

Addendum 2

to the

PICKETT SNAKE
ENVIRONMENTAL ASSESSMENT

Specifically addressing the southern geographic portion known as the

Pickett Charge Area

EA #OR117-99-18

U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
MEDFORD DISTRICT
GRANTS PASS RESOURCE AREA

July 2005

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
MEDFORD DISTRICT

EA ADDENDUM

RESOURCE AREA: *Grants Pass*

FY & EA: EA #OR117-99-18

ACTION/TITLE: *Pickett Snake Landscape Management Project Addendum 2 - Pickett Charge Area*

LOCATION: T35S, R6W, Willamette Meridian (WM), sections 30 and 31.
T35S, R7W, WM, portions of sections 6, 7, 8, 9, 10, 11, 14, 15, 17, 18, 19, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36.
T36S, R6W, WM, portions of sections 5, 18, 19, 30, and 31.
T36S, R7W, WM, portions of sections 1, 2, 3, 10, 11, 12, 14, 23, 25, 27, 35.

FOR FURTHER

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TABLE OF CONTENTS

1.0 Addendum 2 Introduction / Background.....	1
1.1 Alternative 2 – Changes from the EA to this Addendum (EA p.9)	1
2.0 Environmental Consequences.....	4
2.1 Soil and Water	5
2.2 Botany	8
2.3 Wildlife	14
2.4 Fisheries.....	18
2.5 Historical / Cultural / VRM.....	19
2.6 Fire and Fuels.....	20
2.7 Logging Activity Impacts to Residents	20
Appendix B: Proposed Unit Treatments in the Pickett Charge Area	22
Appendix C: Proposed Road Treatments in the Pickett Charge Area.....	24
Appendix D: References	25

1.0 Addendum 2 Introduction / Background

The Pickett Snake Landscape Management Project Environmental Assessment (EA) was prepared and released for public review and comment in June, 1999.

The Pickett Snake Landscape Management Project Addendum was prepared and released for public review and comment in June, 2002. It addressed the use of the slashbuster for fuel hazard reduction.

The Pickett Snake Landscape Management Project Decision Record / FONSI (June 2002) addressed projects in the northern portion of the project area (T35S, R7W). The Pickett Snake timber sale, which was part of the project, was sold in September 2002.

The Pickett Snake timber sale was the subject of a lawsuit by Klamath Siskiyou Wildlands Center, et al. In June 2004, the District Court of Oregon enjoined the timber sale until the BLM completed supplemental NEPA analysis and documentation that further addressed three issues: 1) the range of alternatives; 2) an evaluation of project impacts on visual resources for the Wild and Scenic Rogue River; and 3) cumulative effects analysis for soils and water.

The BLM addressed the court-identified NEPA deficiencies in the Pickett Snake Landscape Management Project EA Supplement. It is planned for public review in July 2005.

It is anticipated that a second timber sale, Pickett Charge (in the southern portion of the project area), would be sold in September 2005. The purpose of this second addendum is to update the Pickett Snake EA with information regarding the Pickett Charge area. It incorporates corrections to the EA, documents additional analysis of the proposed actions and incorporates new information.

There are no stands in the southern portion of the project area affected by Alternative 3 (EA page 12). Alternative 1, no action, remains the same (EA p.4). This EA addendum will address Alternative 2.

1.1 Alternative 2 – Changes from the EA to this Addendum (EA p.9)

Proposed changes to Alternative 2 as initially described in the EA are described in detail below:

- 530 fewer acres of harvest
- 45 acres originally planned for cable harvest would be tractor harvested
- Two helicopter landing location changes and one new helicopter landing
- Reduced length of operator spurs and changed locations
- A new temporary crossing of an intermittent stream
- One road planned for brushing and alignment would be used as a temporary spur, then decommissioned
- 485 acres of additional fuel hazard reduction in the Grants Pass Community at Risk (CAR)

Appendix B, Proposed Unit Treatments in the Pickett Charge Area, details older stand harvest changes from the Pickett Snake EA, including revised acres, estimated volumes, and logging systems.

1.1.1 Harvest Acres

Many areas were uneconomical to log and subject to Northwest Forest Plan (NWFP) constraints such as red tree vole (RTV) buffers. Even though these areas are excluded from the Pickett Charge timber

sale, they may still be treated for silviculture, special forest products, fuel hazard reduction and possible inclusion into other projects such as stewardship agreements. RTV buffers would still be treated for fuel hazard reduction. Table A-1 compares estimated harvest acres for the Pickett Snake EA (alternative 2, the selected alternative), the Pickett Snake timber sale, and the Pickett Charge proposed timber sale.

Table A-1: Harvest Acre Changes			
Document	Structural Retention Harvest	Commercial Thin with Modified Group Selections	Total Harvest Acres
Pickett Snake EA (1999) proposed harvest*	987	2258	3245
Pickett Snake timber sale (sold in 2002)**	46	1070	1116
Pickett Charge timber sale (planned for 2005)	129 (195 proposed in EA)	223 (687 proposed in EA)	352 (882 proposed in EA)
Change in acres proposed for harvest from the Pickett Snake EA	-812	-965	-1777
* Pickett Snake EA, Table B-2: Summary of Harvest Treatments in Older Seral Stages; Ages 36 to 195+ (Pickett Snake EA, p.68) ** Pickett Snake timber sale contract Exhibit A (p.14) sold in 2002			

1.1.2 Logging Systems

Forty-five acres that were proposed for cable logging in units 27-006 and 021 are on gentle slopes. These areas would be tractor logged instead of cable logged. For project design features for tractor logging, see EA p.16.

Table A-2: Logging Systems Comparison				
Document	Tractor	Cable	Helicopter	Total
Pickett Snake EA*	132	309	441	882
Pickett Snake EA, Addendum 2 (Pickett Charge timber sale)	134	61	146	352
*Condensed from Pickett Snake EA, Table B-2: Summary of Harvest Treatments in Older Seral Stages; Ages 36 to 195+ (South Portion)				

1.1.3 Helicopter Landings

Two helicopter landings planned in T36S, R7W, section 3 would be moved up out of the riparian reserves (see attached map). Road 36-7-27.2 would be widened to achieve a flat area with the minimum standards necessary for a helicopter landing. Locating the landing on an existing road would minimize disturbance to areas without roads.

After logging, helicopter landings would be decompacted to a minimum depth of 18” to encourage more rapid revegetation. Slash placement would make passage with a 4-wheel drive vehicle difficult and discourage further disturbance. Disturbed mineral soil areas would be seeded/mulched with native species.

1.1.4 Temporary Operator Spurs (EA p.15)

Existing Roads

Approximately one half mile of existing, unmaintained roads would be brushed and aligned. After use, the spurs would be decompacted. Slash placement and earthen barriers would reduce or prevent future unauthorized use by OHVs. Disturbed areas would be seeded/mulched with native species. Road 36-7-3 would remain drivable but would be closed with a locked gate.

Riparian Crossing

An intermittent stream (dry most of the year) in T36S, R7W, Section 3 would have a temporary crossing during harvest operations (one or two summer seasons). A minimum amount of vegetation would be removed. A bottom-lay pipe in the draw bottom and rock fill would reduce sedimentation. The road surface (about 300') which traverses the riparian reserve would also be rocked. Crossing construction and pipe removal would occur when the stream is dry.

New Road Construction

A total of .92 miles of 7 short operator spur roads would be constructed to the minimum standards necessary for logging equipment passage. After harvest, all temporary spurs would be decompacted. Slash placement and earthen barriers would reduce future unauthorized OHV use. Disturbed areas would be seeded/mulched with native species.

Road Location	Road Type	New Construction (miles)	Brushing/Alignment (miles)
T36S, R7W, Sec. 3	Proposed Operator Spurs	0.45	
T36S, R7W, Sec. 3	Low Standard Existing Road		0.04
T36S, R7W, Sec. 23	Low Standard Existing Road		0.30
T36S, R7W, Sec. 27	Proposed Operator Spurs	0.47	
T36S, R7W, Sec. 27	Low Standard Existing Road		0.06
Total		0.92	0.40

The total number of proposed temporary operator spurs is less than was originally proposed in the EA. Many areas were uneconomical for commercial harvest and some operator spur construction was avoided through redesign of the logging systems.

