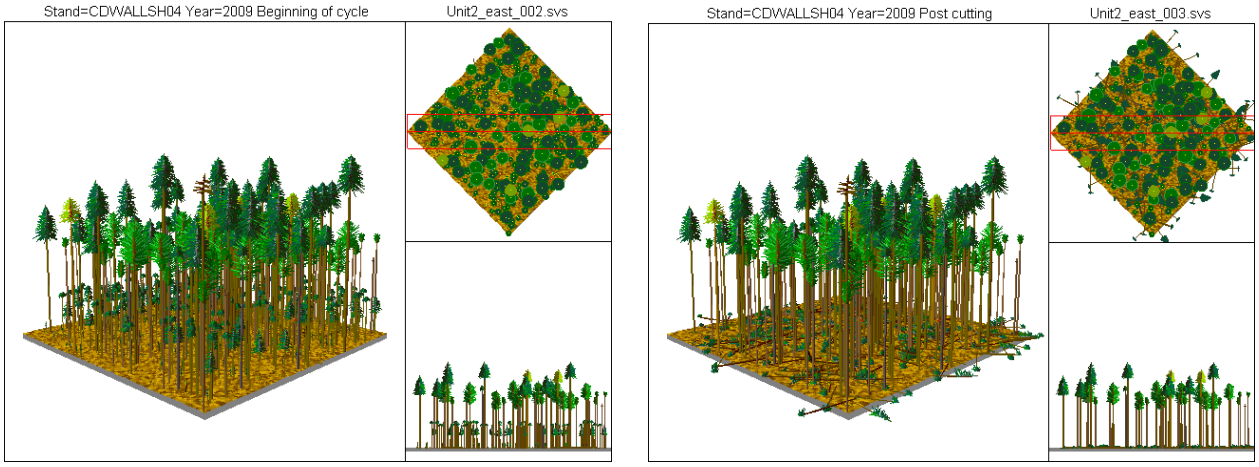
Table 12

Wallace South Hill Silvicultural Prescription Datasheet

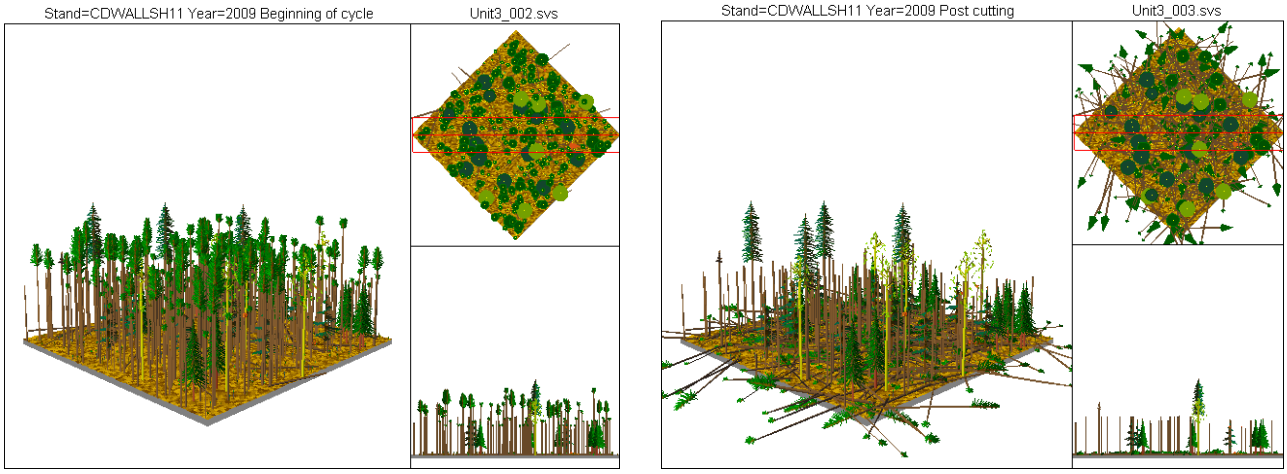
Pre-treatment Stand Characteristics								Post-treatment Stand Characteristics						
2004 & 2005 - 2006 Inventories							Silviculture	Leave Stand Attributes			Harvest Attributes			
Unit #	Stand #	Unit %	Species Comp	all T/A	T/A >8"	MBF/ ac	Treatment Rx	T/A >8"	Tree Spacing	MBF /ac.	T/A >8"	MBF /ac.	ac	Gross Vol. (MBF)
1	05	1.0	**LP** GF DF WL	174	123	33	Thin all trees <6"	123	19	33	n/a	n/a	33	0
2	03	0.5	**GF DF** WP	619	171	28	Thin all trees <6"	264	13	32	n/a	n/a	14	0
	04	0.5	**GF** LP DF WP WL	559	193	30		180	16	34				
	Weighted Avg.		***GF DF** WP*	*589*	*182*	*29*		222	*14*	*33*				
3	11	1.0	**LP GF** DF WH WRC	748	251	21	Thin all LP & all trees <14"	38	34	3	213	18	2	36
4	11	1.0	**LP GF** DF WH WRC	748	251	18	Thin all trees <6"	251	13	18	n/a	n/a	0	0
5	09	1.0	**GF LP WP** WL	504	181	25	Thin all trees <6"	181	15	25	n/a	n/a	0	0
6	970	0.5	**GF WRC** DF WH AF LP	721	50	8	Thin all trees <11"	30	38	4	20	2	10	20
7	15	1	**GF** LP DF WP	4,134	606	53	Clearcut with reserve trees	0	n/a	0	606	53	7	371
8	1070	0.5	**LP DF GF AF** ES WL PP	608	178	29	North half - thin all LP <13" South half - thin all trees < 11	43	32	15	112	14	31	434
	23	0.5	**LP** DF GF WP	608	178	11		50	30	12	76	3		93
	Weighted Avg.		***LP DF GF** WL AF*	*608*	*178*	*20*		*46*	*31*	*14*	*94*	*9*		0
9	1070	0.4	**LP GF DF AF** ES WL PP	644	239	29	North half- thin all LP South half- thin all LP<12	66	26	15	161	14	20	280
	2590	0.6	**LP AF** DF WL	509	247	26		46	31	12	194	14		280
	Weighted Avg.		***AF LP WH** WL DF ES*	*577*	*243*	*28*		*56*	*29*	*13*	*178*	*14*		0
10	62	1.0	**LP WL GF** DF	511	142	21	Thin all trees <10" Thin all LP < 15"	56	28	11	201	10	9	90
11	32	1.0	**LP** DF WH AF	2,821	237	24	Clearcut with reserve trees	0	n/a	0	274	24	9	216
12	37	1.0	**DF** WL	221	131	31	Thin all trees <16"	62	27	23	154	9	30	270
13	32	0.7	**LP** DF WH AF	2,821	237	25	Clearcut with reserve trees	0	n/a	0	179	19	12	228
	1330	0.3	***GF DF** LP MH AF*	384	42	*6*								
	Weighted Avg.		***LP DF** GF WL AF*	*2,090*	*179*	*19*								
14	1330	1.0	***GF DF** LP MH AF*	384	42	6	Thin all LP & Thin all trees <12"	41	33	2	2487	18	15	270
15	58	1.0	**GF LP**	335	130	17.4	Clearcut with reserve trees	0	n/a	0	130	15	9	135
16	59	0.6	**LP AF** MH WP DF WL	478	212	19.3	Clearcut with reserve trees	0	n/a	0	212	11	7	77
17	59	1.0	**LP AF** MH WP DF WL	478	212	19.3	Thin all trees <9"	50	30	6	180	6	5	30
18	59	1.0	**LP AF** MH WP DF WL	478	212	19.3	Thin all trees <10"	50	30	6	441	6	11	66
19	59	1.0	**LP AF** MH WP DF WL	478	212	19.3	Clearcut with reserve trees	0	n/a	0	163	11	9	99

Appendix II.4

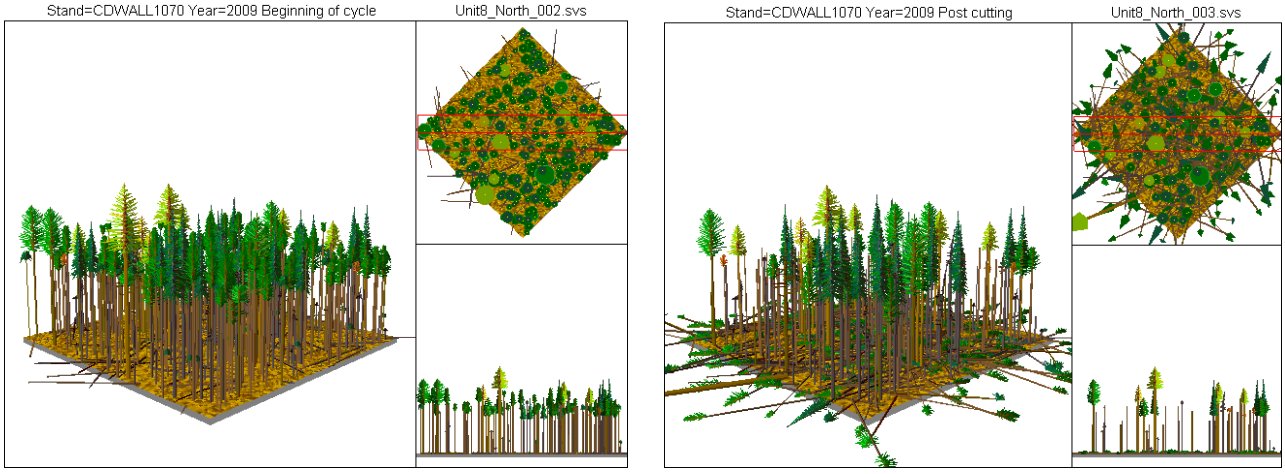
Unit 2 - Pre and Post Hazardous Fuels Reduction Actions



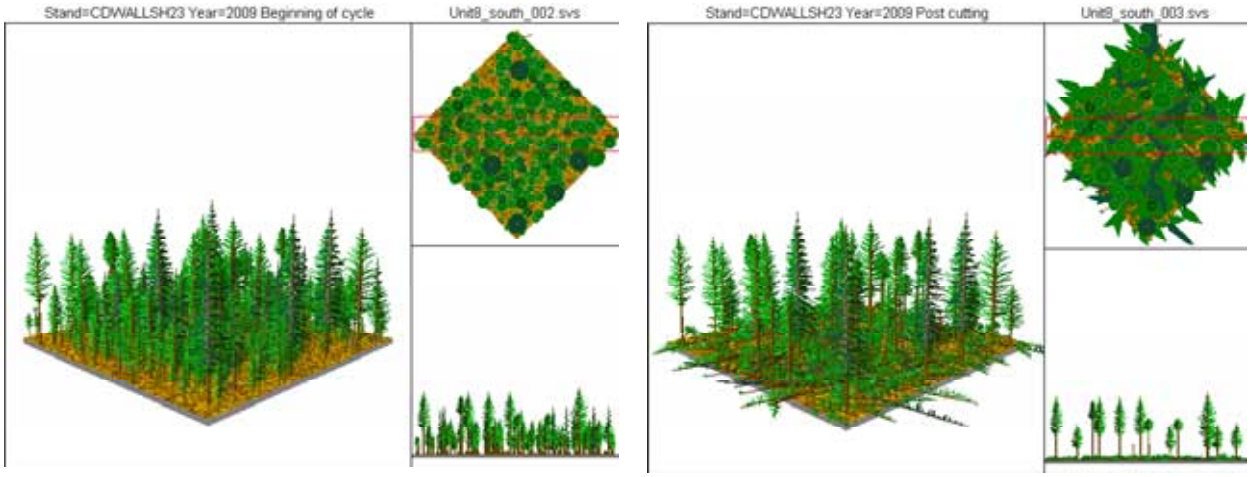
Unit 3 - Pre and Post Harvest



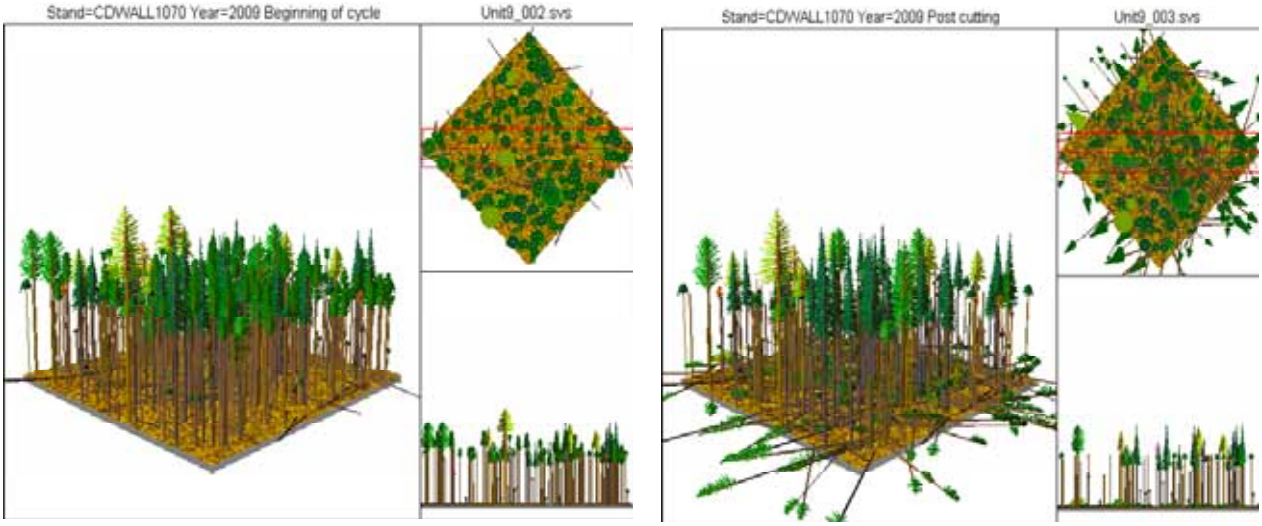
Unit 8 - (North part) Pre and Post Harvest



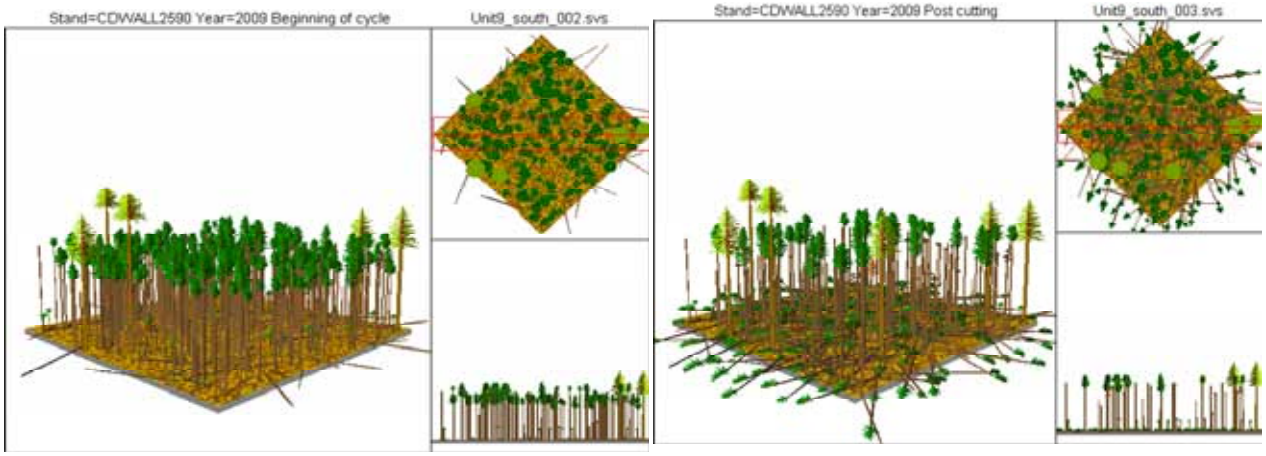
Unit 8 (south part) Pre and Post Harvest