Document	Operator Spurs (miles)
Pickett Snake EA proposed operator spurs	2.05 *
Pickett Snake timber sale contract proposed operator spurs	0.32**
Pickett Snake EA Addendum 2 proposed operator spurs	0.92
New operator spurs that <i>would not</i> be built under the timber sale contracts as compared to the EA.	- 0.81
* Pickett Snake EA (p.82), Table C-1: Summary Proposed Road Use, Construction, Renovation, Improvement, Maintenance, and Closures of Roads used for Haul	
** Pickett Snake timber sale contract, Exhibit A	

1.1.5 Botanical Project Design Features

Noxious weeds would be treated using an integrated pest management approach (RMP p. 92). Populations would be contained using appropriate methods based on species and conditions under the guidance of the Medford District Integrated Weed Management Plan (PA-OR110-98-14). All noxious weed populations that are treated would be monitored.

Seed and straw used for revegetation and mulch throughout the project area would be native species and weed free to prevent further noxious weed spread.

For noxious weed prevention, all heavy equipment would be cleaned prior to moving onto BLM lands. Equipment would also be cleaned when moving from known noxious weed areas into weed-free areas.

1.1.6 Fuel Hazard Reduction (EA p.18)

BLM lands have a high fire risk and high fuel hazard near rural residences in the vicinity of Ewe Creek, Artlin Road, and Lower River Road. Additional fuel hazard would occur in T35S, R6W, Sections 30 and 31 (approximately 485 acres). As described in the EA, fuel hazard reduction in the Pickett Charge area would include understory thinning (UT), hand pile/burning (HP), and prescribed burning (UB).

In the original EA, understory thinning included girdling trees 6-12" DBH. In this addendum, understory treatment would not include girdling. The following is a revised description of understory thinning for fuel hazard reduction: Vegetation would be thinned using manual techniques. Trees cut would be ≤ 7 "DBH. Trees and brush ≤ 7 "DBH may be left standing to achieve spacing between leave trees of 14' to 30'. Slash would be piled by hand, covered to provide a dry ignition point and then burned when conditions are appropriate to prevent residual tree scorch or fire escape. Some down material may be removed from the site in the form of poles or firewood.

2.0 Environmental Consequences

Only effects not already addressed in the EA or Addendum 1 will be discussed here. Current conditions in the project area result from a multitude of natural events and human actions that have taken place over many decades. Cumulative effects are defined as the, "impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions" (40 CFR § 1508.7). A description of current conditions inherently includes the effects of past actions and serves as a more accurate and useful starting point for a cumulative effects analysis than by "adding up" the effects of individual past actions. "Generally, agencies can conduct an adequate cumulative effects analysis by focusing on the current aggregate effects of past actions without delving into the historical details of individual past actions." (CEQ Memorandum 'Guidance on the Consideration of Past Actions in Cumulative Effects Analysis' June 24, 2005.) Cataloguing past projects and their individual effects would not be useful in discerning the contribution of the incremental impact of the project's action alternatives. However, cataloguing and analyzing other present and reasonably foreseeable actions relevant to the effects of the proposed action *is* necessary and is described below. By comparing the no action alternative (current condition) to the action alternatives, we can discern the cumulative impact resulting from adding the incremental impact of the proposed action to the current environmental conditions and trends. No individual past actions have been identified that would have a cause-and-effect relationship with the proposals in this EA addendum.

2.1 Soil and Water

Affected Environment (EA p.27)

In preparing the Pickett Snake EA, hydrologic effects analysis was undertaken at a small watershed or “Operational Drainage Area” (ODA) level due to the availability of ODA data. ODAs are small watersheds approximately 1,000 to 5,000 acres in size. Fifth field watersheds are typically 50,000 to 100,000 acres in size. For the Pickett Snake EA, eight ODAs encompassing approximately 34,000 acres (37% of the 5th field watershed) were analyzed for cumulative effects. The Pickett Snake proposal lies within the Rogue-Recreation 5th field Watershed which is comprised of 93,316 acres. The Pickett Charge area is at the south end of the Pickett Snake project area. The Operation Drainage Areas (ODAs) in this area are Shan Rogue (west of the river, sections 10, and 11), Dutcher Rogue (south end, sections 23, 27, 25, and 35) and Finley Rogue (east side of the river).

Environmental Consequences

Changes from the proposals in the EA will be addressed here and will be discussed by operational drainage area (ODA):

Shan Rogue ODA:

- Road realignment and brushing.
- Temporary spur road construction (approximately ½ mile).
- Reduced acres harvested.

Finley Rogue ODA:

- 485 additional acres of fuel hazard reduction.
- Reduced acres harvested

Dutcher Rogue (ODA):

- Two helicopter landings would be moved up out of the riparian reserves and a third would be placed on a widened section of road.
- Road realignment and brushing.
- Temporary spur road construction (approximately ½ mile).
- 45 acres tractor yarding (change from cable yard).
- Reduced acres harvested.

The following table summarizes short and long term effects of the proposed actions by ODA:

Table A-4: Soil and Water Summary Effects				
ODA	Term	Type of Effect	Degree of Effect	Comments
Shan Rogue	Short (1-5 yrs)	Soil Erosion	Few Local Sites	Only at local scale such as site between waterbars on decommissioned spur road
		Soil Productivity	0	
		Stream Sedimentation	0	
		Stream Peak Flows/ Stream Yield	0	
		Water Quality	0	No summer shade changes on streams
	Long	Soil Erosion	0	

Table A-4: Soil and Water Summary Effects

ODA	Term	Type of Effect	Degree of Effect	Comments
	(5-20 yrs)	Soil Productivity	0	
		Stream Sedimentation	0	
		Stream Peak Flows/ Stream Yield	0	
		Water Quality	0	
Finley Rogue	Short (1-5 yrs)	Soil Erosion	Few Local Sites	Only at local scale such as small burn site
		Soil Productivity	Local Increase	On site flush due to burning
		Stream Sedimentation	0	
		Stream Peak Flows/ Stream Yield	0	
		Water Quality	0	No summer shade changes on streams
	Long (5-20 yrs)	Soil Erosion	0	
		Soil Productivity	0	
		Stream Sedimentation	0	
		Stream Peak Flows/ Stream Yield	0	
		Water Quality	0	
Dutcher Rogue	Short (1-5 yrs)	Soil Erosion	Few Local Sites	Only at local scale such as tractor skid trail between water bars
		Soil Productivity	Local Decrease	Due to local unit compaction increase from tractor logging (2 units, section 27)
		Stream Sedimentation	0	
		Stream Peak Flows/ Stream Yield	0	
		Water Quality	0	No summer shade changes on streams
	Long (5-20 yrs)	Soil Erosion	0	
		Soil Productivity	Local Decrease	Due to local unit compaction increase from tractor logging (2 units, section 27)
		Stream Sedimentation	0	
		Stream Peak Flows/ Stream Yield	0	
		Water Quality	0	

Soil productivity in the Dutcher Rogue ODA would decrease over the long term because compacted layers would take 60 to 80 years to recover in fine and mixed textured soils, such as are found in the project area (Froelich et al. 1983). However total area impacted would be less than 6 acres because skid roads would be designated and major skid roads would be ripped (EA p.15). Total acres harvested in the Dutcher-Rogue ODA would be 128 acres less than that originally planned in the EA. The reduced amount of cable yarding (due to reduced harvest overall) balances out with the additional tractor yarding proposed in this addendum. Therefore, the amount of compaction is estimated to remain unchanged in this ODA (and 5th field watershed) from that analyzed in the original EA.

Extremely localized erosion impacts (see table A-4) would not be measurable at the ODA or watershed scales.

Cumulative Effects

Cumulative effects of this project combined with all known on-going or planned projects in the watershed (Maple Syrup, Cenoak, Pickett Snake and Stratton Hog (BLM projects), West Ash Gulch timber sale (Josephine county) and Maple Galice timber sale (Oregon Department of Forestry), would, at the most, produce negligible or immeasurable soil or hydrologic changes at the 5th field watershed

level. Table A-5 summarizes acreages of contemporaneous and foreseeable sales in the Rogue-Recreation 5th field watershed, including harvest types and logging methods. Past management on non-BLM lands were evaluated using aerial photos. It is assumed that private forest lands will be managed for timber production on a 60-year commercial rotation (RMP FEIS Chap. 4-5).

Table A-5: Summary of Recent and Foreseeable BLM Timber Sales in the Rogue-Recreation Watershed

Timber Sale	TS Acres	Helicopter Acres	Ground-based acres	Road Construction (ft)	Date logging completed	CT Acres	SR Acres	TS Tree DBH (ave.)	TS % of Watershed (93,316 ac)	TS % of BLM in Watershed (37,678 ac)	TS % of BLM Matrix in Watershed (19,216 ac)
Maple Syrup	638	454	184	1,905	10/24/2000	638	0	13	0.7%	1.7%	3.3%
Cenoak	333	259	74	0	Not yet started.	314	19	13	0.4%	0.9%	1.7%
Stratton Hog **	379	285	94		Started 5/03.	389	0	12.9	0.4%	1.0%	2.0%
Pickett Snake	1,116	716	400		Not yet started.	1,070	46	13.2	1.2%	3.0%	5.8%
Pickett Charge ***	882	378	504		Not yet sold.	687	195	unk	0.9%	2.3%	4.6%
TOTALS	3,348	2,092	1,256	1,905		3,098	260		3.6%	8.9%	17.4%
Percent of watershed	3.6%	2.2%	1.3%								
% BLM in watershed	8.9%	5.6%	3.3%								
** A portion of Stratton Hog TS is located in the Berlin-Mummer watershed. Only the acres in the Rogue-Recreation section watershed are included here.											
Pickett Charge acre estimates are derived from the proposed action in T36S-R7W (EA table B-3). Final acres in the timber sale are expected to be less.											
North of Rogue River	1,350	998	352	1,905							
South of Rogue River	1,998	1,094	904	0							

West Ash Gulch and Maple Galice are non-federal proposals in the watershed that are not included in Table A-5. West Ash Gulch is a Josephine county timber sale that includes a right-of-way on BLM. As proposed, 2.6 miles of road would be constructed and there would be 133 acres of forest land subject to partial logging predominately by cable yarding with some tractor yarding on ridge tops. Maple Galice, planned by the Oregon Department of Forestry, is a small logging proposal that includes partial logging (cable yarding) on 35 acres. For cumulative effects purposes both proposals are assumed to be within 60 year rotations.

An important consideration in reaching conclusions about potential cumulative impacts on soils and hydrology at the 5th field watershed scale is watershed geography. The watershed is bisected by the Rogue River. The Maple Syrup, Cenoak, Stratton Hog and West Ash Gulch projects as well as 15 acres of the Maple Galice proposal are north of the Rogue River. The Pickett Snake and Pickett Charge timber sales (both are a part of the Pickett Snake Project) and 20 acres of the Maple Galice proposal are south of the river. The tributaries north of the Rogue River do not contribute to the flows of the tributaries south of the Rogue River. Thus, even though these sales are in the same 5th field watershed, their hydrologic effects only accumulate in the Rogue River. The Rogue is a major river whose flow at all times of the year is substantially greater than the inflows from the north or south

halves of the watershed. Any hydrologic changes in the tributary ODAs would be exponentially diluted to immeasurable and inconsequential levels concerning flows of the Rogue River.

A comparison of flow data is indicative of this condition. The Rogue River through the watershed typically flows at rates that are orders of magnitude greater than all the tributaries combined within the Rogue Recreation 5th field watershed. The Rogue River watershed area upstream from the Highway 99 Bridge is 2,459 square miles. Flow is also regulated at levels usually greater than 1,000 cubic feet per second (cfs) in the summer by the Lost Creek Dam. It can reach peak levels approaching 100,000 cfs when in flood stage. Therefore, the Rogue's flow, where it passes through the Rogue Recreation watershed, is primarily from far upstream of the Rogue Recreation 5th field watershed. All streams flowing into the Rogue River within the Rogue Recreation 5th field watershed constitute a very small fraction of the overall river flow where it exits the watershed. An example of a stream within this 5th field watershed is Taylor Creek. Flows in Taylor Creek from 1984 to 1989 ranged from a low of approximately 1 cfs to a high of approximately 61 cfs. This is compared to a peak flow in excess of 45,000 cfs in the Rogue during the same period.¹

The Rogue River is the only common water body affected by stream inflow from the north (Stratton Creek and Hog Creek drainages) and from the south (Pickett Creek and Taylor Creek drainages). All of the other projects recently completed or planned (Maple Syrup, Stratton Hog, Cenoak, West Ash Gulch and part of Maple Galice) in the Rogue-Recreation Section watershed are located in drainages to the north of the Rogue River and are thus essentially hydrologically split and separated from that portion of the 5th field watershed where the Pickett Snake project (including Pickett Charge) is located.

Considering the timber harvest acreages in the context of the full 5th field watershed, it is anticipated that the overall potential for other than negligible 5th field level impacts is very low. The Pickett Snake timber sale involves harvest on only 1.2% of the total watershed acreage and 3% of the BLM administered land in the watershed (see Table A-5). The total of all projects discussed (federal and non-federal) involves less than 4% of the watershed. The harvest and logging methods are low impact ones. All of these sales focus on small diameter thinning: 3,098 acres of commercial thinning with only 260 acres of structural retention prescription. The primary logging system on 62% of the harvest acres is helicopter yarding, which has the least soil and hydrologic impact of any logging system.

Pickett Charge would have no short or long term negative effects beyond those listed in the Pickett Snake EA with the exception of short term localized erosion and reduced productivity, neither of which present an effect at the watershed scale. Therefore, there would be no additional cumulative effects to the existing condition beyond those addressed in the Pickett Snake EA.

2.2 Botany

Special status vascular plants and noxious weeds - effects

Operator spur and helicopter landing construction would not affect any Special Status plant species because none were located near the spurs or landings. While no noxious weeds were found near the spurs or landings, scotch broom is along the roadsides leading to the sites. Potentially, seed could be brought in with construction equipment. Obliteration and revegetation of the sites once the project is completed as proposed in the project design features should reduce the potential for weed spread.

¹ This estimate of peak flow is based on the Rogue River flow data gauged upstream of the project area in the town of Grants Pass at a level of 32,400 cfs in combination with the Applegate River flow which enters the Rogue a short distance upstream of the project area which was gauged to have a peak flow of 13,100 cfs during the same period. (Ref. USGS Water Watch Web page and USFS Upper Rogue Above Galice WA, 1995)

Special status fungi – affected environment

Fungi species could be affected by the proposed actions under the Pickett Charge addendum. It is necessary to include this discussion given that the fungi species removed from the Survey and Manage list are now considered Bureau Sensitive species (USDA/USDI 2004). This change occurred after the signing of the Record of Decision for the Pickett Snake landscape management project. Therefore, effects on fungi only related to the proposed actions in the addendum are discussed.

Ten former Survey and Manage fungi species, now managed as Bureau Sensitive Species (BSS), have suspected or documented occurrence on lands administered by Medford District BLM. For these 10 fungi species, specific information regarding connectivity, range (including presence or absence within the project area), habitat requirements, and disturbance effects are lacking. The 2004 *FSEIS to Remove or Modify the Survey and Manage Mitigation Measure Standards and Guidelines* addressed incomplete or unavailable information regarding these species (USDA/USDI 2004 p. 108-109), and the effects of land management activities as described under the Northwest Forest Plan. It disclosed the lack of survey information from Reserve areas compared to Matrix and Adaptive Management areas.