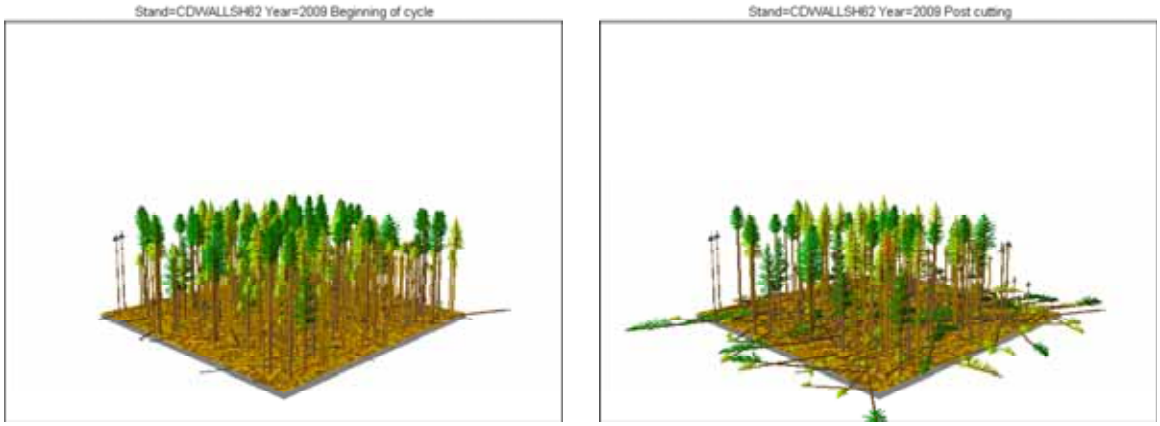
Unit 9 (north part) Pre and Post Harvest



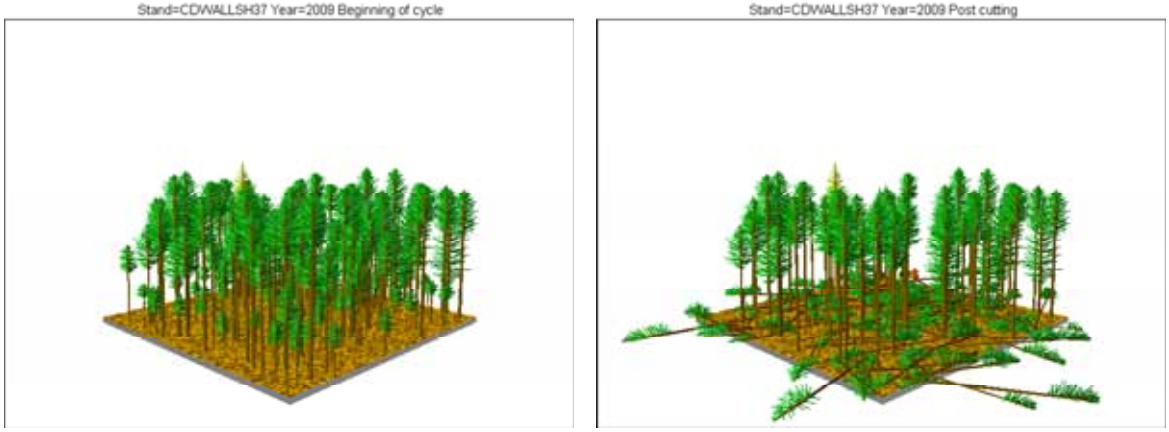
Unit 9 (south part) Pre and Post Harvest



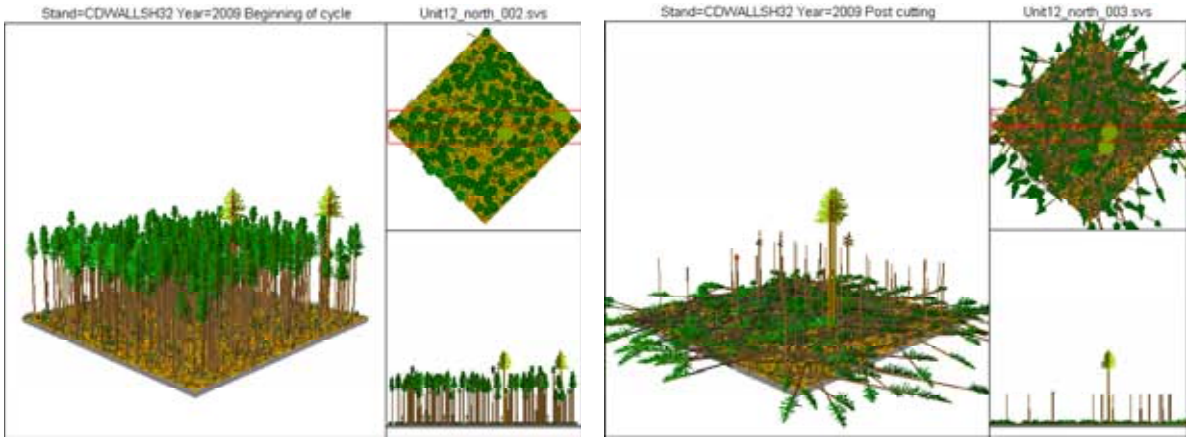
10 Pre and Post Harvest Unit



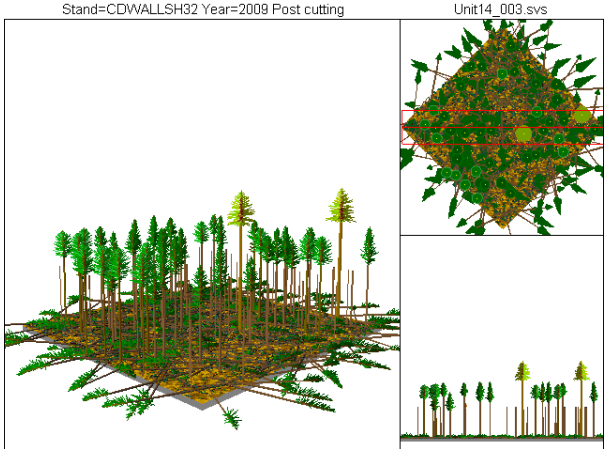
Unit 12 Pre and Post Harvest

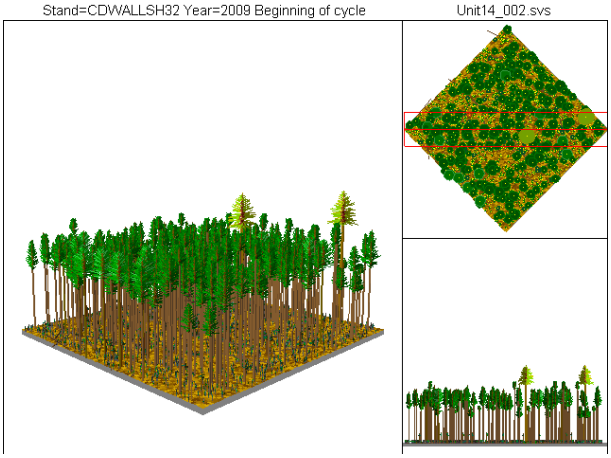


Unit 13 (north part) Pre and Post Harvest

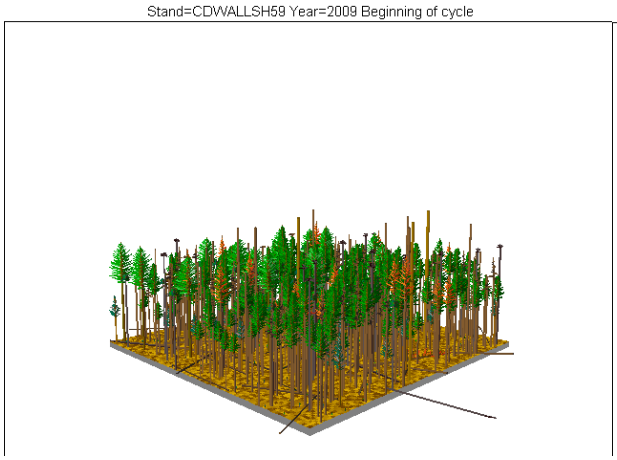


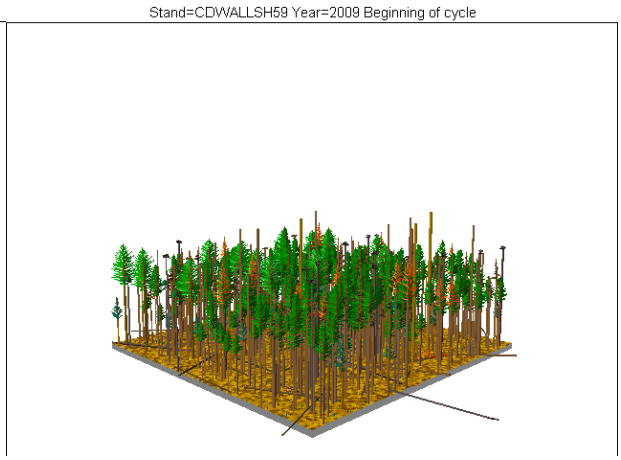
Unit 14 Pre and Post Harvest



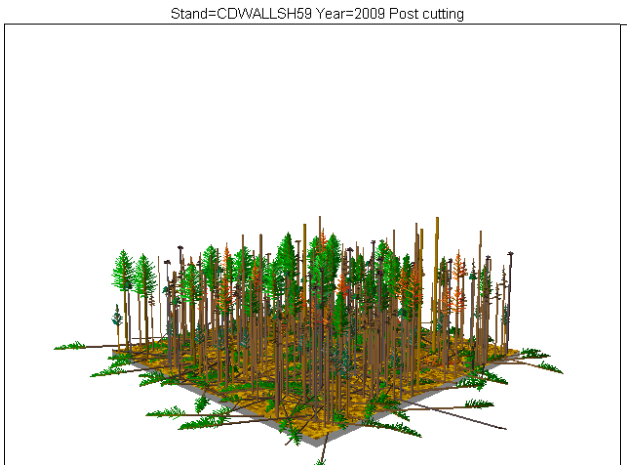


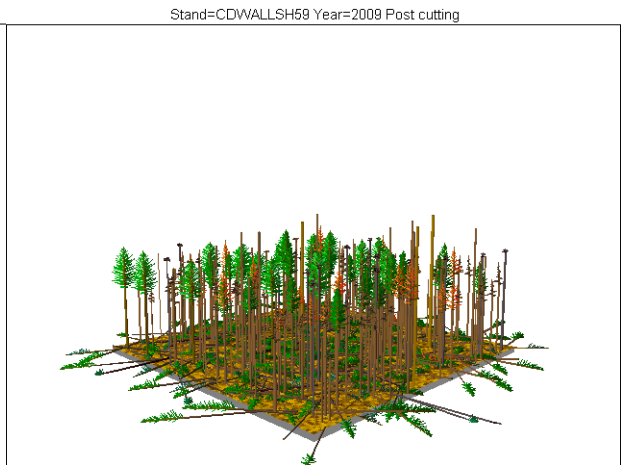
Unit 17 Pre and Post Harvest

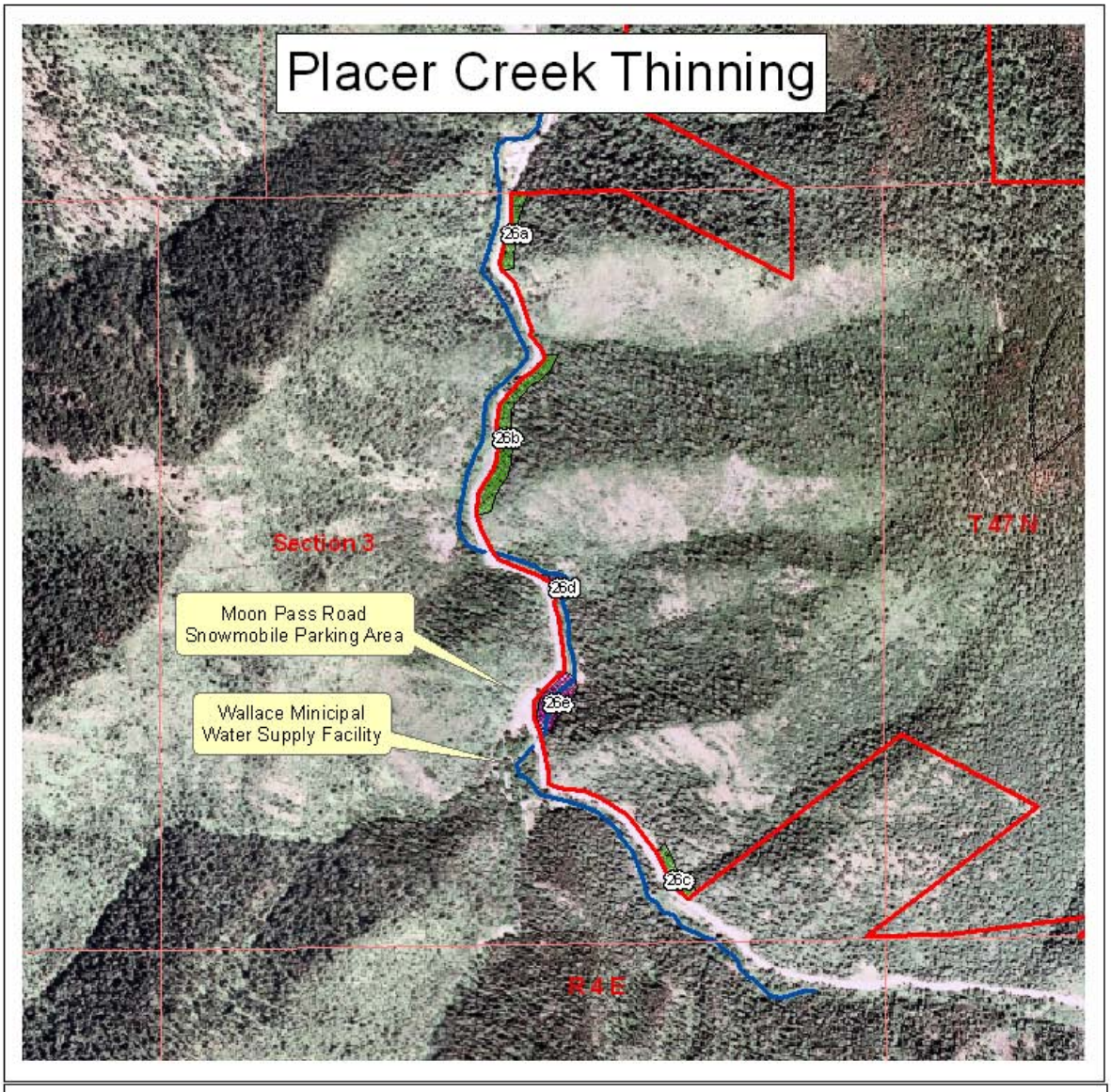




Unit 18 Pre and Post Harvest



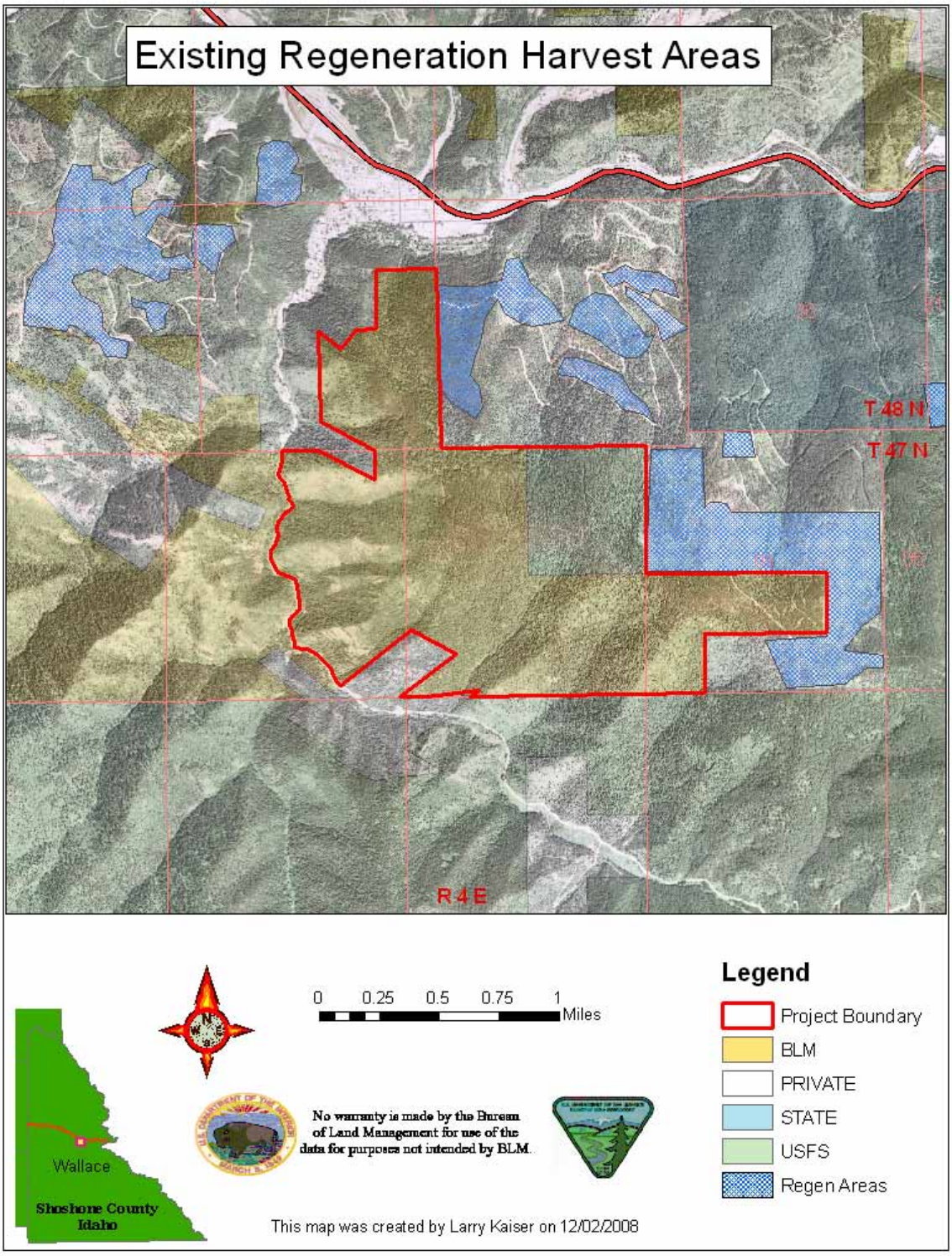



Placer Creek Thinning
26a
26b
26d
26e
26g
Section 3
T 47 N
R 4 E
Moon Pass Road
Snowmobile Parking Area
Wallace Minicipal
Water Supply Facility
N
W
E
S
0 350 700 1,400 2,100 2,800
Feet
Legend
Project Boundary
Placer Creek
Type of Proposed Thin
Understory Crown Thin
Understory Species Thin
No warranty is made by the Bureau of Land Management for use of the data for purposes not intended by BLM.
Wallace South Hill
Project Area
This map was created by Larry Kaiser on 11/05/2008