These BSS fungi species are present in southwestern Oregon in the Klamath Mountains and Cascade Range (Table A-6). These species would best be detected during fall surveys. Surveys for special status fungi species have not been completed for proposed treatment areas within the project area. Above-ground fruiting structures (sporocarps) are short-lived, seasonal in occurrence, and annually variable making surveys difficult (USDA and USDI 2004). According to BLM Information Bulletin No. OR-2004-145, it is expected that field units would not conduct field surveys for these species, due to survey impracticality. Protection of known sites along with ongoing large-scale inventory work would provide the measures and means to meet agency policy. While formal surveys for fungi were not conducted in the Pickett Snake/Pickett Charge area, incidental sites were found while surveying for other required species (discussed below).

The following table summarizes the information known regarding the ten former Survey and Manage fungi. It summarizes by whether habitat and known sites are sufficient to support stable populations in the Northwest Forest Plan area and whether insufficiencies were due to federal actions (as analyzed in the FSEIS). Outcomes not due to federal actions could include such factors as: (1) limited potential habitat and few populations on federally managed lands; (2) potential for stochastic events; (3) low number of individuals; (4) limited distribution; and, (5) narrow ecological amplitude (USDA/USDI 2004). The table describes the broad forest community components where these species may be found. The final column summarizes results from a likelihood of occurrence key designed to assist in conservation planning (USDA/USDI Interagency Special Status and Sensitive Species program website) for the Pickett Charge project.

Table A-6: Habitat Sufficiency, Forest Community Components, and Likelihood of Occurrence For BSS Fungi (based on 2004 FEIS)					
Scientific Name	Number Sites in NFP ¹	Number Sites in Reserves ²	% in Reserves	Forest Community Component	Likelihood of Occurrence/Risk to Species
Habitat Not Sufficient – not due to federal action					
<i>Boletus pulcherrimus</i>	36	5	13.9	PSME, PIPO, ABCO	Low likelihood of occurrence; low risk to species viability
<i>Dermocybe humboldtensis</i>	4	1	25.0	PSME, PIPO	Low likelihood of occurrence; low risk to species viability
<i>Gastroboletus vividus</i>	4	2	50.0	ABCO, Pine	Low likelihood of occurrence; low risk to species viability
<i>Ramaria spinulosa</i> var. <i>diminutiva</i>	1	0	0	PSME, Pine	Low likelihood of occurrence; low risk to species viability
<i>Rhizopogon chamaleontinus</i>	1	0	0	PSME	Reasonable likelihood of occurrence; low risk to species viability
<i>Rhizopogon ellipsosporus</i>	3	0	0	PSME	Reasonable likelihood of occurrence; low risk to species viability
<i>Rhizopogon exiguus</i>	5	3	60.0	PSME	Reasonable likelihood of occurrence; low risk to species viability
Habitat Not Sufficient – due to management					
<i>Phaeocollybia californica</i>	30	5	16.7	PSME	Reasonable likelihood of occurrence; low risk to species viability
Habitat Sufficient					
<i>Phaeocollybia olivacea</i>	93	19	20.4	PSME, ABCO, QUKE, Pine	Reasonable likelihood of occurrence; low risk to species viability
<i>Phaeocollybia oregonensis</i>	11	5	45.5	ABCO	Low likelihood of occurrence; low risk to species viability

¹ Source: ISMS database 11-20-04, Handbook to Strategy 1 Fungal Species in the NWFP, Handbook to Additional Fungal Species of Special Concern in the NWFP, Medford District data.

² Reserves = Land Use Allocations Late Successional Reserve and Congressionally Reserved

Bolded species = occurs on or within Medford District, PSME = Douglas-fir, forest community component, PIPO = Ponderosa pine, forest community component, ABCO = White fir, forest community component, QUKE = California black oak, forest community component, Pine = Pinaceae family (includes pine, fir, Douglas-fir, spruce, hemlock), forest community component

The 10 BSS fungi are species that form mycorrhizae or mutually beneficial relationships with the rootlets of host plants that are typically conifers. The mycorrhizae form an underground mycelial network that can be considered the vegetative body of the fungi. Sporocarps, the fruiting bodies or “mushrooms”, may develop above or below the ground surface depending on the species. Spores produced by the fruiting bodies are then transported by animals or wind. The extent of the underground mycelial network in relation to the fruiting bodies found above ground is unknown. The habitat components for these species are very broad with only general plant community types known.

Those species where habitat sufficiency outcome is not due to federal actions and that are not known to be found in or adjacent to the project area are *Boletus pulcherrimus*, *Dermocybe humboldtensis*, *Gastroboletus vividus*, and *Ramaria spinulosa* var. *diminutiva*. The actions proposed under Pickett Charge would not change this outcome put forth by the FEIS. Also, general habitat components (the white fir plant community) for one species, *Phaeocollybia oregonensis*, are not present in the project area (Table A-6).

Five species would have a reasonable likelihood to occur in the project area. *Rhizopogon exiguous*, *R. chamaleotinus* and *R. ellipsosporus* habitat was determined to not be sufficient to support stable populations in the Northwest Forest Plan area and this insufficiency was not due to land management actions. *Rhizopogon exiguous* and *R. chamaleotinus* were found in Josephine County. *R. exiguous* was found in the lower Applegate 5th field watershed approximately 2 miles south of the project. It has a very broad habitat description; it is associated with the roots of Douglas-fir and western hemlock. It is endemic to Oregon and Washington and has known sites also in Lane and Benton counties. *R. chamaleotinus* was found in the Rogue River, Taylor creek 5th field watershed approximately 8 miles north of the project. Its habitat is also broad; it is found in association with Douglas-fir and scattered sugar pine roots. Besides its one known site in the range of the northern spotted owl, it is also known from Idaho (Castellano et al 2003). *R. ellipsosporus* was found in the Lower Applegate River 5th field watershed within the project and in the West Fork Illinois watershed 20 miles south of the project. It is also broadly associated with the roots of Douglas-fir and sugar pine. It has been found in both Josephine and Jackson counties.

Phaeocollybia olivacea was determined to have habitat (including known sites) sufficient to support stable populations in the Northwest Forest Plan area. These species would stabilize in a pattern similar to or different from their reference distribution because a substantial number of known sites are located in reserves or managed under the agencies' Special Status Species Programs (USDA, USDI 2004, p. 152). Three populations of *Phaeocollybia olivacea* have been found in the project area. One potential *Phaeocollybia olivacea* collection approximately 20 miles to the south in the Illinois Valley is currently being verified. This species is endemic to western United States from the central Oregon coast south to Santa Cruz county. It has a very broad habitat description essentially stating that it can be found in oak family or pine family mixed forests in coastal lowlands (Castellano et al 2003).

For one of the ten fungi species (*Phaeocollybia californica*), the 2004 FSEIS determined the outcome of insufficient habitat is due to land management activities. Known sites of *Phaeocollybia californica* are not substantially protected by reserves and are susceptible to adverse impacts from soil disturbance and/or a significant loss of host species. Although matrix Standards and Guidelines of the Northwest Forest Plan provide for minimizing soil and litter disturbance, there is lack of knowledge about how much disturbance can be tolerated by these species. Loss of even a few known sites could adversely impact this species persistence within the Northwest Forest Plan area (USDA, USDI 2000, p. 154).

One population of *Phaeocollybia californica* is historically known from the East Fork Illinois watershed 24 miles south of the project area. It was also listed on a general species list for a survey in the Deer Creek watershed (i.e. its exact location is unknown). The species is broadly associated with the roots of Pacific silver fir, sitka spruce, Douglas-fir and western hemlock. It is endemic to Washington and Oregon and as mentioned above has 30 known sites ranging from the Olympic peninsula to southwestern Oregon.