Appendix II.6

Example of Hazardous Fuel Reduction Proposed for Units 1,2,4 & 5

Hazardous Fuels in Foreground Were Treated - The Background Was Not Treated


Existing Regeneration Harvest Areas
T 48 N
T 47 N
R 4 E
0 0.25 0.5 0.75 1
Miles
Legend
Project Boundary
BLM
PRIVATE
STATE
USFS
Regen Areas
Wallace
Shoshone County
Idaho
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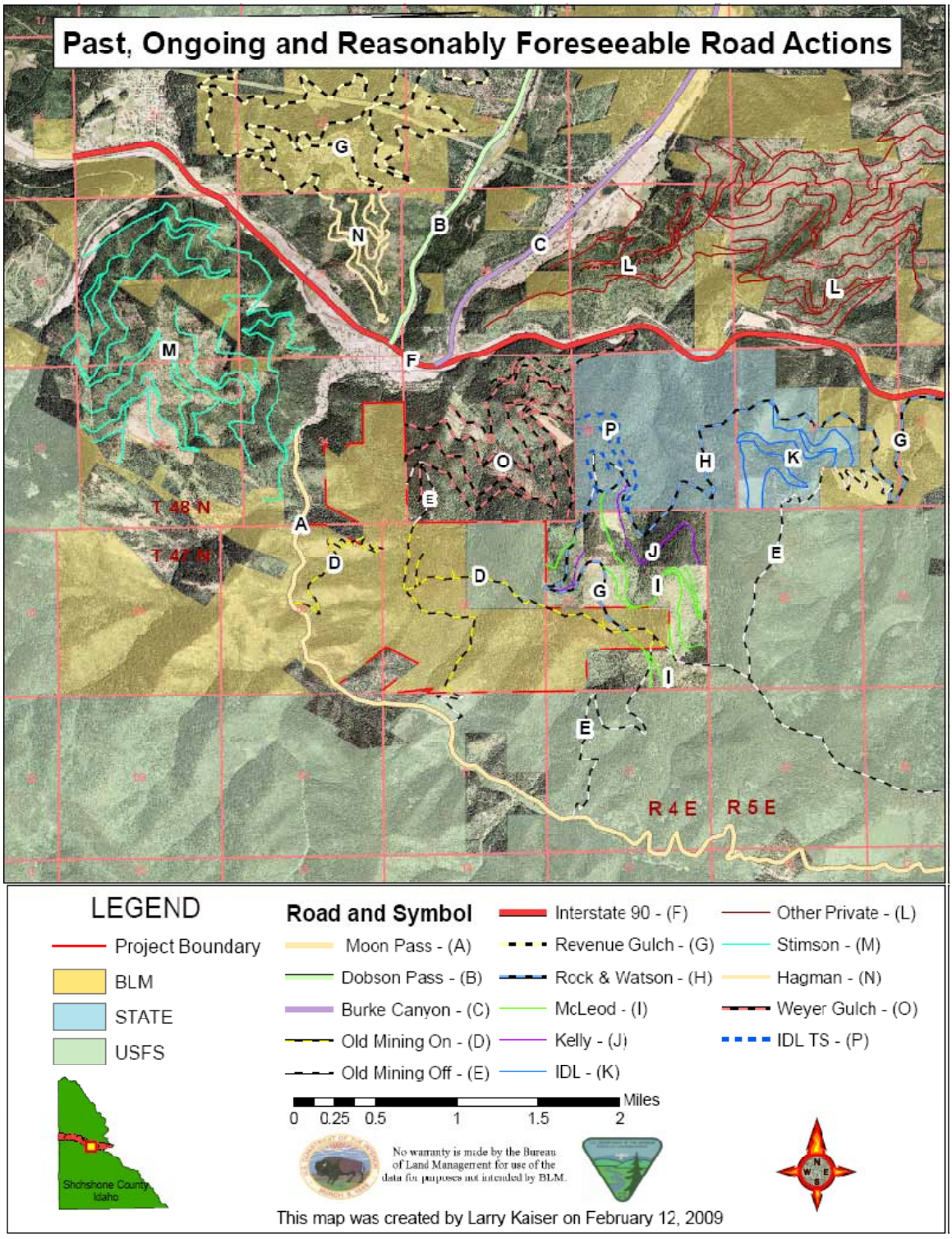
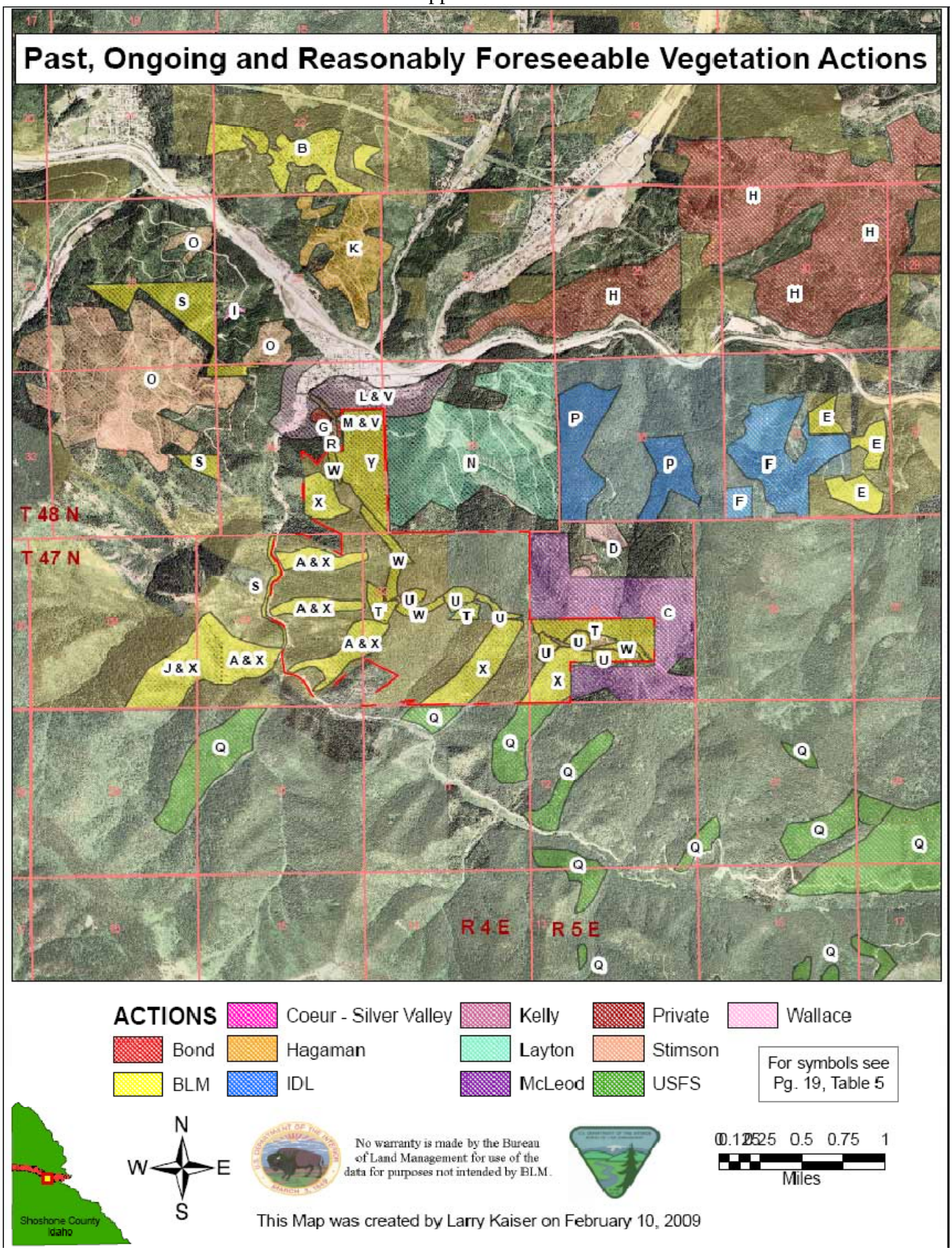
This map was created by Larry Kaiser on 12/02/2008


Past, Ongoing and Reasonably Foreseeable Road Actions
T 48 N
T 47 N
R 4 E
R 5 E
LEGEND
Project Boundary
BLM
STATE
USFS
Shoshone County Idaho
Road and Symbol
Interstate 90 - (F)
Moon Pass - (A)
Revenue Gulch - (G)
Dobson Pass - (B)
Rock & Watson - (H)
Burke Canyon - (C)
McLeod - (I)
Old Mining On - (D)
Kelly - (J)
Old Mining Off - (E)
IDL - (K)
Other Private - (L)
Stimson - (M)
Hagman - (N)
Weyer Gulch - (O)
IDL TS - (P)
Miles
0 0.25 0.5 1 1.5 2
No warranty is made by the Bureau of Land Management for use of the data for purposes not intended by BLM.
This map was created by Larry Kaiser on February 12, 2009


Past, Ongoing and Reasonably Foreseeable Vegetation Actions
T 48 N
T 47 N
R 4 E
R 5 E
ACTIONS
Coeur - Silver Valley
Kelly
Private
Wallace
Bond
Hagaman
Layton
Stimson
BLM
IDL
McLeod
USFS
For symbols see Pg. 19, Table 5
N
W
E
S
Shoshone County Idaho
No warranty is made by the Bureau of Land Management for use of the data for purposes not intended by BLM.
0 0.125 0.25 0.5 0.75 1
Miles
This Map was created by Larry Kaiser on February 10, 2009

Appendix II.10

District Seed Mix

Dry Forest – Ponderosa Pine Types and Dry Douglas-fir[1] Types

Species	Recommended Variety	Pounds of Seed	Pure Live Seed per Square Foot
Sheep Fescue	Covar	3	46.8
Streambank Wheatgrass	Sodar	5	17.5
Annual Ryegrass		2	10.0
Alfalfa *	Ladak or Ranger	4	20.0
Yellow Sweetclover *	Madrid	3	17.7
TOTAL		**17**	**112.0**

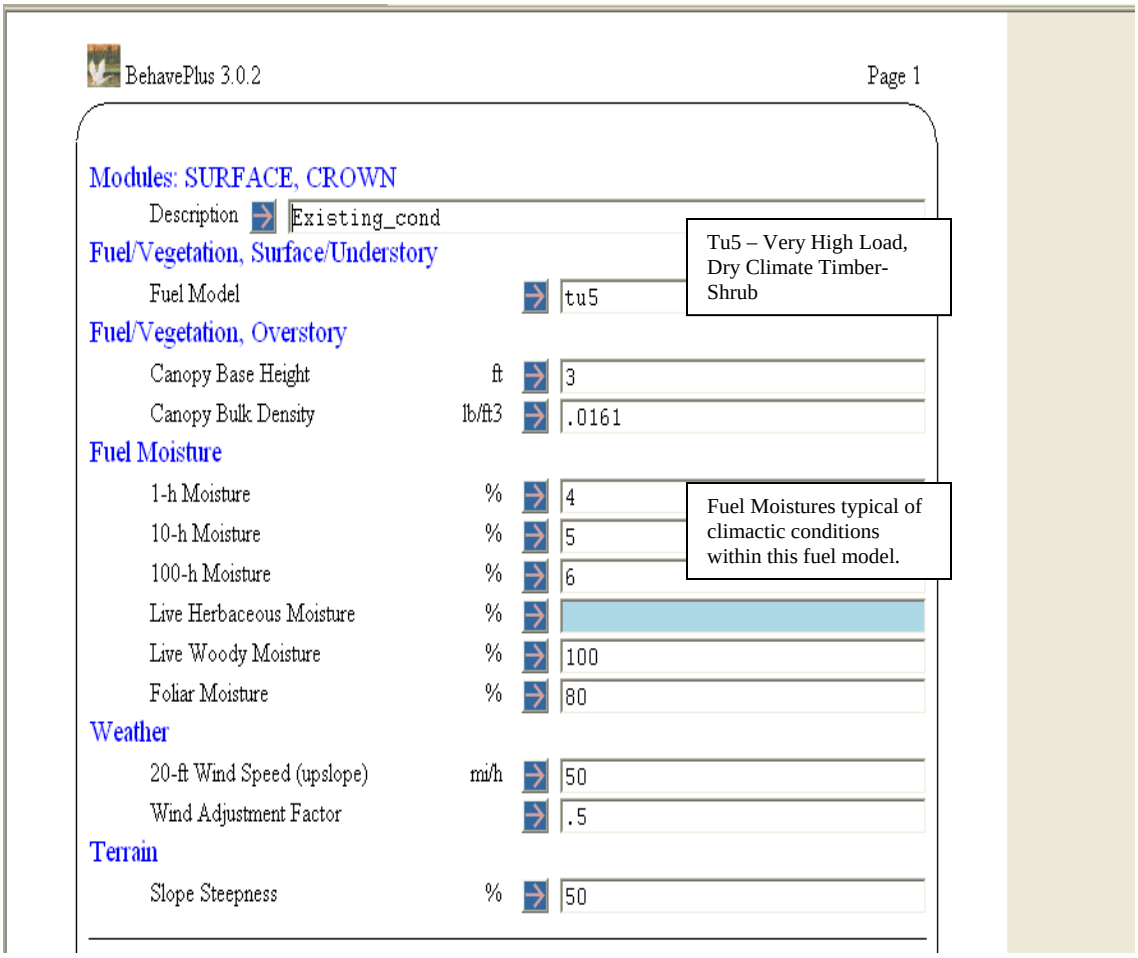
Warm Wet Forest – Moist Douglas-fir[2], Grand Fir, Western Redcedar and Western Hemlock Types

Species	Recommended Variety	Pounds of Seed	Pure Live Seed per Square Foot
Canada Bluegrass	Reubens	1	56.8
Orchardgrass	Latar	3	31.8
Hard Fescue	Durar	2	26.0
Creeping Red Fescue	Fortress or Cascade	2	26.0
White Dutch Clover *		2	36.0
Small Burnett	Delar	3	3.0
TOTAL		**13**	**179.6**

Cold Wet Forest – Englemann Spruce, Subalpine Fir and Mountain Hemlock Types

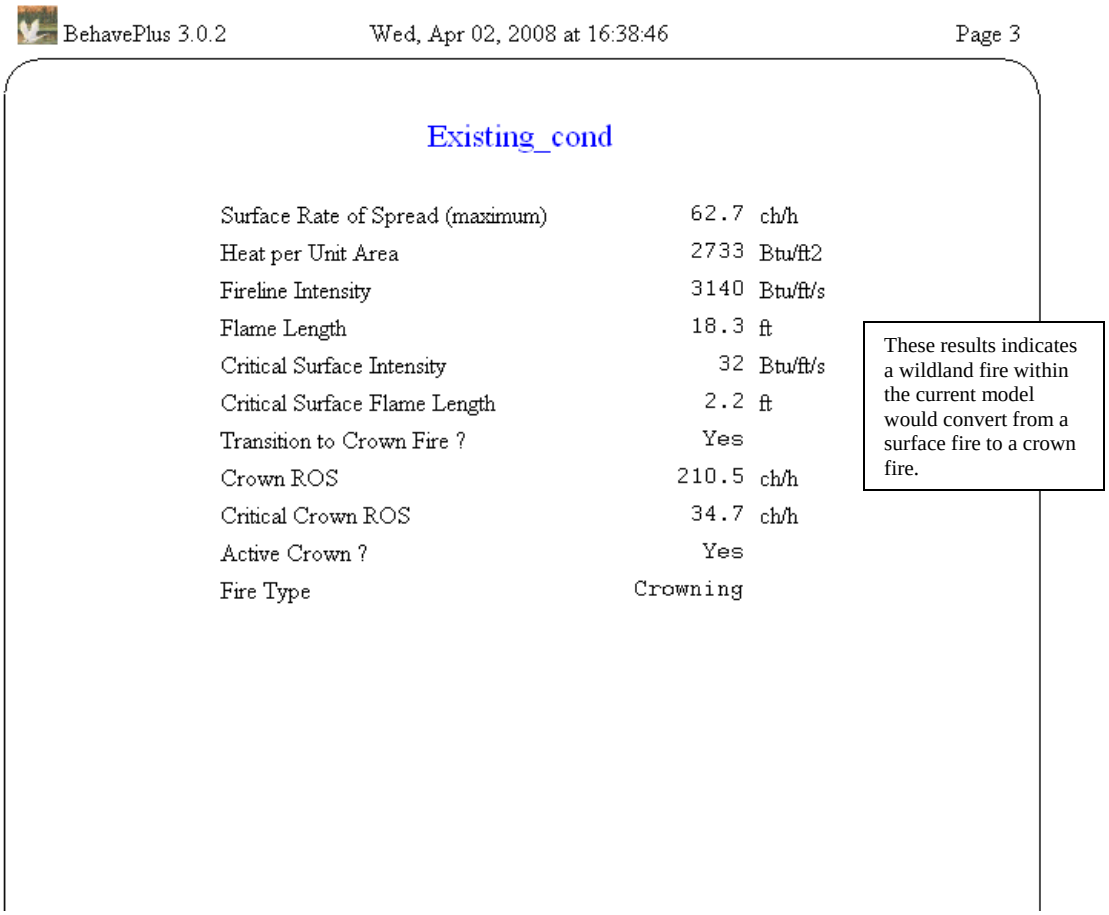
Species	Recommended Variety	Pounds of Seed	Pure Live Seed per Square Foot
Redtop	Streaker	0.5	56.8
Timothy	Climax or Clair	1	30.3
Creeping Red Fescue	Fortress or Cascade	2	26.0
White Dutch Clover *		2	36.0
Birdsfoot Trefoil	Cascade	2	18.4
TOTAL		**7.5**	**167.5**

* Inoculate all legume seed prior to seeding.
[1] Douglas-fir/snowberry and drier habitat types.
[2] Douglas-fir/ninebark and moister habitat types



The above BEHAVEPLUS models are the parameters used to calculate whether a wildland fire within the project area, within this fuel type, would convert from a surface fire to a crown fire. The results are listed in Appendix 2.

Appendix III.2



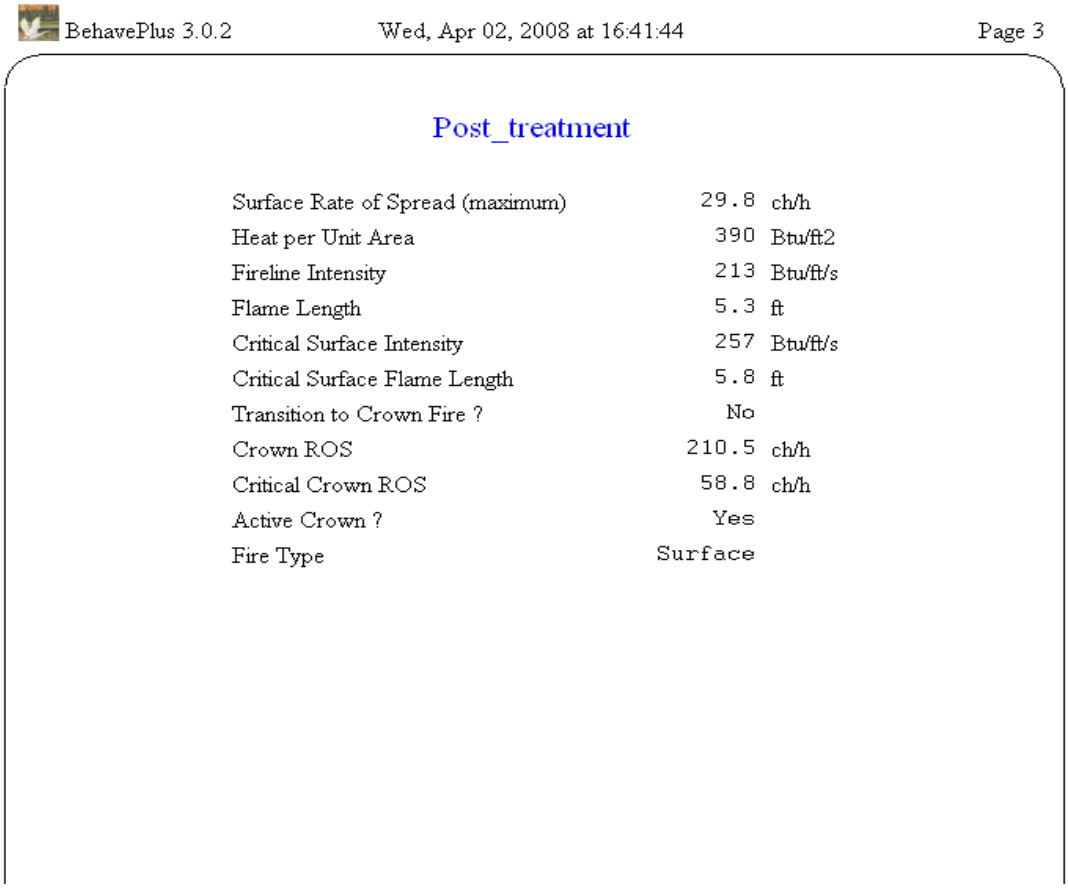
BehavePlus 3.0.2 Wed, Apr 02, 2008 at 16:38:46 Page 3

Existing_cond

Surface Rate of Spread (maximum)	62.7	ch/h
Heat per Unit Area	2733	Btu/ft2
Fireline Intensity	3140	Btu/ft/s
Flame Length	18.3	ft
Critical Surface Intensity	32	Btu/ft/s
Critical Surface Flame Length	2.2	ft
Transition to Crown Fire ?	Yes	
Crown ROS	210.5	ch/h
Critical Crown ROS	34.7	ch/h
Active Crown ?	Yes	
Fire Type	Crowning	

These results indicates a wildland fire within the current model would convert from a surface fire to a crown fire.

The method for calculating safety zones is to multiply the flame length by four then add further distance by the amount of resources on the site. We will show the minimum and maximum calculation for our safety zones. The average flame height is 18.3 ft so that would equate to 73.2 ft (18.3 X 4 = 73.2 ft), but we would have to add more distance for firefighters and equipment, the average distance would have to be approximately 100 ft if we include a crew. The second calculation from the heights of the trees would equate to more than 400 ft (100 tree height x 4 = 400 ft). In selecting our final distance we evaluated the slope, the position of the fuel break on the slope and the density of the adjacent stands and decided on 300 ft as a reasonable distance for both firefighter safety and maintaining good forestry practices.



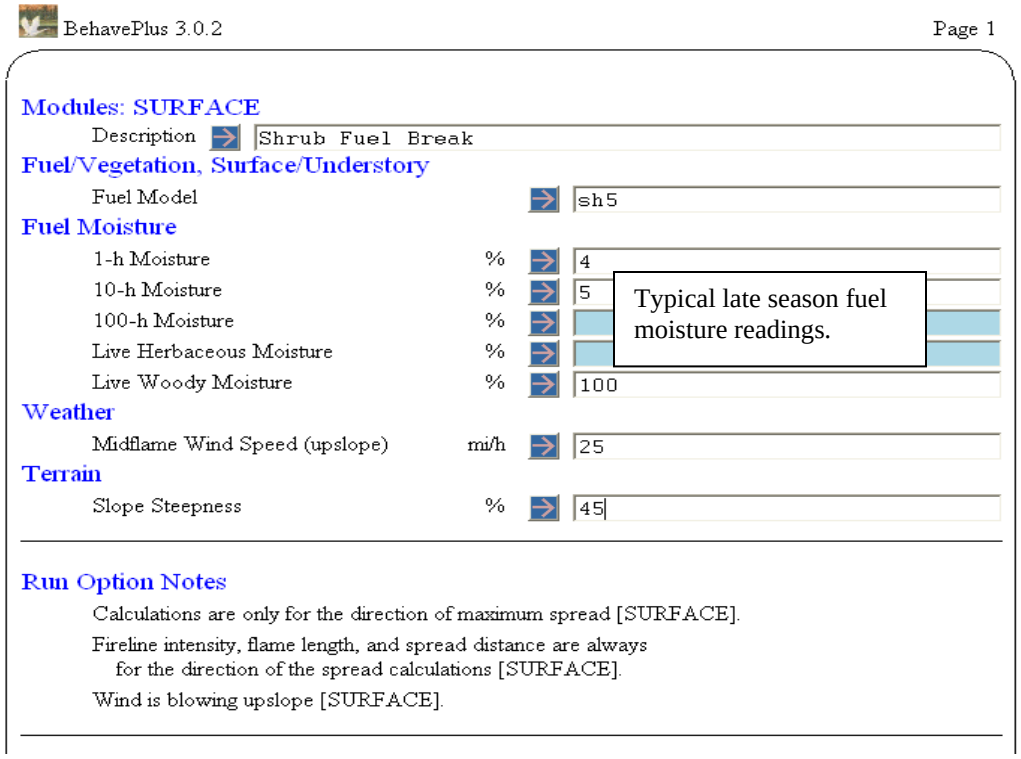
BehavePlus 3.0.2 Wed, Apr 02, 2008 at 16:41:44 Page 3

Post_treatment

Surface Rate of Spread (maximum)	29.8	ch/h
Heat per Unit Area	390	Btu/ft2
Fireline Intensity	213	Btu/ft/s
Flame Length	5.3	ft
Critical Surface Intensity	257	Btu/ft/s
Critical Surface Flame Length	5.8	ft
Transition to Crown Fire ?	No	
Crown ROS	210.5	ch/h
Critical Crown ROS	58.8	ch/h
Active Crown ?	Yes	
Fire Type	Surface	

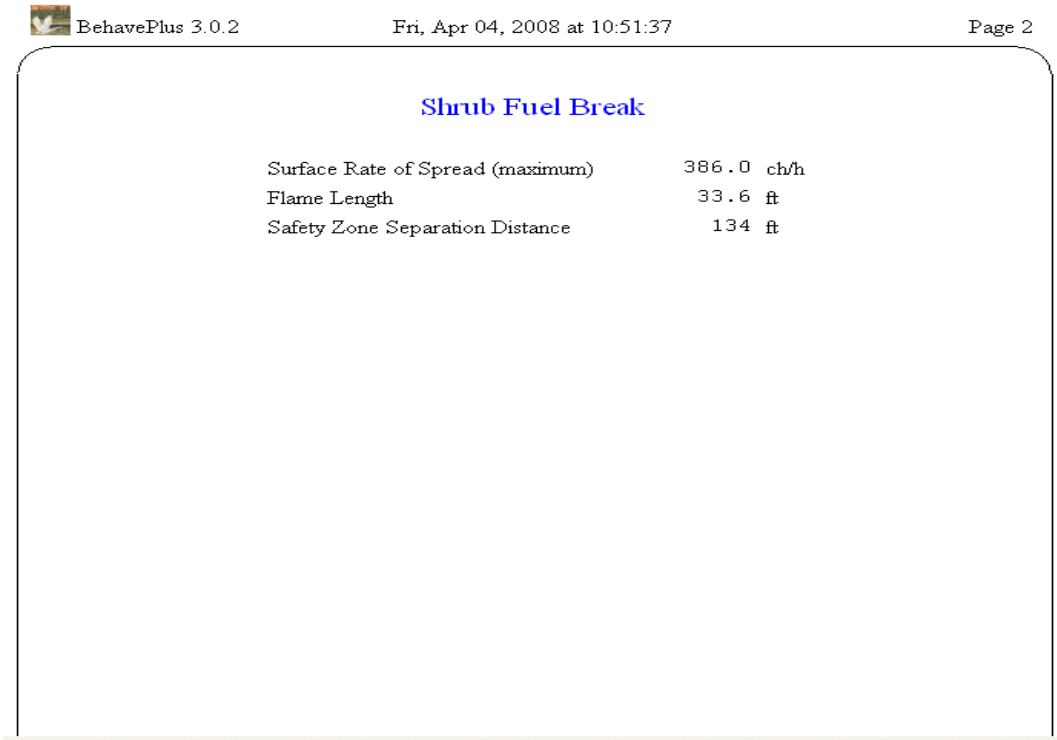
After the proposed treatment, a surface fire would not convert to a crown fire under the same climactic conditions.

Appendix III.4



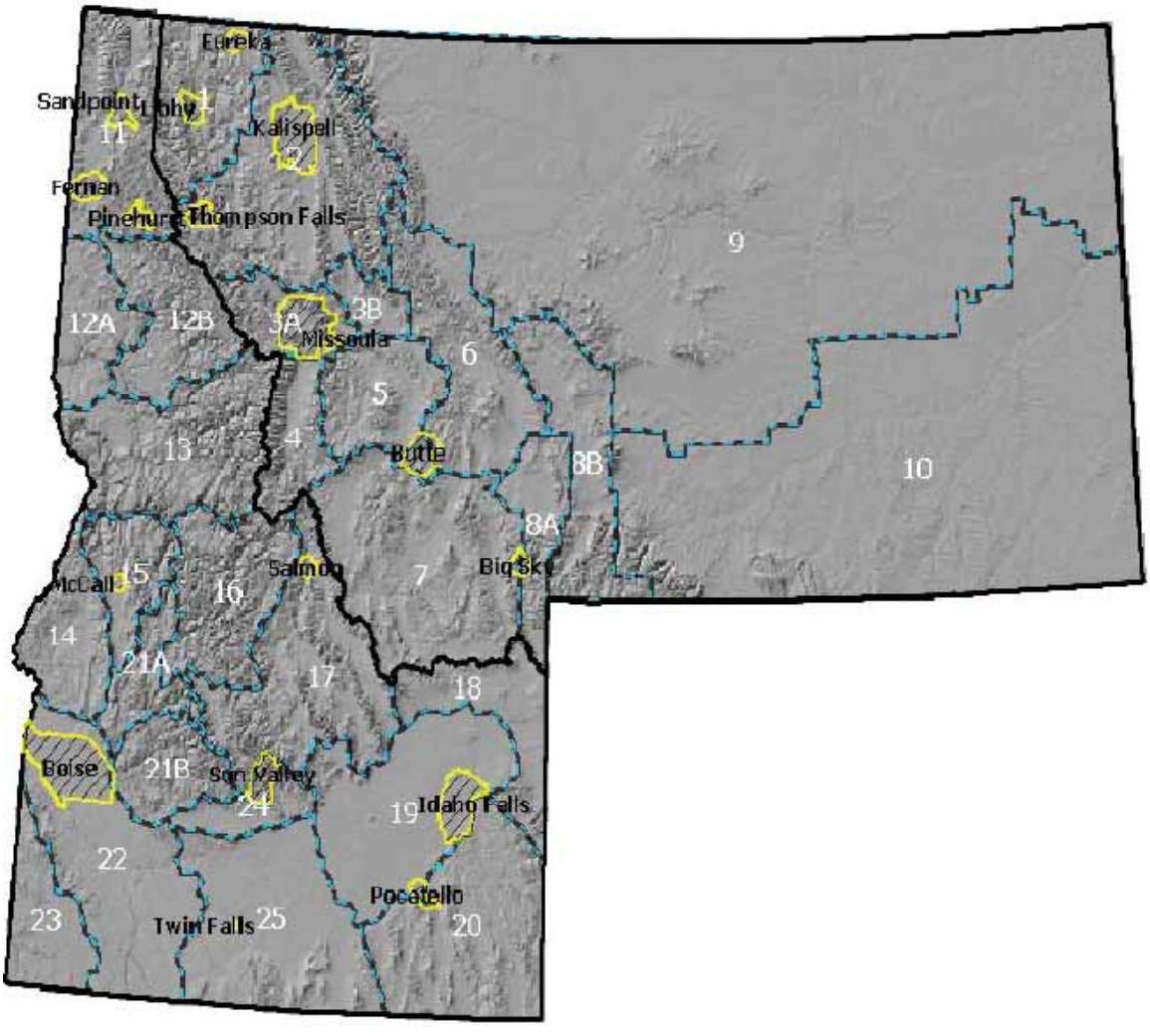
BEHAVE PLUS model inputs to determine the fuel break width necessary to safely protect a firefighter. Sh5 = High Load, Dry climate shrub lands.