Given the broad habitat and the lack of surveys completed for any of these five species, it can be assumed that more sites do exist. It is unknown how rare these species really are, but it is known they are associated with the common tree species discussed above. As mentioned, the 2004 *FSEIS to Remove or Modify the Survey and Manage Mitigation Measure Standards and Guidelines* addressed incomplete or unavailable information regarding these species (USDA/USDI 2004 p. 108-109). It disclosed the unknown strength of the association between these species and late successional conditions as well as unknown information regarding connectivity, habitat needs and range. It stated that any discussion of risk based on rarity and likelihood of disturbance must recognize that, for many species, only a small percentage of potential habitat has been surveyed.

Special status fungi – effects

Five Bureau Sensitive fungi species are reasonably likely to occur in the proposed project area, but habitat requirements for these species are too broad or poorly understood to reasonably mitigate adverse effects through management of habitat at the project specific scale. Broad-scale inventories with management of all known sites may contribute towards species viability (Likelihood of Occurrence key - USDA/USDI Interagency Special Status and Sensitive Species program website).

The 352 acres that would be harvested is less than was originally proposed in the Pickett Snake EA. Any known fungi sites would not be directly affected because a minimum 100-foot radius no-harvest, no-ground disturbance protection buffer would be implemented (EA PDFs, pp. 16-23).

Indirect effects to fungi habitat from stand treatments could include changes in microsite conditions (i.e. temperature, humidity, light intensity, and wind) from reduced canopy cover, edge effects, changed soil moisture regimes, fragmentation of the mycelial network, reduced availability of host trees, reduced root and root tip availability, decreased organic soil layer, soil compaction/ bulk density increase, and a decrease in the amount of coarse woody debris that may serve as a source of moisture in the dry months. These effects may reduce or eliminate sporocarp reproduction, change fungal species composition and species diversity, and decrease fungal biomass. Retention of living trees and shrubs provides host trees and substrates to maintain mycorrhizal networks (Amaranthus and Perry 1994). A study by Luoma, et al. (2004) examined the effects of varying levels and patterns of green-tree retention on ectomycorrhizal sporocarp production; aggregated versus dispersed patterns of green tree retention were compared. Results showed that while sporocarp production declined in all treatments, effects varied. Sporocarp production was substantially reduced only after 85% of basal area was removed. No effect was detected in fall mushrooms at higher percentages of green tree retention under a dispersed pattern of treatment (such as a commercial thin from below). This was most likely due to the greater area occupied by the root systems of the remaining trees. The physical spacing of the trees allowed the initial fall rains to reach the forest floor better than when intercepted by the canopy of aggregate patterns.

The prescription for the project calls for the commercial extraction of 352 acres of timber to occur. The prescription calls for reduction in stand densities to 35%, which equates roughly to 40% canopy retention. Based on the above study results, the dispersed pattern of commercial thinning proposed should not affect Bureau Sensitive fungi that were not surveyed for, but could be present. These species may survive subsequent habitat conditions because the design of commercial harvest treatments would favor retaining habitat components for fungi. Habitat components important to fungi include dead, downed wood; standing dead trees; and live old-growth trees; as well as a diversity of host species (including trees and underbrush) and microhabitats (USDA/USDI 2004 p. 148) Proposed project actions and project design features for the project including treatments retaining 40% or greater canopy cover, retention of coarse woody debris and surrounding vegetation, retaining old growth trees and associated trees, riparian reserves, and logging systems that minimize or create only localized ground disturbance would support fungi viability. While there is a reasonable likelihood of occurrence for these species in the project area, because such PDFs would be in place, there is low risk that local unknown populations would be affected because so little potential habitat would be affected within the Rogue River/Taylor Creek watershed.

The project calls for fuels treatments on 485 acres. Fuels treatments could affect unknown populations or potential fungi habitat. The impacts of prescribed burning for removal of slash and site preparation depends on fire intensity. High intensity burns that get into mineral soils may eliminate mycorrhizal fungi and create habitat that is colonized by non-mycorrhizal plant species including weeds. A recent

study by Smith, et al (2004) examined short-term effects of seasonal prescribed burning on ectomycorrhizal fungi. Results showed that fall underburning (in dry ponderosa pine stands of eastern Oregon) significantly reduced duff depth, live root biomass, and ectomycorrhizae species richness compared to spring underburning for at least two years. Also, the probability of residual tree mortality was greater for fall burning. The data suggests that spring burning should be favored over fall burning if the objective is to maintain ectomycorrhizae species diversity.

High intensity burns, such as pile burning to remove slash, that enter mineral soils would create a localized disturbance including death of fungi down into mineral soil (the more diverse portion of the soil), incineration of the organic soil layer, loss of available nutrients, reduced soil moisture, decrease in fungal biomass, decrease in fungal species diversity, fungal species composition change, degradation of soil physical structure, and reduced fungi which increases non-mycorrhizal species' (many that are weedy) ability to become established at the site (Amaranthus and Perry 1994, Korb et al 2004).

While handpiles may create these effects, their footprint across the landscape is small compared to the area where such high intensity burns would not take place. For the project, an average of 70 handpiles per acre would be implemented. Based on a 6' by 6' handpile, only 6% of an acre would be directly affected by the handpiles. Handpiles would be well distributed across the acreage treated. While there is a reasonable likelihood of occurrence for five fungi species in the project areas, the small percentage of area handpiled and the ability for spring underburning to occur, should reduce the risk to these species. Any directly affected unknown populations should have the opportunity to recover due to the mosaic of mychorrhizae left intact and reduction in burning intensity.

While there is potential for Bureau Sensitive fungi habitat to be impacted from the spur and helicopter landing construction, the risk is very low considering that such construction is small compared to the watershed scale.

Special status fungi – cumulative effects

Past actions may have affected fungi habitat directly through damage to sporocarps or underground portions of populations or indirectly through changes in habitat as described in detail above. Whether these changes have affected fungi habitat substantially is unknown due to the lack of information regarding the five fungi species discussed above.

Information regarding the frequency of occurrence for S&M fungi are only available from surveys done at the landscape scale; not the project level. Also information available on the habitat for such species is very broad and does not provide the specificity needed to analyze project level or cumulative actions. The only way to obtain more detailed information at the project level would be through surveys which have been determined to be impractical by the Oregon/Washington State Office (BLM IB No. OR-2004-145). It is unlikely that other avenues for conducting pre-project evaluations, such as habitat examinations, habitat evaluation, evaluation of species-habitat associations and presence of suitable or potential habitat, and the review of existing survey records, inventories and spatial data would yield sufficient information to make an adequate evaluation at the field level (BLM IB No. OR-2004-145).

Information that is available states that fire has played an important role in influencing the plant communities of southwestern Oregon. The mixed evergreen forests typically found in the project area have been created and perpetuated in the past by fire. This regime has been disrupted by fire control activities (Franklin and Dyrness 1988, Atzet and Wheeler 1982). If individual species have evolved

under a more natural fire cycle, then the assumption can be made that these species would persist under more open conditions. If dense stands and hazardous fuel loadings can be reduced in a way that ensures that the habitat components important to fungi can be retained through a mosaic across the landscape, then risk of damage due to high intensity wildland fire would be reduced for fungi and as well as other Special Status plant species.

In summary, based upon known information about these fungi species, it can be construed that the proposed actions are unlikely to have substantial effects and furthermore, it is unlikely that creation of more open stand conditions, hypothesized to occur historically, would have a substantive indirect effect on these species. Additionally, the actions proposed under Pickett Charge would not incrementally add to changing fungi habitat substantially due to the size of the project in relation to the Rogue/Taylor watershed.

2.3 Wildlife

Helicopter landings

The changed location of one of helicopter landings to section 3 would reduce the impact on the riparian area where it was originally proposed. The second landing was relocated for safety reasons and the effects of its relocation are essentially the same as those identified in the original EA. The landings would be obliterated after use, which would decrease the potential for erosion and reduce compaction.