Appendix III.5

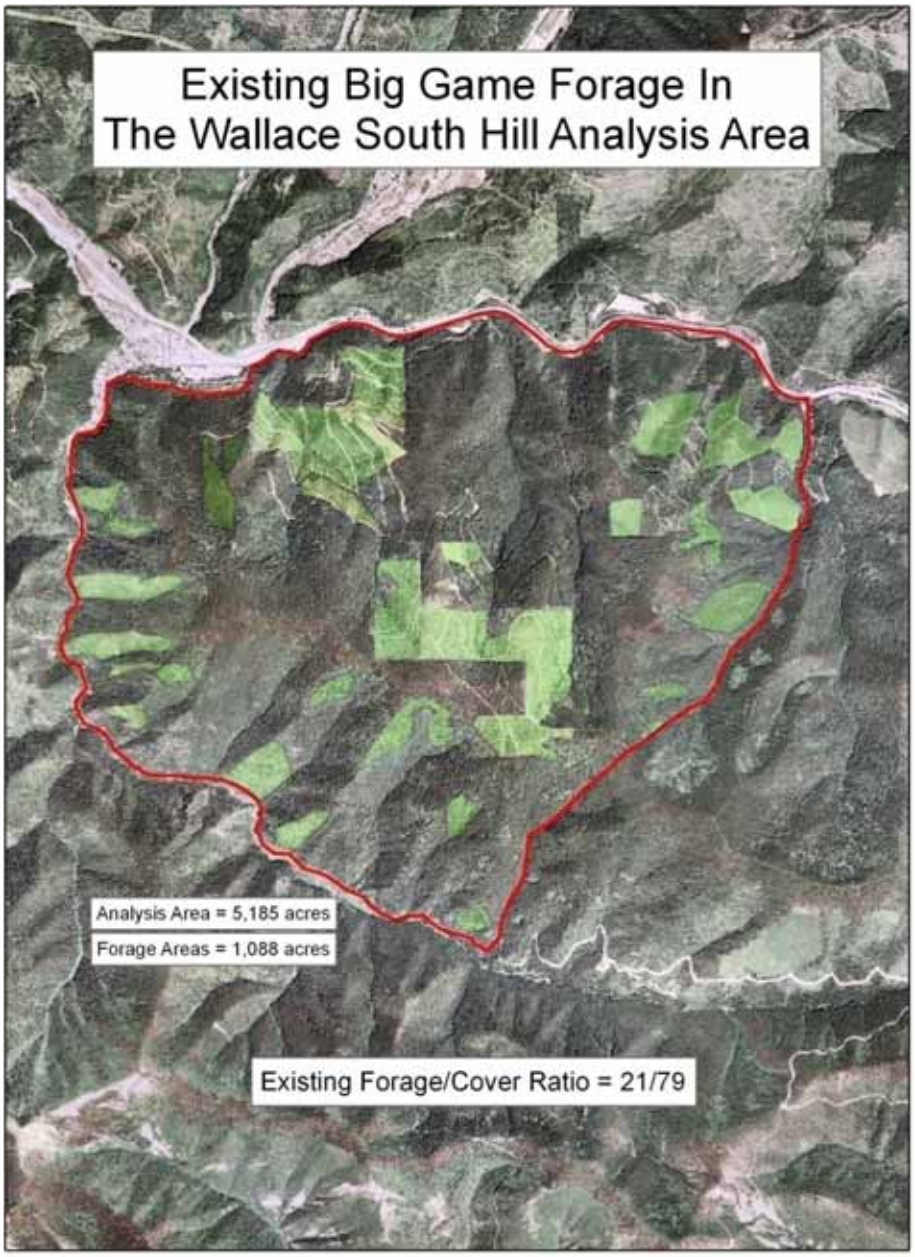


Results of BEHAVEPLUS model, showing safe zone separation distance required for a wildland firefighter in the conditions found on the shrub lands near Wallace, ID.

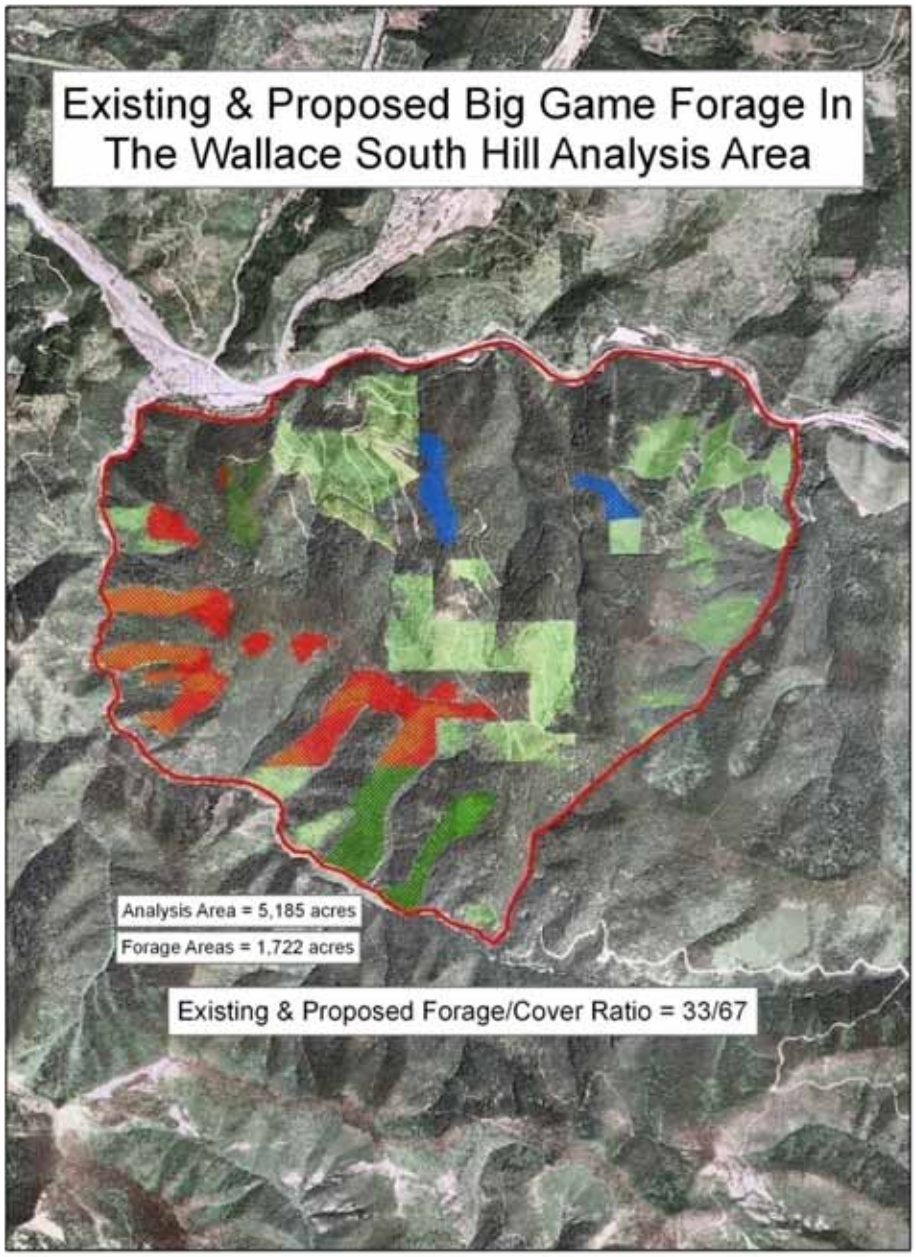
Montana/Idaho Airsheds and Impact Zones



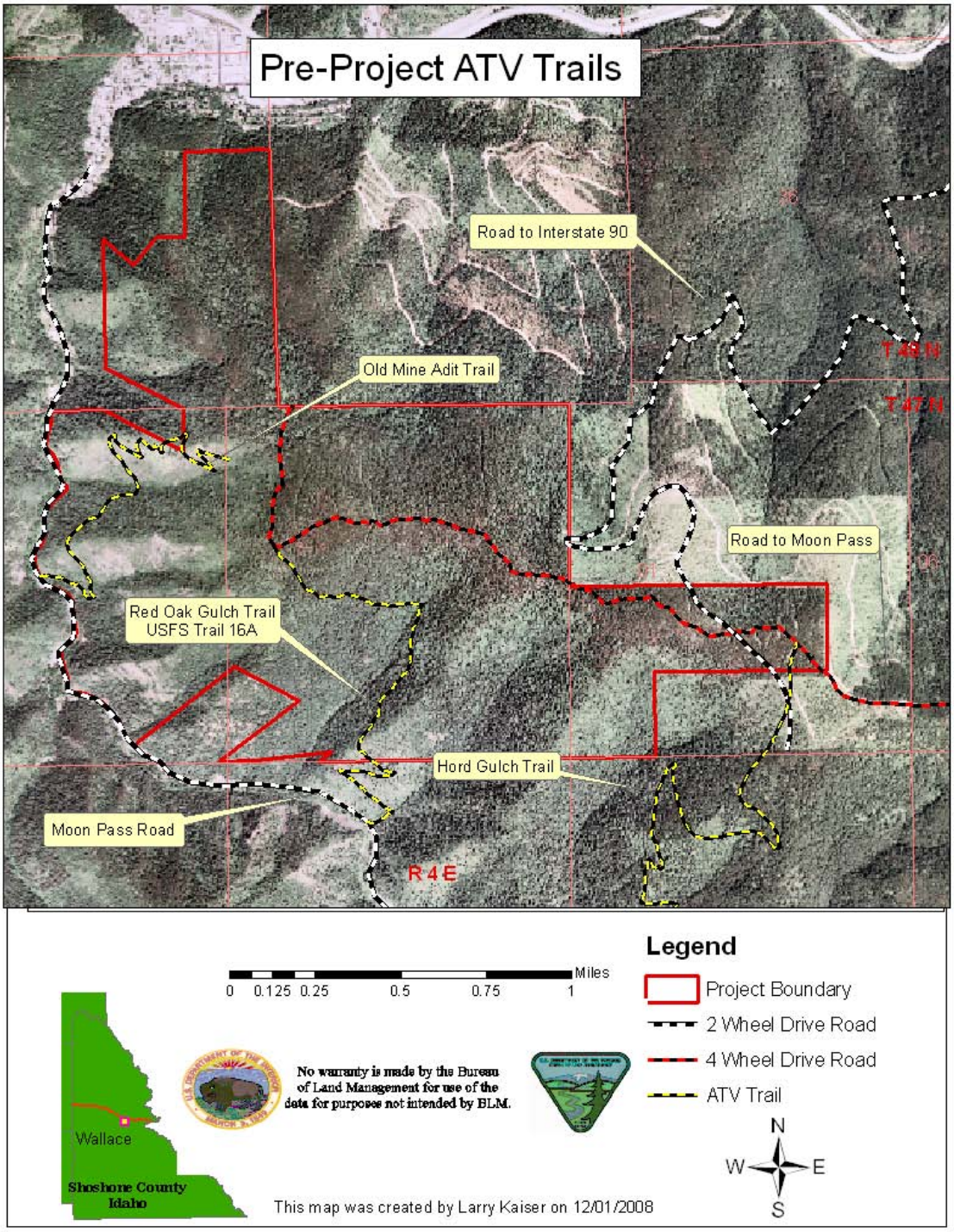
Appendix IV.1



Appendix IV.2



Appendix V.1


Pre-Project ATV Trails
Road to Interstate 90
Old Mine Adit Trail
Road to Moon Pass
Red Oak Gulch Trail
USFS Trail 16A
Hord Gulch Trail
Moon Pass Road
T 48 N
T 47 N
R 4 E
Legend
Project Boundary
2 Wheel Drive Road
4 Wheel Drive Road
ATV Trail
Miles
0 0.125 0.25 0.5 0.75 1
N
W E
S
Wallace
Shoshone County
Idaho
No warranty is made by the Bureau of Land Management for use of the data for purposes not intended by BLM.
This map was created by Larry Kaiser on 12/01/2008

Appendix VIII

The WATSED Model/ Description and Limitations

Anticipated sediment and water yield runoff modification for the Placer Creek watershed was estimated from the methods documented in the R1/R4 Sediment Guides, WATSED Model Limitations, and the WATBAL Technical User Guide. The version calibrated for the Idaho Panhandle National Forests (IPNF's), known as WATSED, is an analysis tool that spatially and temporally organizes typical watershed response relationships as a result of forest practices. The estimated responses are combined with other sources of information and analyses to help determine the findings of probable effects.

WATSED estimates a series of anticipated annual values over a period of years. The model predicts an estimate of most likely mean annual sediment loads (reported as tons per square mile per year, or as routed tons per year), and the expected sediment load modifications over time. The estimate of additional loading is expressed as a percent of the "natural" (i.e., historic mean load prior to significant development activities) sediment load, which is based on the history of disturbances and average climate patterns in the watershed. In this analysis, the existing condition represents the year 2006, which is prior to any anticipated disturbances related to the proposed activities.

The estimates of sediment and peak flow reflect how watersheds with similar conditions and land types have responded over time to a similar history of disturbance. WATSED is neither intended nor designed to model event-based processes and functions, or specific in-channel responses. It does, however, incorporate the results of those processes in the calibration of its driving coefficients. WATSED does not evaluate increases in sediment and peak flows specifically resulting from "rain-on-snow" events or other stochastic events, nor does it attempt to estimate in-channel and stream-bank erosion. The IPNFs frequently validate the WATSED coefficients and estimates using long-term water quality monitoring networks on the IPNF's.

The forest management activities used to calibrate the model include standard BMPs and Soil and Water Conservation Practices; therefore, standard BMPs and Soil and Water Conservation Practices are necessary requirements for maintaining an effective confidence level in the model's use. Non-standard BMPs, management or natural disturbances not related to forest practices, and site-specific non-standard BMPs must be integrated into the final analysis to fully determine watershed response.

WATSED was designed to address a complex array of land types and disturbances within the context of a watershed, and organize the evaluation according to rule sets established by the author and cooperators. In the case of WATSED, the rule sets reflect watershed processes and functions based on research, data, and analyses collected locally and regionally. Forest Plan monitoring reports describe how the calibration and validation of WATSED has been an annual process on the IPNF's and where changes have been made. The model, however, also includes simplifying assumptions, and does not include all possible controlling factors. Therefore, the use of models only provides one set of information to the technical user, who, along with knowledge of the model and its limitations, other models, data, analysis, experience and judgment must integrate all those sources to make the appropriate findings and conclusions.

Appendix IX – References to Literature Cited

Introduction and Proposed Action

Agee, J.K. 2002. The fallacy of passive management. Conservation in Practice 3(1):18-25.

Agee, J.K., Finney, M.A., Omi, P.N., Skinner, C.N. 2000. The Use of Fuelbreak in Landscape Fire Management. Oregon State University. For. Ecol. Manage. 127(1-3):55-66.

Arno, S.F. H.Y. Smith and M.A. Krebs. 1997. Old growth ponderosa pine and western larch stand structure: influences of pre-1900 fires and fire exclusion. USDA Forest Service, Intermountain Research Station research Paper INT-RP-495.

Arno, S.F., and C.E. Fiedler. 2005. Mimicking nature's fire: Restoring fire-prone forests in the West. Island Press, Washington, D.C. 242 p.

Brown, R.T. 2002. Thinning, Fire and Forest Restoration. Defenders of Wildlife, 3rd printing October 2002.

Brown, R.T., Agee, J.K. and Jerry F. Franklin. 2004. Forest Restoration and Fire: Principles in the Context of Place. Conservation Biology, pgs.903-912, Volume 18, No. 4. August 2004.

Christiansen, E., R.H. Waring and A.A. Berryman. 1987. Resistance of conifers to bark beetle attack. Searching for general relationships. For. Ecol. Manage. 22:89-109.

Christensen, N.L. 1988. Succession and natural disturbance: paradigms, problems, and preservation of natural ecosystems. Pages 62-68 in J.K. Agee and D.R. Johnson, editors. Ecosystem management for parks and wilderness. University of Washington Press, Seattle.

Cohen, J.D. 2000. Preventing disaster: home ignitability in the Wildland-urban interface. Journal of Forestry 98 (3): 15-21

Edmonds, R.L., J.K. Agee and R.I. Gara. 2000. Forest health and protection. McGraw-Hill co., Inc. San Francisco, CA p. 630.

Emmingham, W.H., Oester, W.H., Fitzgerald, S.A. and W.D. Edge. 2005 Ecology and management of eastern Oregon forests. Manual 12, Oregon State Univ. Ext. Serv., Corvallis, OR p. 208.

Fiedler, C.E. 1996. Silvicultural applications: restoring ecological structure and process in ponderosa pine forests. Pages 39-40 in C.C. Hardy and S.F. Arno, editors. The use of fire in forest restoration. General technical report INT-GTR-341. U.S. Department of Agriculture Forest Service Intermountain Research Station, Ogden, Utah.

Filip, G.M., Schmitt, C.L., Scott, D.W. and S.A. Fitzgerald. 2007. Understanding and Defining Mortality in Western Conifer Forests. West. J. Appl. For 22(2) 2007.

Finney,M.A., 2001. Design of Regular Landscape Fuel Treatment Patterns for Modifying Fire Growth and Behavoir. Forest Science 47 (2) 2001.

Fulé, P.Z., McHugh, C., Heinlein, T.A., and W.W. Covington, W.W. 2001. Potential Fire Behavoir is Reduced Following Forest Restoration Treatments. USDA Forest Service Proceedings RMRS-P-22.

Fulé, P.Z., M.M. Moore, and W.W. Covington. 1997. Determining reference conditions for ecosystem management in southwestern ponderosa pine forests. Ecological Applications 7(3):895-908.

Furnis, R.L. and V.M. Carolin. 1977. Western forest insects. USDA For. Serv. Misc. Pub. 1339, Washington, D.C. p. 654.

Furniss, M.J., Roelofs, T.D., and C.S. Yee. 1991 Road construction and maintenance. Pages 297-323 in W.R. Meehan, editor. Influences of forest and rangeland management on salmonid fishes and their habitats. Special publication 19. American Fisheries Society, Bethesda, Maryland.

Gast, W. Jr., Scott, D., Schmitt, C., Clemens, D., Howes, S., Johnson, C., Mason, R., Mohr, F. and C. Clapp. 1991. Blue Mountains forest health report: New perspectives in forest health. USDA For. Serv. PNW Reg. Malheur, Umatilla, and Wallowa-Whitman Nat. For., Baker City, OR

Graham, Russell T., A. Harvey, T.B. Jain and J.R. Tonn. 1999. The Effects of Thinning and Similar Stand Treatments on Fire Behavoir in Western Forests. USDA Forest Service General Technical Report PNW-GTR-463

Graham, R.T., S. McCaffrey, and T.B. Jain. 2004. Science basis for changing forest structure to modify wildfire behavior and severity. USDA Forest Service General Technical Report RMRS-GTR-120.

Green, L.R. 1977. Fuelbreak and other fuel modification for Wildland fire control. USDA Agr. Hdbk. 499.

Helms, J.A. 1979. Positive effects of prescribed burning on wildfire intensities. Fire Manage. Notes 40 (3):10-13.

Hopkins, A.D., 1909. Some insects injurious to forests. P.57-101 in Insect depredation in North American forests and practical methods of prevention and control. USDA Bur. Ent. Bull o. 58, Part V, Washington, D.C.

Hummel, S., and J.K. Agee. 2003. Western spruce budworm defoliation effects on forest structure and potential fire behavior. Northwest Science 77:159-169.

Interior Columbia Basin Ecosystem Management Project (ICBEMP). 2000. Supplemental draft environmental impact statement. ICBEMP, Boise, Idaho.
Jones et al. 2000;

Kaufmann, G.A. and W.W. Covington. 2001. Effects of prescribed burning on mortality of presettlement ponderosa pines in Grand Canyon National Park. P.36-42 in Proc. Of conf. on Ponderosa pine ecosystems restoration and conservation: Steps toward stewardship, USDA For. Serv. Proc. RMRS-P-22. USDA For. Serv., Rocky Mountain Res. Sta., Fort Collins, CO. P. 188.

Kolb, T.E., Holmberg, M.R. and J.E. Stone. 1998. Regulation of ponderosa pine foliar physiology and insect resistance mechanisms by basal area treatments. Tre Physiol. 18:375-381

Mitchell, R.G., Waring, R.H. and G.B. Pitman. 1983. Thinning lodgepole pine increases tree vigor and resistance to mountain pine beetle. For. Sci. 29:204-211.

Moore, M.M., Covington, W.W. and P.Z. Fule. 1999. Reference conditions and ecological restoration: a southwest ponderosa pine perspective. Ecological Applications 9:1266-1277.

Noss, R.F. and A.Y. Cooperrider. 1994. Saving nature's legacy: protecting and restoring biodiversity. Island Press, Washington, D.C.

Omi, P.N. 1996. The role of fuelbreaks. P. 89-96 in Proc. 17th Annual Forest Vegetation Management Conf., Redding, CA.

Pollett, J and P.N. Omi. 2002. Effects of thinning and prescribed burning on wildfire severity in ponderosa pine forests. International Journal of Wildland Fire 11: in press.

Pyne, S.J., P.L. Andrews and R.D. Laven. 1996. Introduction to Wildland Fire, second edition. John Wiley & Sons, New York.

Quigley, T.M., Haynes, R.W., and R.T. Graham 1996. Integrated scientific assessment for ecosystem management in the interior Columbia Basin and portions of the Klamath and Great Basins. GTR. PNW-GTR-382. Portland, OR. USDA, BLM. Pacific Northwest Research Station.

Raymond, C.L., and D.L. Peterson 2005. Fuel treatments alter the effects of wildfire in a mixed-evergreen forest, Oregon USA. Can. J. For. Res. 35: 2981-2995 (2005) DOI: 10.1139/X05-206.

Rieman, B.E. and J. Clayton. 1997. Wildfire and native fish: issues of forest health of sensitive species. Fisheries 22(11):6-15.

Rothermel, R.C. 1991. Predicting behavior and size of crown fires in the northern Rocky Mountains. USDA Forest Service General Technical Report INT-439, Intermountain Forest and Range Experiment Station, Ogden, UT.

Sackett, S.S., and S.M. Haase. 1998. Two case histories for using prescribed fire to restore ponderosa pine ecosystems in northern Arizona. P.380-389 in Proc. Tall Timbers fire ecology conference fire in ecosystem management. Shifting the paradigm from suppression to prescription, Pruden, T.L. and L.A. Grennan (eds.) No. 20, Tall Timbers Research Station, Tallahassee, FL.

Schowalter, T.D. and G.M. Filip (EDS.) 1993. Beetle-pathogen interactions in conifer forests. Academic Press, London. 252 p.

Scott, J.H. and E.D. Reinhardt. 2001. Assessing crown fire potential by linking models of surface and crown fire behavior. Research paper RMRS-RP-29. U.S. Department of Agriculture Forest Service, Rocky Mountain Research Station, Fort Collins, Colorado.

Stephenson, N.L. 1999. Reference conditions for giant sequoia forest restoration: structure, process, and precision. Ecological Applications 9:1253-1265.

Swezy, D.M. and J.K. Agee. 1991. Prescribed fire effects on fine root and tree mortality in old growth ponderosa pine. Can. For. Res. 21:626-634.

Thomas, T.L. and J.K. Agee. 1986. Prescribed fire effects on mixed conifer forest structure at Crater Lake, Oregon. Can. J. For. Res. 16:1082-1087

Trombulak, S.C. and C.A. Frissell. 2000. Review of ecological effects of roads on terrestrial and aquatic communities. Conservation Biology 14:18-30

Van Wagtendonk, J.W. 1996. Use of a deterministic fire growth model to test fuel treatments. P. 1155-1165 in Sierra Nevada Ecosystem Project: Final report to Congress, Vol. II. Assessments and scientific basis for management options. Univ. Cal Davis Center for Water and Wildland Resources, Davis, CA.

Waring, R.H. and G.B. Pitman. 1983. Physiological stress in lodgepole pine as a precursor for mountain pine beetle attack. Z. Angew. Entomol. 96:265-270.

Waring, R.H. and G.B. Pitman. 1985. Modifying lodgepole pine stands to change susceptibility to mountain pine beetle. Ecology 66:889-897.

Water Quality Reference

State of Idaho Department of Environmental Quality. 2000. PWSNO 1400019, East Shoshone County Water District – Wallace Source Water Assessment Report

Threatened, Endangered, and Sensitive Species References

Greenlee, J. 1997. Cypripedium fasciculation conservation assessment. USDA Forest Service,Region 1. Lolo National Forest, Missoula, Montana.

Lichthardt, J. 1997. Monitoring of rare plant populations on the Clearwater National Forest.

Idaho Department of Fish and Game, Natural Resource Policy Bureau, Boise, Idaho.

USDA Forest Service. 2006. Placer Resource Area Environmental Assessment. USDA Forest Service, Idaho Panhandle National Forests, Coeur d'Alene River Ranger District.

USDA Forest Service. 2006. Placer Resource Area Environmental Assessment— Specialist's Report on Threatened, Endangered and Sensitive Plants in the Placer Resource Area. USDA Forest Service, Idaho Panhandle National Forests, Coeur d'Alene River Ranger District.

USGS. 2008. Stream Stats. Available at http://water.usgs.gov/osw/streamstats/idaho.html.

Fisheries References

Benda, L., D. Miller, P. Bigelow and K. Andras. 2003. Effects of post-wildfire erosion on channel environments, Boise River, Idaho. Forest Ecology and Management 178: 105-119.

Bisson, P. A., B. E. Rieman, C. Luce, P. F. Hessburg, D. C. Lee, J. L. Kershner, G. H. Reeves and R. E. Gresswell. 2003. Fire and aquatic ecosystems of the western USA: current knowledge and key questions. Forest Ecology and Management 178: 213-229.

Chamberlain, T. W., R. D. Harr and F. H. Everest. 1991. Timber Harvesting, Silviculture, and Watershed Processes. *In* Influences of Forest and Rangeland Management on Salmonid Fishes and Their Habitats. American Fisheries Society Special Publication 19:181-205.

Downs, C. C. 2000. Kootenai River Fisheries Investigations: Rainbow Trout Recruitment. 1998 Annual Report to Bonneville Power Administration. Project88-65. Idaho Department of Fish and Game, Boise, Idaho.

Dunham, J. B., M. K. Young, R. E. Gresswell and B. E. Reiman. 2003. Effects of fire on fish populations: landscape perspectives on persistence of native fishes and nonnative fish invasions. Forest Ecology and Management 178: 183-196.

DuPont, J. and N. Horner. 2006. Coeur d'Alene River Snorkel Surveys. Idaho Department of Fish and Game, Panhandle Region.

DuPont, J. and N. Horner. 2005. *Draft* Regional Fisheries Management Investigations: Bull Trout Redd Counts. Idaho Department of Fish and Game, F-71-R-28, Subproject I-A Panhandle Region, Job No. c-1, 2003 Annual Performance Report, Boise, Idaho.

DuPont, J. and N. Horner. 2003. Regional fisheries management investigations, Idaho Department of Fish and Game, Federal Aid in Fish Restoration, F-71-R-28, Job c-2, 2003 Performance Report, Cutthroat Trout Trend Assessment. Boise, Idaho.

Everest, F. H., J. R. Sedell, N. B. Armantrout, T. E. Nickelson, S.M. Keller, J.M. Johnston, W. D. Parante, and G. N. Haugen. 1985. Chapter 10: Salmonids. In E.R. Brown ed.

Management of Wildlife and Fish Habitats in Forests of Western Washington and Oregon. 1985. U.S. Department of Agriculture, Forest Service, Pacific Northwest Region, and U.S. Department of Interior, Bureau of Land Managemnent.

Furniss, M.J., T.D. Roelofs, and C. S. Yee. 1991. Timber Harvesting, Silviculture, and Watershed Processes. *In* Influences of Forest and Rangeland Management on Salmonid Fishes and Their Habitats. American Fisheries Society Special Publication 19:297-323.

Gresswell, R. E. 1999. Fire and Aquatic Ecosystems in Forested Biomes of North America. Transactions of the American Fisheries Society 128: 193-221.

May, C.L. and R. E Gresswell. 2003. Large wood recruitment and redistribution in headwater streams in the southern Oregon Coast Ranges, U.S.A. Can. J. For. Res. 33(8): 1352-1362.

Mink, L.L., R.E. Williams, and A.T. Wallace. 1971. Effects of industrial and domestic effluents on the Coeur d'Alene River basin. Idaho Bureau of Mines and Geology. Pahphlet 140. Moscow, Idaho.

Murphy, M. L. and K. V. Koski. 1989. Input and depletion of woody debris in Alaska streams and implications for streamside management. N. Am. J. Fish. Manage. 9: 427-436.

Rabe, F.W. and D.C. Flaherty. 1974. The river of green and gold: A pristine wilderness dramatically affected by man's discovery of gold. Natural Resource Series Number 4. Idaho Resource Foundation, Inc. Moscow, Idaho.

Rieman, B. E., D. Lee, D. Burns, R. Gresswell, M. Young, R. Stowell, J. Rinne and P. Howell. 2003. Status of native fishes in the western United States and issues for fire and fuels management. Forest Ecology and Management 178: 197-211.

USDA Forest Service. 1995. Interim strategies for managing fish-producing watersheds in eastern Oregon and Washington, Idaho, western Montana and portions of Nevada (INFISH). USDA Forest Service, Washington, D.C.

USDA Forest Service. 2006. Placer Resource Area Environmental Assessment; Specialist's Report on Aquatic Resources in the Placer Resource Area. Coeur d'Alene River Ranger District, Idaho Panhandle National Forests.

USDI Fish and Wildlife Service. 1999. Recovery Plan for the White Sturgeon (*Acipenser transmontanus*): Kootenai River Population. U.S. Fish and Wildlife Service, Portland, Oregon. 96 pp. plus appendices.

USDI Fish and Wildlife Service. 2002. Chapter 4, Kootenai River Recovery Unit, Oregon. 89 pp. *In*: U.S. Fish and Wildlife Service. Bull Trout (*Salvelinus confluentus*) Draft Recovery Plan. Portland, Oregon.

Wondzell, S. M. and J. G. King. 2003. Postfire erosional processes in the Pacific Northwest and Rocky Mountain regions. Forest Ecology and Management 178: 75-87.

Wildlife References

Beck, J.M., J. Janovetz, and C.R. Peterson. 1998. Amphibians of the Coeur d'Alene basin: a survey of Bureau of Land Management Lands. Tech. Bull. No. 98-3, Idaho Bureau of Land Management, Boise. 13 pp plus tables, figures, and appendices.