One additional helicopter landing is proposed at the end of road 38-7-27.2. The 0.18 acre landing would be on the existing road and would encompass additional area adjacent to the road. This is a broad ridge top area and, because the additional ground disturbance would extend into brush fields and young stands, there would be no substantial impacts to wildlife; there are considerable amounts of this habitat type in the watershed.

Tractor logging

The 45 additional acres of tractor logging may create some compaction. However, the total area impacted by timber harvest would be considerably less than that addressed in the original EA (352 acres vs. 882 acres), and therefore would not produce effects to wildlife species or habitat beyond those addressed in the original EA.

Spur road construction

The one mile of additional spur road construction would result in degrading approximately 1.5 acres of spotted owl dispersal habitat. Because the strip of habitat impacted is narrow, the habitat would remain as suitable dispersal habitat. No additional effects to spotted owl nesting, roosting, foraging or dispersal habitat are anticipated beyond those identified in the original EA. As stated in the EA, "Post project the new roads would be decommissioned and blocked. The opportunity for off road vehicles to utilize the new road bed would still exist post blocking of the road. Off road vehicle use could increase causing increased disturbance to wildlife, which leads to stress thereby causing reduced reproduction, higher mortality and increased poaching." Additional PDFs for this project (decompacting of spurs, slash placement and earthen barriers) would further discourage OHV use. Additionally, with the reduced length of spurs, effects are expected to be less than originally analyzed.

Fuel hazard reduction

The additional 485 acres identified for fuel hazard reduction is in an area surrounded by private or other non-federal lands. There is some spotted owl dispersal habitat in the area, but it is surrounded by dry mixed conifer hardwood woodlands and open grassland, and does not provide any substantial connectivity between areas of suitable habitat. The area was assessed for Survey and Manage species habitat and needs for surveys. There is no red tree vole habitat in this area so surveys are not required. No Survey and Manage mollusks were located during surveys. Therefore, fuels reduction in this area would not impact suitable spotted owl habitat or any Survey and Manage species' habitat.

Late-successional forests

None of the additional activities proposed affect late-successional forest conditions beyond those addressed in the original EA. Since the proposed acres for harvest are approximately 40% less than in the original EA, effects would be less than those analyzed in that EA (Table A-1). Effects of the original EA are summarized as follows: Areas with open canopies allow for greater competition between generalist species and old forest obligate species. Micro-climatic conditions and micro-sites that some species need may not be met in stands with canopy closure less than 40%. For example, molluscs appear to require cool moist forest floors and may be absent from warmer drier conditions that are anticipated post harvest. In general, these areas would no longer provide late-successional habitat until they recover from harvest activities. Units with intact mature/old growth riparian areas or reserve areas for red tree voles would still continue to provide for late-successional habitat conditions depending on their shape and size. Small size areas (<25 acres) or narrow areas would no longer provide interior forest condition, but may provide refugia for species with small home ranges such as the red tree vole. Larger reserve areas (termed Managed Late-successional Areas (MLSAs) in the EA) would provide late-successional habitat.

While these effects would still occur in this project, they would have less effect than originally analyzed because of the reduction in acres treated in this project. There are no known spotted owl sites in the project area so it is anticipated that there would be no effect on spotted owls.

There is one Bald Eagle site in the project area and one neighboring the project area to the east. Bald eagles are known to use the project area for nesting, roosting and foraging. Eagles nesting habitat consist of older forest, generally near water, with minimal of human disturbance, though some disturbance is tolerated especially if the eagles nest in the area of regular human activity. Eagle nesting habitat is located throughout the project area. Management direction for Bald eagle sites are described in the RMP (p. 55). In general the treatment prescription call for maintenance of a minimum of 50% canopy closure as well structural components such as large trees and snags. The project has been consulted with the USFWS and all mandatory Project Design Criteria (PDCs) would be adhered to. Due to the PDC there is no anticipated affect to bald eagles in the project area.

Effects summary

Because the original EA was written under the auspices of the Survey and Manage program, red tree vole no-harvest buffers have been delineated in accordance with the management recommendations in effect at that time (minimum 10 acres per active site).

Because of the reduced amount of timber harvest, no additional effects, (and in some cases fewer) to species are anticipated beyond those identified in the original EA (e.g., red tree vole buffers reserved considerable areas from timber harvest).

The area proposed for additional fuels reduction is not suitable red tree vole habitat; therefore these are no anticipated effects to this species from this activity. It is likely that animals would use habitat differently (i.e. species composition in treated stands would shift), but untreated areas and surrounding dense brush would provide nesting, foraging and dispersal habitat for migratory birds and terrestrial wildlife species. No other substantial effects to eagles or other species have been identified.

Cumulative effects

Current conditions of wildlife habitat and resources are the result of the past land use and disturbance history in the project area. Fire suppression, mining, road building, grazing, land development, agriculture and timber harvest throughout the watershed have altered historic conditions. The majority of remaining older forest occurs on BLM lands. These past activities have changed the distribution and abundance of habitats and many wildlife species. For example, riparian habitats have been altered by road construction and mining, changing the hydrology and vegetation potential from historic conditions, which has affected the quality of connective habitat these areas provide.

Cumulative effects in the project are a result from the incremental impact of the alternatives, added to other past, present and reasonably foreseeable future actions regardless of who undertakes the action. Projects which could contribute to cumulative effects for this project were, for the most part, identified in the original EA (EA# OR110-99-18, p. 53). Two additional non-federal projects have been identified that will be included in the discussion of cumulative effects: Josephine county's West Ash Gulch timber sale and Oregon Department of Forestry's Maple Galice timber sale.

The West Ash Gulch project would remove up to three acres of suitable nesting, roosting, foraging (NRF) spotted owl habitat in a managed late-successional reserve (the 100 acre Centennial Known Spotted Owl Activity Center (KSOAC)) and in designated spotted owl critical habitat unit (CHU OR-65). The Centennial KSOAC and the CHU would be degraded due to road construction. However, the proposed road would not substantially change the existing condition of the current and future function of the KSOAC (Biological Opinion for the West Ash Gulch project # 1-15-04-F-0340). Because this project is not expected to have affect spotted owls (there are none in the project area), no cumulative effects to spotted owls are anticipated.

Maple Galice would degrade up to 35 acres of suitable NRF habitat in two units approximately 1.5 miles apart on Josephine county lands and would not have any substantive effect on BLM lands. This project will degrade additional suitable habitat, but less than identified in the original EA, therefore, this project will add only incrementally to cumulative effects to spotted owl habitat but would not affect the stability of the species in southern Oregon due to the very small addition of the Pickett Charge project in combination with the other known projects in the watershed. Pickett Charge is approximately 10 miles to the south of both projects and is unlikely to affect dispersal of owls, or nesting and reproductive success of spotted owls in the watershed beyond the degrading of habitat addressed in the EA and the two addendums. The Maple Galice right of way project is in the vicinity of a Bald Eagle nest, but no effects are expected to Bald Eagles in either the Pickett Charge or Maple Galice projects.

The majority of remaining older forest occurs on public lands managed by the BLM and the Forest Service. Past activities have changed the distribution and abundance of many wildlife species in the watershed. Species associated with younger forested conditions have benefited from these changes. Species associated with late-successional forests, such as the spotted owl, have declined, but as there are no spotted owls in the project area and red tree vole buffers have been implemented, the impact on these species is likely less than if these mitigating factors had not been present. Land development and

agriculture have reduced low elevation habitats, creating barriers and prohibiting dispersal of some species. Overall, these past activities have resulted in a loss of habitat.

The past, present and reasonably foreseeable activities under way or planned on BLM (Cenoak, Maple Syrup, Pickett Snake and Stratton Hog, and the ROW applications for West Ash Gulch and Maple Galice) and Josephine County timber harvests would affect suitable late-successional habitat. However, since there are no known spotted owl sites in the Pickett Charge project area, there is no anticipated effect on this species. Non-federal timber lands are expected to continue to have a short harvest rotation schedule and are not expected to attain late-successional characteristics.