Brown, T.K. and L. Bright. 1997. Wildlife habitat preservation and enrichment during and after fires. Pp 65-67 in J.M. Greenlee (editor). 1997. Proceedings, fire effects on rare and endangered species and habitats, November 1995, Coeur d'Alene, ID. International Association of Wildland Fire, Fairfield, WA. 343 pp.

Bull, E.L., C.G. Parks, and T.R. Torgersen. 1997. Trees and logs important to wildlife in the Interior Columbia River Basin. Gen. Tech. Rep. PNW-GTR-391. Pacific Northwest Research Station, USDA, Forest Service, Portland, OR. 55 p.

Bureau of Land Management. 2001. Forest vegetation information system. Version 1.1, Release date 9/20/01, National Science and Technology Center, Denver, CO.

Bureau of Land Management. 2006. Biological assessment for the Coeur d'Alene Resource Management Plan. Coeur d'Alene, ID.

Draheim, G.S., M. Terra-Berns, J.F. Shepherd, K.M. Kuttner, J.W. Beals, C.E. Harris, and W. Melquist. 1998. Northern goshawk surveys on BLM lands within the St. Joe Mountains of northern Idaho. Tech. Bull. No. 98-19, Idaho Bureau of Land Management, Boise. 12 pp.

Fish and Wildlife Service. 2006. Biological opinion for the Coeur d'Alene Resource Management Plan, Bureau of Land Management. FWS Ref. 1-9-06-F-0092. Spokane, WA.

Forest Service. 2005. Forest vegetation simulator growth and yield model. Training Manual and Reference Guides available at www.fs.fed.us./fmsc/fvs. USDA, Forest Service, Fort Collins, CO.

Forest Service. 2006. Placer Resource Area environmental assessment under authority of the Healthy Forest Restoration Act. Coeur d'Alene River Ranger District, Idaho Panhandle National Forests.

Hejl, S.J., R.L. Hutto, C.R. Preston, and D.M. Finch. 1995. Effects of silvicultural treatments in the Rocky Mountains. Pp 220-244 in T.E. Martin and D.M. Finch (editors). 1995. Ecology and management of neotropical migratory birds: a synthesis and review of critical issues. Oxford University Press, New York, NY. 489 pp.

Idaho Conservation Data Center. 2008. Database of rare plants and animals. Idaho Department of Fish and Game, Boise.

Keller, B.L. 2001. Assessment of inactive mines as bat habitat in northern Idaho: summary of BLM research 1994-99. Tech. Bull. No. 01-5, Idaho Bureau of Land Management, Boise. 60 pp plus appendices.

Knetter, S. and J. Hayden. 2008. Forest carnivore inventories of northern Idaho, 2006-2007. Challenge Cost-Share report prepared for the Bureau of Land Management, Coeur d'Alene. Idaho Fish and Game. 33 pp.

Moeur, M. 1985. COVER: A user's guide to the CANOPY and SHRUBS extension of the stand Prognosis model. Gen. Tech. Rep. INT-190 available at www.fs.fed.us/fmsc/ftp/fvs/docs/gtr/cover.pdf. USDA, Forest Service, Ogden, UT. 49 p.

Moeur, M. 1986. Predicting canopy cover and shrub cover with the Prognosis-COVER model. Pp. 339-345 *in* J. Verner, M.L. Morrison, and C.J. Ralph (editors). 1986. Wildlife 2000. The University of Wisconsin Press, Madison. 470 pp.

Rosenberg, K.V. and M.G. Raphael. 1986. Effects of forest fragmentation on vertebrates in Douglas-fir forests. Pp. 263-272 *in* J. Verner, M.L. Morrison, and C.J. Ralph (editors). 1986. Wildlife 2000. The University of Wisconsin Press, Madison. 470 pp.

Smith, F.W. and J.N. Long. 1987. Elk hiding and thermal cover guidelines in the context of lodgepole pine stand density. Western Journal Applied Forestry. Vol. 2:6-10.

Smith, J.K., editor. 2000. Wildland fire in ecosystems: effects of fire on fauna. General Technical Report RMRS-GTR-42-vol. 1, USDA, Forest Service, Rocky Mountain Research Station, Ogden, UT. 83 pp.

Thomas, JW. 1979. Wildlife habitats in managed forests, the Blue Mountains of Oregon and Washington. Agricultural Handbook No. 553. USDA, Forest Service, Washington, DC: 512 p.

Van Dyck, M.G. 2005. User's guide to the post processors for the forest vegetation simulator. Available at http://www.fs.fed.us/fmsc/ftp/fvs/docs/gtr/postprocessors.pdf. USDA, Forest Service, Fort Collins, CO.

Whitcomb, R.F, C.S. Robbins, J.F. Lynch, B.L. Whitcomb, M.K. Klimkiewicz, and D.Bystrak. 1981. Effects of forest fragmentation on avifauna of the eastern decidous forest. Pp 125-205 *in* J. Verner, M.L. Morrison, and C.J. Ralph (editors). 1986. Wildlife 2000. The University of Wisconsin Press, Madison. 470 pp.

Wykoff, W.R., N.L. Crookston, and A.R. Stage. 1982. User's guide to the stand Prognosis model. Gen. Tech. Rep. INT-133 available at http://www.fs.fed.us/fmsc/ftp/fvs/docs/gtr/prognosis_guide.pdf. USDA, Forest Service, Ogden, UT.

Soils References

USDA Forest Service. 2006. Placer Resource Area Environmental Assessment Specialist's Report on Soils in the Placer Resource Area. USDA Forest Service, Idaho Panhandle National Forests, Coeur d'Alene River Ranger District.

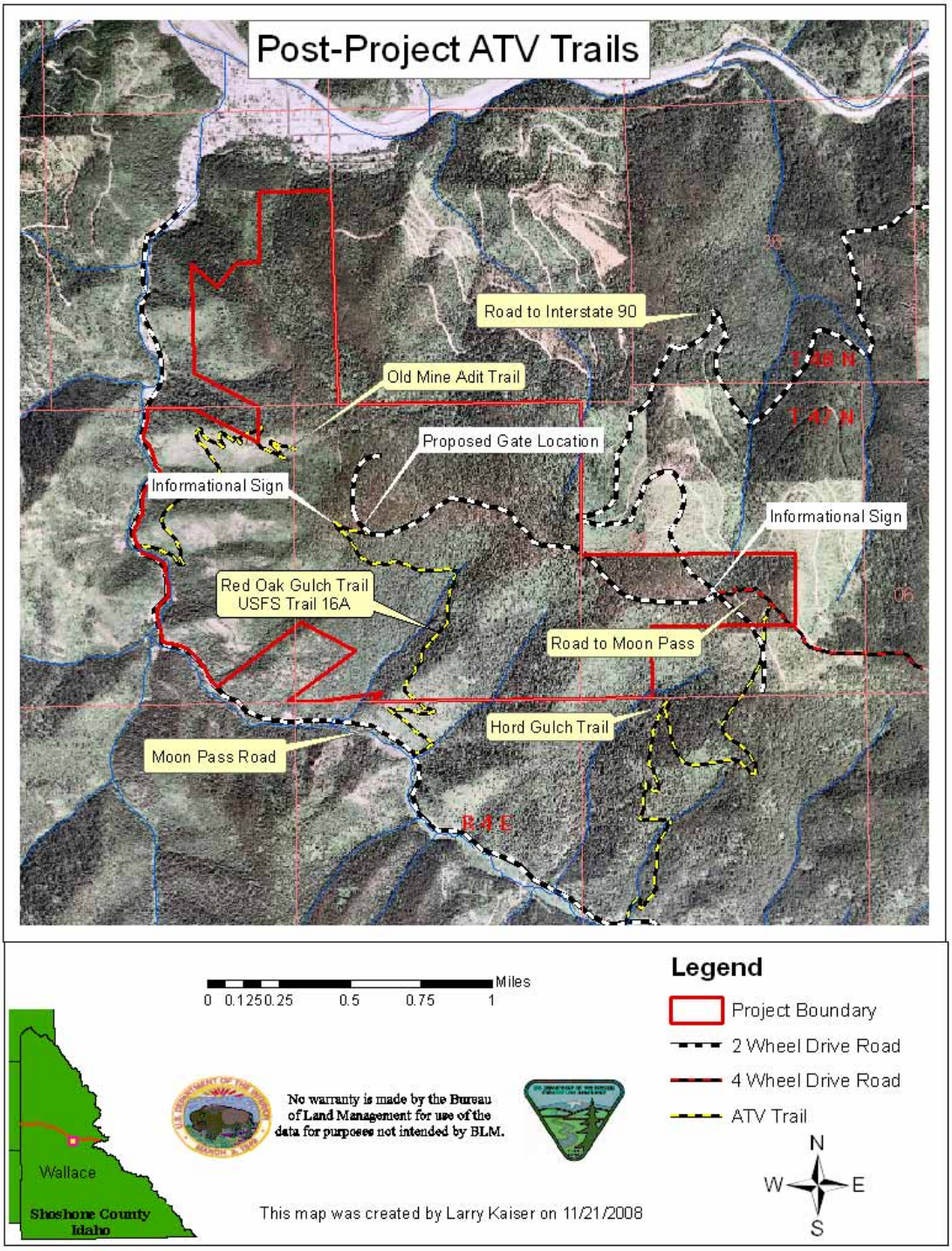
USDA. 2002. Soil Survey of St. Joe Area, Parts of Benewah and Shoshone Counties, Idaho USDA Forest Service. 2006. Placer Resource Area Environmental Assessment—Specialist's Report on Fire and Fuels in the Placer Resource Area. USDA Forest Service, Idaho Panhandle National Forests, Coeur d'Alene River Ranger District.

Economic and Social Values References

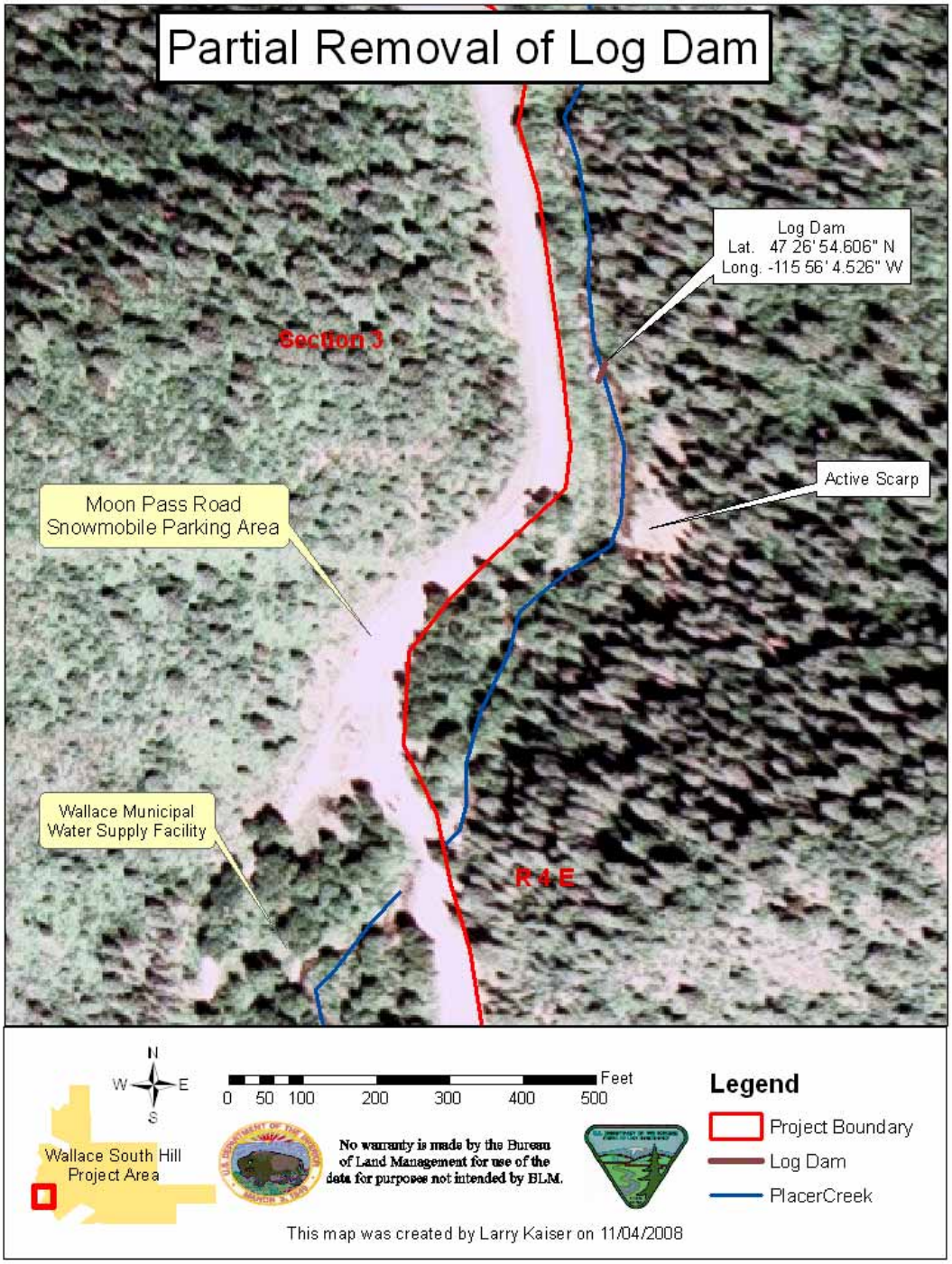
Idaho Department of Labor. 2009. Seasonally Adjusted Unemployment Data available at http://lmi.idaho.gov.

U.S. Census Bureau. 2009. State and County Quick Facts, Shoshone County, Idaho available at http://quickfacts.census.gov/qfd/states/16/16079.html.

Appendix V.2


Post-Project ATV Trails
Road to Interstate 90
Old Mine Adit Trail
Proposed Gate Location
Informational Sign
Informational Sign
Red Oak Gulch Trail
USFS Trail 16A
Road to Moon Pass
Hord Gulch Trail
Moon Pass Road
T 48 N
T 47 N
R 4 E
06
Miles
0 0.125 0.25 0.5 0.75 1
Legend
Project Boundary
2 Wheel Drive Road
4 Wheel Drive Road
ATV Trail
N
W
E
S
Wallace
Shoshone County
Idaho
No warranty is made by the Bureau of Land Management for use of the data for purposes not intended by BLM.
This map was created by Larry Kaiser on 11/21/2008