As a result of the NWFP, there has been a shift in management on federal lands in the Rogue Basin. Prior to the plan, harvest treatments were dominated by regeneration harvest. In the Rogue Basin, harvest treatments shifted to density management as a result of the NWFP. This has resulted in the treatment of many more acres compared to regeneration harvest of equivalent timber volume. Density management has fewer adverse effects on wildlife than regeneration harvest. Additionally, due to the National Fire Plan, management activities have been designed to move vegetation towards its historic range of variability by reducing fuel levels. This combination has resulted in treatments more in line with historic disturbance regimes.

Range-wide, northern spotted owl populations declined 3.7% annually from 1985-2003 (USFWS 2004). In the Tyee, Klamath, and South Cascades study areas in southwestern Oregon, spotted owl populations appeared stable from 1985-2003 (USFWS 2004). Habitat loss due to timber harvest was identified as the paramount threat in 1990 (USFWS 2004). The NWFP and RMP anticipated a loss of habitat due to timber harvest (USDA/USDI 1994 Vol. 1; RMP).

The rate of suitable habitat loss due to timber harvest on private, state, and federal forest lands declined in the late 1980s and early 1990s (USFWS 2004 p.24). The harvest rates in suitable habitat on BLM in Oregon was 3% per year (22,000 acres) in 1990 and dropped to 0.52% per year (4,911 acres) by 2003 (USFWS 2004 p.28). During this period of declining rates of habitat loss, spotted owl populations in southwestern Oregon appeared stable. The future rate of habitat loss due to timber harvest on federal lands is expected to be less than 4% per decade (USDA, USDI, 2004 p.111). Since harvest rates on federal lands in Oregon are expected to remain low for the foreseeable future, it is reasonable to expect that the northern spotted owl population would remain stable in southwestern Oregon. The harvest of up to 352 acres for this project is included in the projected BLM timber harvest program for southwestern Oregon. In addition, it is estimated that in the NWFP area, late-successional forest habitat development through in-growth (tree growth) is occurring at approximately 8% (600,000 acres) per decade over the baseline condition established in the NWFP (USFWS, 2004). Private forest lands and federal, non-reserved matrix lands are not expected to develop into suitable spotted owl habitat. Managed, mid-seral stands on federal, non-reserved matrix and on private lands produce spotted owl dispersal habitat that may be used to connect blocks of late seral habitat in the federal reserves.

The emergence of barred owls as invasive competitors, West Nile virus, and sudden oak death as new threats to spotted owls suggests an increase in risk to the species since 1990. These newly identified threats are poorly understood, are likely to be pervasive, and would be difficult to alleviate. However, this risk was not sufficient to change the status of the spotted owl (USFWS, 2004, p.55).

In summary, the rate of habitat loss is substantially reduced from recent trends, there is substantial in-growth and habitat recovery, and newly identified threats are unconnected to the proposed action. Therefore, even with 352 acres of harvest, this project would not incrementally affect the stability of the northern spotted owl population in southwestern Oregon. Additionally, the Pickett Charge project

would have relatively minor effects on species and no effect to species persistence in the watershed; no species are expected to disappear from the watershed because of the project. Cumulatively, this project combined with other actions in the watershed would not contribute to the need to federally list any Bureau sensitive or assessment wildlife species.

2.4 Fisheries

The two landings proposed in Section 3 would not be in the riparian reserve and, therefore, would not remove shade or potential large woody debris. Mechanisms for sediment to be delivered to fish bearing streams do not exist, because the landings are not near stream channels and are distant from fish habitat. From Table A-4: Soil and Water Summary Effects, stream sedimentation in the short and long term was anticipated to be zero. Although the table indicates there may be short term, localized soil erosion, it is not anticipated that it would reach stream channels. The landings would be obliterated after use, which would decrease the potential for post harvest erosion and would reduce compaction. Effects to fish bearing streams are not expected from the proposed landings due to 1) no removal of shade, 2) no reduction in potential large woody debris, and 3) no mechanisms for sediment delivery to streams.

The half mile length of existing road, 36-7-23, that would be realigned, brushed, and used as an operator spur is on a ridge with no stream crossings. Table A-4 shows no stream sedimentation due to activities on this road. Soil erosion in the short term would have few effects at local sites and would not reach stream channels. Therefore sediment input to fish habitat is not expected.

Roads used for log hauling are not expected to effect fish habitat. Log hauling PDFs from the Pickett Snake EA (p. 17) would eliminate stream sedimentation by prohibiting wet weather hauling. Hauling would be restricted during the wet season between October 15 and May 15. Some variations of the dates would depend on weather and soil moisture conditions.

PDFs for skid road use which would reduce potential sediment input to stream channels include 1) water barring, 2) decompacting after use to reduce erosion potential, 3) dry season use, 4) planting with trees or grass or covering with slash, and 5) completing erosion work before the rainy season (EA pp. 16-17).

The majority of operator spur roads would be constructed outside of riparian reserves where there would be no mechanism for sediment delivery to fish or fish habitat. Table A-4 indicates that no stream sedimentation from spur road construction is expected. Potential soil erosion would be highly localized, short term, and would not reach stream channels. PDFs (section 1.1.4.4 above) associated with new spur road construction would reduce the potential for sediment to reach stream channels by decommissioning and blocking spurs after use and seeding disturbed areas. Decommissioning the spur roads would reduce the potential for erosion and reduce compaction. Spur roads are not anticipated to affect fish or aquatic resources because they are 1) outside of riparian reserves (with one exception); 2) PDFs would prevent or greatly minimize any effects; and 3) soil and water impacts are expected to be zero or at most, minimal, localized, and short term (Table A-4).

One of the spur roads would cross a non-fish bearing intermittent stream, which drains into the Rogue River. The road crossing is on the west side of Riverbanks Road in Section 3. Effects to the intermittent stream would be minimized through PDFs in section 1.1.4.3 above which include minimal vegetation removal, construction during the dry season, placement of a temporary culvert, road surface rocking in the riparian reserve section (300'), and decommissioning following use. Vegetation removal in the riparian reserve would not cause an increase in stream temperature due to the

intermittent nature of the stream (no water in the channel in the summer) and the minimal amount of vegetation removed. The intermittent stream does not contain or affect fish or fish habitat because:

- The stream is not large enough, with enough flow, to support juvenile or adult salmonids. The flow was subsurface in some portions of the stream in January.
- The stream crosses an old BLM road (#36-7-2) prior to reaching the Rogue River, which interrupts the channel and spreads out the flow. A pond is located on the downstream side of the road. The channel leading from the pond becomes less defined. There was evidence of scour, but the channel leading from the pond was dry. Therefore, the stream is not connected to the Rogue River and the temporary spur road construction in the riparian reserve and intermittent stream crossing would not affect fish or fish habitat in the Rogue River.

The 45 acres planned for tractor logging in Section 27 would not occur in the riparian reserve. The vegetation prescription would remain the same as proposed in the Pickett Snake LMP EA; no additional vegetation or canopy would be removed. Full width no-harvest riparian reserve buffers would be in place. Therefore, no additional sediment is expected as a result of this tractor logging. Erosion and compaction would be reduced through the use of the PDFs such as full width riparian reserves and wet condition restrictions (EA pp. 6, 17).

There are no fish bearing streams in the area proposed for additional fuels reduction. In addition to the 50' no treatment buffer, trees greater than 8" DBH would not be cut or removed in riparian reserves (EA pp. 6, 20). Therefore, sediment would not likely reach fish bearing streams and stream temperatures would not increase.

Cumulative Effects

No cumulative adverse affects from the proposed actions are anticipated because no direct effects are expected. Sediment is not expected to reach fish bearing streams because of the efforts to eliminate sediment delivery mechanisms and disturbance through PDFs. Shade and potential future woody debris recruitment would not be affected due to the full width riparian reserves and by not removing trees over 8" DBH in young stand or fuels reduction units.