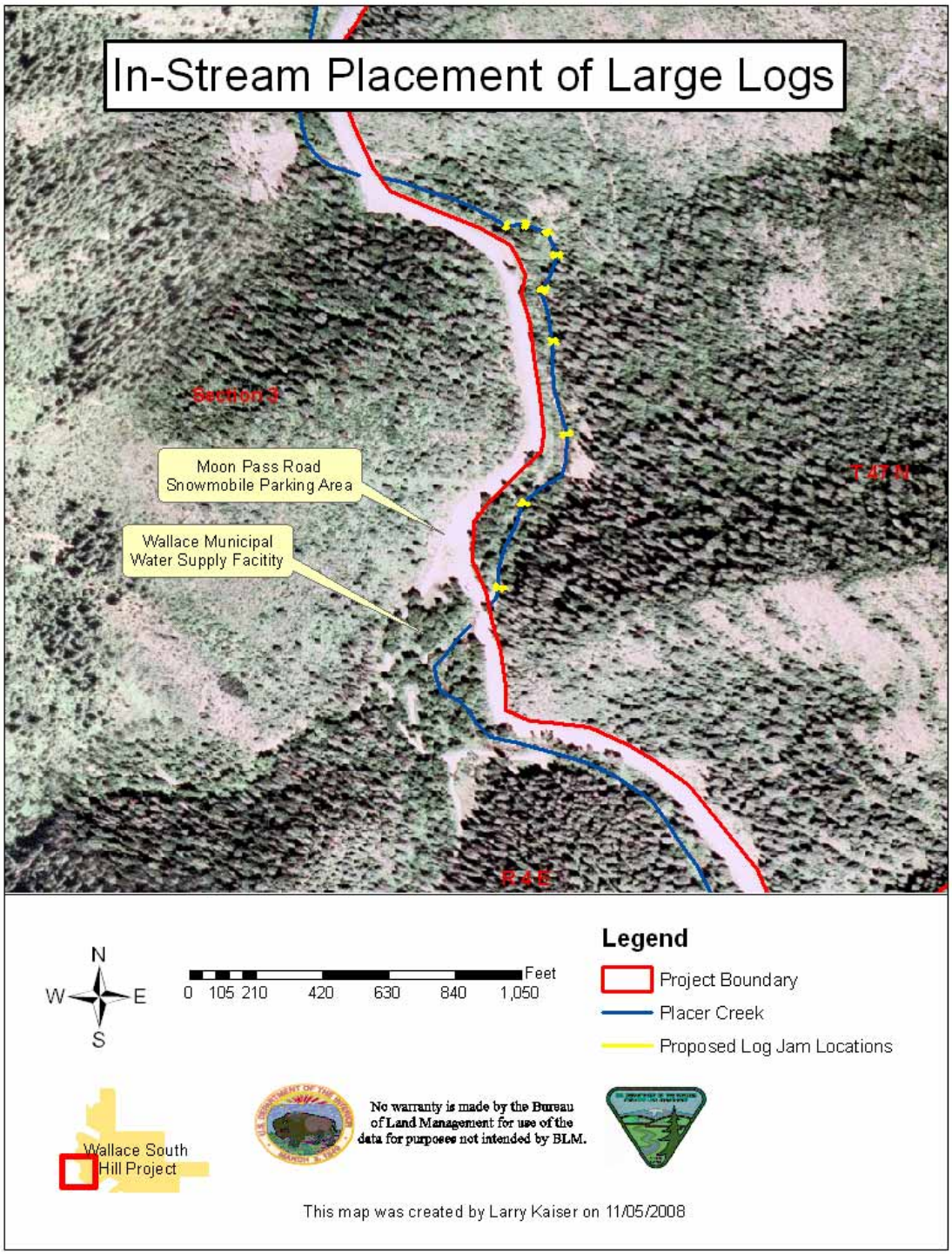
Appendix VI.2



Appendix VI.3

Appendix VI.4

Appendix VI.5

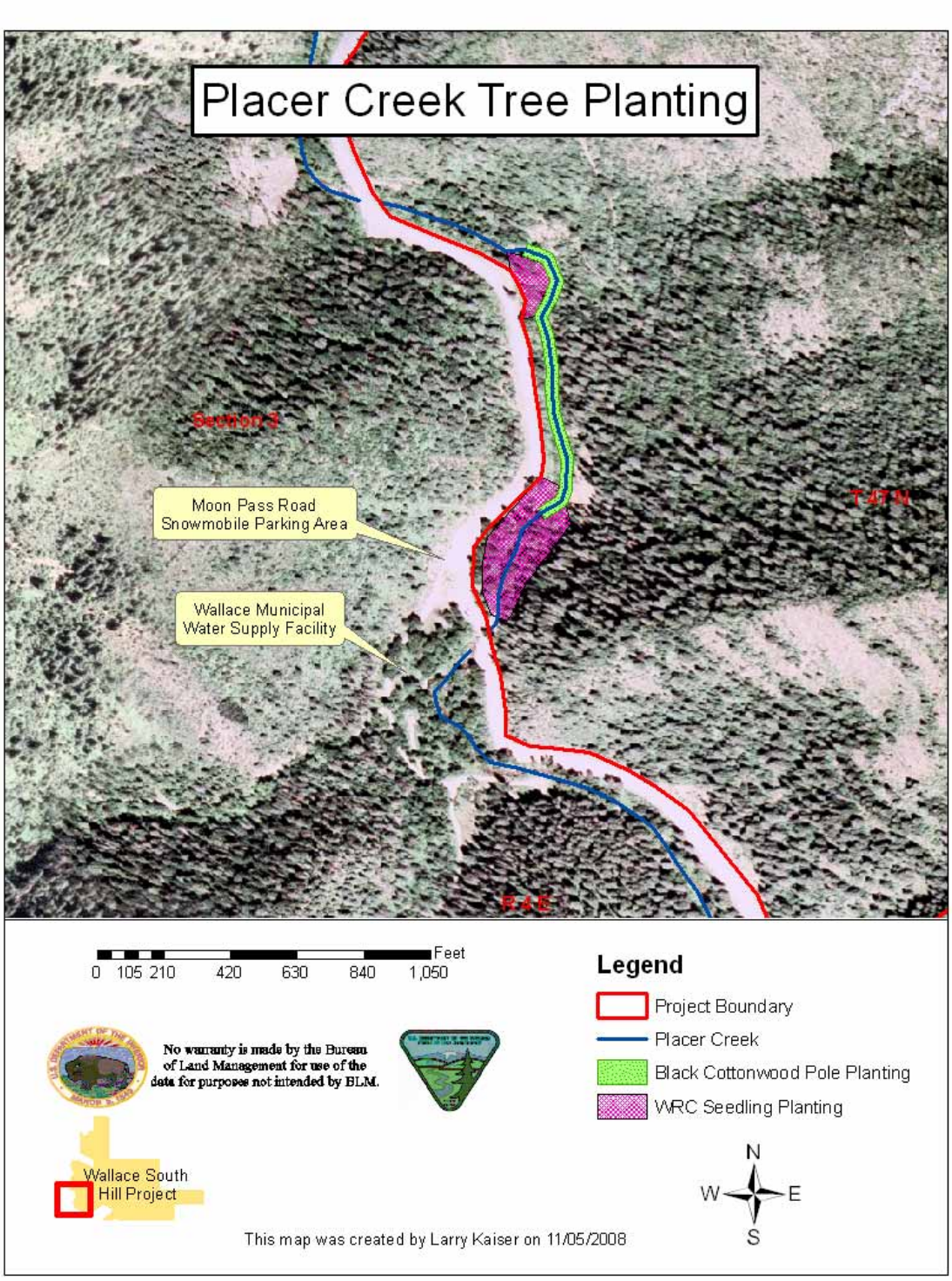


Appendix VI.6

Existing Scarp Undercut by Placer Creek

Proposed Action to Stabilize Scarp

Appendix VI.7



Appendix VII.1

Photo 1 - South Hill Scenic View of Wallace

Photo 2 – South Hill Skyline (middleground) & Stripped Peak (background)

Finding Of No Significant Impact (FONSI)
for the
Wallace South Hill Project Environmental Assessment
EA No. ID-410-2006-EA-1050

BLM – Coeur d'Alene Field Office

I have reviewed the direct, indirect and cumulative effects of the proposed activities documented in Chapter 5 of the Environmental Assessment (EA) for the Wallace South Hill Project. I have also reviewed the project record for this analysis. Implementing regulations for NEPA (40 CFR 1598.27) provide criteria for determining the significance of effects. Significant, as used in NEPA, requires consideration of both context and intensity.

(a) Context. This means that the significance of an action must be analyzed in several contexts such as society as a whole (human, national), the affected region, the affected interests, and the locality. Significance varies with the setting of the proposed action. For instance, in the case of a site-specific action, significance would usually depend upon the effects in the locale rather than in the world as a whole. Both short- and long-term effects are relevant (40 CFR 1508.27):

The disclosure of effects in the EA found the actions limited in context. The project area is limited in size and the activities limited in duration. Effects are local in nature and are not likely to significantly affect regional or national resources.

(b) Intensity. This refers to the severity of impact. Responsible officials must bear in mind that more than one agency may make decisions about partial aspects of a major action. The following are considered in evaluating intensity (40 CFR 1508.27):

(1) Impacts that may be both beneficial and adverse. A significant effect may exist even if the Federal agency believes that on balance the effects will be beneficial.

Impacts associated with the project are discussed in Chapter 5 of the EA. These include short-term and long-term effects as well as beneficial and adverse effects. The proposed actions would not have significant impacts on resources identified and described in Chapter 4.

(2) The degree to which the proposed action affects public health or safety.

The proposed activities would not significantly affect public health and safety. The project is designed to reduce the public health and safety risks associated with a wildfire in this area. Forest health and fuel reduction activities would be conducted in a safe manner to protect the public (EA, Chapter 2). Similar actions have not significantly affected public health and safety.

The proposed project includes the use of prescribed fire which could affect public health and safety. The risk of an escaped fire would be low due in part to the design of the project, including construction of fire lines and fuel breaks; reduced fuels along the BLM/private land

boundary; fire management expertise and use of experienced crews; and the availability of the necessary fire suppression resources. Extensive agency experience with similar local projects and conditions show the risk of an escaped fire is low. Appropriate warning signs and public announcements would be used to notify recreationists and other public land users of logging and burning activities. No degradation of water quality is expected as a result of these proposed activities (EA, page 44). A short-term minor impact may occur to local air quality from the prescribed burning/underburning treatments and the burning of logging slash. However, burning would be done in accordance with State air quality standards and within burning periods approved by the State of Idaho (EA, page 33).

(3) Unique characteristics of the geographic area such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas.

There would be no adverse effects to historic places or loss of scientific, cultural, historical, or other unique resources (EA page 25). This project is in compliance with the agreement between the State Historic Preservation Office and the Advisory Council on Historic Preservation.

There are no parklands, prime or unique farmlands, or wild and scenic rivers within the affected area.

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

An analysis of the proposed action and alternatives have been conducted using the best information available and the latest methods of analyzing data by professionals in their respected disciplines. Throughout the analysis process, public comments varied in their recommendations on ways to best manage resources within the project area. However, the effects of the proposed alternatives on the various resources (EA, Chapter 5) are not considered to be highly controversial by professionals, specialists and scientists from associated fields of forestry, wildlife biology and management, fisheries, and hydrology. While the selected alternative may be controversial, I do not believe that there is significant controversy over the effects of this action.

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

Scoping did not identify highly uncertain, unique or unknown risks. The possible effects on the human environment are not highly uncertain nor do they involve unique or uncertain risks. The technical analyses conducted for determining the impacts to the resources are supportable with use of accepted techniques, reliable data, past experience, knowledge of the area, and professional judgment. Impacts are within the limits that are considered thresholds of concern. Therefore, I conclude that there are no highly uncertain, unique, or unknown risks.

(6) The degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration.

Many similar projects have been conducted and are planned for our area of jurisdiction. The forest health conditions of today require active management. This project is not precedent

setting for future actions and is not expect to have any significant effects. This action does not represent a decision in principle about a future consideration.

(7) Whether the action is related to other actions with individually insignificant but cumulatively significant impacts. Significance exists if it is reasonable to anticipate a cumulatively significant impact on the environment. Significance cannot be avoided by terming an action temporary or by breaking it down into small component parts.

This project is similar to activities that have or are taking place on adjacent Forest Service land. Timber harvest activities on adjacent private land have occurred and can be expected to continue and may be for economic reasons as well as reducing fire hazard. The EA includes descriptions of all connected, cumulative, and similar actions in the scope of the analysis. The cumulative effects of past, present, and reasonably foreseeable actions are considered and disclosed in the EA, Chapter 5.

(8) The degree to which the action may adversely affect districts, sites, highways, structures, or objects listed or eligible for listing in the National Register of Historic Places or may cause loss or destruction of significant scientific, cultural, or historical resources.

There are no features in the area affected that are listed or are being considered for listing on the National Register of Historic Places. A cultural resource inventory has been completed in the area, no cultural resources were located (EA, Chapter 4).

(9) The degree to which the action may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species Act of 1973.

The proposed action is not likely to jeopardize the continued existence of gray wolves south of Interstate 90, therefore the BLM will not confer with the U.S. Fish and Wildlife Service regarding the proposed action .

There would be no effect to water howellia (EA, page 39) because there is no potential habitat in the project area. There would be no effect to Spalding's catchfly (EA, page 39) because no habitat exists within the project area. There may be effects to individual Constance's bittercress and clustered lady's-slipper plants, but overall populations would survive. Buffering areas where the populations exist, the use of biological control agents and monitoring during prescribed burning and weed control actions would minimize adverse affects to the plants. When the project is completed, the populations would be monitored to make certain the plant populations were not adversely affected.

(10) Whether the action threatens a violation of Federal, State, or local law or requirements imposed for the protection of the environment.

The action does not violate any Federal, State or local laws or permits imposed for the protection of the environment.

Based upon the review of the test for significance and the environmental analyses conducted, I have determined that the actions analyzed for the Wallace South Hill Project is not a major federal action and that its implementation will not significantly affect the quality of the human

environment. Accordingly, I have determined that an Environmental Impact Statement need not be prepared for this project.

/s/ Eric R. Thomson
Eric Thomson
Field Manager

March 5, 2009
Date

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
COEUR D'ALENE FIELD OFFICE

Decision Record

Proposed Action: Wallace South Hill Project

EA Number: ID-410-2006-EA-1050

Location of Action: T 47 N, R 4 E, B.M. Sections 1, 2 and 3; T 48 N, R 4 E, B.M. Section 34

I. Decision

I have reviewed the public comments on the Proposed Action for the Wallace South Hill Project described in Environmental Assessment ID # ID410-2006-EA-1050. As a result of these comments, my decision is to implement the Proposed Action (as summarized below):

Proposed Action:
1) Utilize thinning and clear cuts with retention harvest systems to treat up to 590 acres within the project area.
2) Emphasize retention of large diameter trees greater than 16 inches.
3) Following site treatments, plant seral type tree species including western larch, and western white pine seedlings in the western hemlock, Douglas-fir and grand fir habitat types. Within the subalpine fir and mountain hemlock habitat types, subalpine fir and Engelmann spruce would be planted in a "stepping-stone" scheme to augment the natural lodgepole pine regeneration. Plant black cottonwood poles and western redcedar seedlings adjacent to Placer Creek.
4) Conduct up to 590 acres of fuel treatments including mechanical, slash pile and prescription burning within the project area.
5) Construct a 2 mile long, 60 acre shaded fuelbreak.
6) Implement effectiveness monitoring of the shaded fuelbreak.
7) Perform maintenance of hazardous fuels within the shaded fuelbreak and treatment units 1, 2 and 4 during the next several years.
8) Construct 1½ miles of new road, realign ½ mile of existing road, decommission 1½ miles of existing road, and maintain approximately ¾ mile of existing road.
9) Upon completion of the project, a locked gate would control access to Units 9 -11.
10) Place large woody debris into Placer Creek.
11) Stabilize an active scarp adjacent to Placer Creek.
12) All noxious weeds will be controlled and monitored.

II. Rationale

The decision is in conformance with the Coeur d'Alene Resource Management Plan and was analyzed in detail. The proposed action would create an environment that will improve the health of the forest by regenerating dying lodgepole pine, thinning understory trees and conserving old trees. Brush fields will be revitalized by prescription burning. The proposed action would create a landscape that is more resilient to wildland fire and protect the urban

interface. The Placer Creek riparian zone will be enhanced by stabilizing an active scarp, partially removing a log dam, placing large logs in the creek to resemble log jams and planting cottonwood poles and western redcedar seedlings.

/s/ Eric R. Thomson *March 5, 2009*
Eric R. Thomson Date
Field Manager

III. Administrative Review Procedures

The decision described in this document is a forest management decision and is subject to protest by the public. In accordance with the Forest Management Regulations under 43 Code of Federal Regulations (CFR) Subpart 5003 – Administrative Remedies, protests may be filed with the authorized officer, Eric R. Thomson, within 15-days of publication of the Notice of Decision in a local newspaper. The publication date of the Notice of Decision in the newspaper of record is the *exclusive* means for calculating the time to file a protest. Protestants should not rely on date or timeframe information provided by any other source.

43 CFR 5003.3 (b) states that: "Protests shall be filed with the Authorized Officer and shall contain a written statement of reasons for protesting the decision." This precludes the acceptance of electronic mail or facsimile protests. Only written and signed hard copies of protests that are delivered to the following address will be accepted:

Eric Thomson, Field Manager
Coeur d'Alene Field Office
3815 Schreiber Way
Coeur d'Alene, Idaho 83815

The protest must clearly and concisely state which portion or element of the decision is being protested and the reasons why the decision is believed to be in error. Protests received more than 15 days after the publication of the notice of decision are not timely filed and shall not be considered.

Upon timely filing of a protest, the authorized officer shall reconsider the project decision to be implemented in light of the statement of reasons for the protest and other pertinent information available. The authorized officer shall, at the conclusion of the review, serve the protest decision in writing to the protesting party(ies). Upon denial of a protest, the authorized officer may proceed with the implementation of the decision.

If no protest is received by close of business within 15 days after publication of the notice of decision, this decision will become final.

Contact Person

For further information regarding this project, contact Larry Kaiser (208-769-5023) or in writing at the above address.

Attachment: NEPA compliance document (EA)