2.5 Historical / Cultural / VRM

This Addendum 2 addresses proposed additional temporary ridge top spurs and landings. The immediate foreground foliage between the viewer on the river and the activity would block views of disturbance. In addition, the line of sight geometry from the river would be long axial views to mountain ridges, thus making the disturbance activity blocked from viewers on the river. The new proposals in this addendum would not increase visual disturbance from timber sale activities or fuel hazard reduction activities beyond that discussed and analyzed in the EA.

The Pickett Snake Landscape Management Project and this Addendum 2 have been designed to ensure that the recreational and aesthetic values of the Rogue River are addressed. The project has been designed to be consistent with VRM objectives for the area and visual values have not been compromised. Due to the prescription design, the proposed action changes would repeat the basic elements of form, line, color and texture found in the predominant natural features of the landscape.

2.6 Fire and Fuels

Forest stand thinning can affect fire hazard. Stands in this project would be thinned to varying degrees opening tree canopies and reducing crown bulk densities. An increase in solar radiation on the forest floor may increase surface temperatures, decrease fine fuel moisture, decrease relative humidity, and increase surface wind speeds compared to untreated stands, thus increasing fire hazard if surface fuels are left untreated. The Sierra Nevada Ecosystem Project Report (1996) addressed the effects of timber harvest on fire hazard (p.4): “Timber harvest, through its effects on forest structure, local microclimate, and fuel accumulation, has increased fire severity more than any other human activity if not accompanied by adequate reduction of the fuels.” Past timber harvest activities may not have always included the treatment of fuels generated by logging. Treating activity fuels would reduce the potential for high severity, high intensity fire in the project area and across the watershed. Furthermore, as thinned trees respond to increased space, light and nutrients, their growth would increase more rapidly than before thinning and the canopy closure would increase, thus reducing fire hazard by increasing shade and reducing solar radiation to the forest floor.

Studies by Pollet and Omi (2000), Moore et al (1955) Van Wagner (1968), and Omi et al (2002) provide strong evidence of fuel treatment efficacy. It is expected that extreme fire behavior would be moderated in treated stands and over story mortality reduced by as much as 60% compared to untreated stands. Fires starting in untreated stands on BLM land would adversely affect adjacent private lands due to the potential that crown fire would move from BLM to private lands. Conversely, fires originating on private lands would adversely affect BLM lands as crown fire move across land ownerships. Even with past and anticipated treatments, the potential for high severity fire remains very high across the watershed.

2.7 Logging Activity Impacts to Residents

Noise related to helicopter logging would impact residents living near or adjacent to proposed helicopter units and landings. These impacts would occur during daylight operating hours. The number of passes to and from a helicopter landing could range from two to 150 or more passes per day. Previous experience indicates that rural interface residents are most affected in the early morning and evening, but noise may be audible most of the day depending on how close residences are to flight paths and the noise blocking or enhancing effect of local topography.

Restrictions such as limitations on operational times or days reduce but do not eliminate helicopter noise. In general, helicopters would operate at any time during daylight hours. Flight operations can be greatly influenced by weather conditions and FAA rules such as pilot work/rest requirements. It is not uncommon for a helicopter to be grounded by low clouds or wind for hours or days at a time.

Noise is greatest when the helicopter operates within 500' of residences. There are no residences within 500' of helicopter units in the project area. An estimated 15 days of helicopter noise would occur for residences a half mile or greater from helicopter units.

Time during the day or week has been restricted in previous BLM timber sales for high volume sustained location helicopter logging that is immediately adjacent to rural interface areas. Such restrictions extend the duration of effects, (noise) for any one area. Helicopter units for this project that are adjacent to rural interface areas would have lower amounts of volume to fly than in past higher volume helicopter sales where time has been restricted. For this project, time restrictions are not deemed necessary.

Other logging associated effects on residents or forest visitors include chainsaw noise, dust, and log truck traffic. Chain saw noise has different properties and duration than helicopters but the possible effects on people are similar to those described for helicopters. Chainsaw noise would be dispersed and of short duration so restrictions are not deemed necessary. Dust from log trucks would be mitigated by watering, lignin, and/or speed reductions if necessary. Log truck traffic on publicly owned roads would follow all laws, regulations, and speed limits, and special measures would be implemented as needed during special times of the day such as school bus pick-ups and drop-offs.

Appendix B: Proposed Unit Treatments in the Pickett Charge Area

Key #	T-R-SEC OI	Acres	Land Alloc. (NFP)	TPCC	Seral Stage		Silv. / Harvest Prescription VRM Class	Logging Systems (estimated %)			Slash Treatment -- Understory Treatment	Vol. (Est) (MBF / ac)	Harv./ Treat (Acres)		Harvest Volume		Tree Plant- ing Acres	Plant Association
					Current	Post Harvest		tractor	cable	heli- copter			SR	CT/ MGS	Vol / Ac (est)	Total MBF (est)		
112441	35S 06W 30 001	18	Matrix	LSW	mid/ mature	N/A	VRM II	N/A	N/A	N/A	UT and (UB or HP)	0	N/A	0	0	0		Douglas-fir/ Black Oak
114723	35S 06W 30 002	40	Matrix	RMR	mid/ mature	N/A	VRM II	N/A	N/A	N/A	UT and (UB or HP)	0	N/A	0	0	0		Douglas-fir/ Black Oak
114724	35S 06W 30 003	23	Matrix	LSW	mid/ mature	N/A	VRM II	N/A	N/A	N/A	UT and (UB or HP)	0	N/A	0	0	0		Douglas-fir/ Black Oak
111174	35S 06W 31 001	100	Matrix	RTR	mid/ mature	N/A	VRM II	N/A	N/A	N/A	UT and (UB or HP)	0	N/A	0	0	0		Douglas-fir/ Black Oak
114721	35S 06W 31 002	3	Matrix	RMR	mid/ mature	N/A	VRM II	N/A	N/A	N/A	UT and (UB or HP)	0	N/A	0	0	0		Douglas-fir/ Black Oak
114722	35S 06W 31 003	80	Matrix	RMR	mid/ mature	N/A	VRM II	N/A	N/A	N/A	UT and (UB or HP)	0	N/A	0	0	0		Douglas-fir/ Black Oak
117097	35S 06W 31 004	221	Matrix	LSW	mid/ mature	N/A	VRM II	N/A	N/A	N/A	UT and (UB or HP)	0	N/A	0	0	0		Douglas-fir/ Black Oak
115249	36S 07W 01 002	135	Matrix	RTR	mature	mature	CT/MGS,VRM II	0	0	0	UT and, (UB or HP)	8		0	0	0		Douglas-fir/ Black Oak
112475	36S 07W 03 001	274	Matrix	RMR	mature	mature	SFP CT/MGS VRM II	25	10	65	UT and, (UB or HP)	9		131	6	786		Douglas-fir/ Black Oak
115263	36S 07W 03 003	149	Matrix	RMR	mature	mature	CT/MGS VRM II	0	0	100	UT and, (UB or HP)	9		5	6	30		Douglas-fir/ Black Oak
112476	36S 07W 03 006	134	Matrix	RTR	mature	mature	SFP CT/MGS VRM II	100	0	0	UT and, (UB or HP)	9		30	6	180		Douglas-fir/ Black Oak
112477	36S 07W 10 001	86	Matrix	RTR	mid/ mature	mid/ mature	CT/MGSVRM II	0	0	0	UT and, (UB or HP)	4		0	0	0		Douglas-fir/ Black Oak
115245	36S 07W 10 003	16	Matrix	RTR	mid/ mature	mid/ mature	CT/MGS VRM II	0	0	0	UT and, (UB or HP)	4		0	0	0		Douglas-fir/ Black Oak
115115	36S 07W 11 001	15	Matrix	RTR	mature	mature	SFP, CT/MGS VRM II,poles, hardwood, timber	100	0	0	UT and, (UB or HP)	15		10	8	80		Douglas-fir/ Black Oak
113722	36S 07W 23 001	42	Matrix	RMR	mature	mature	CT/MGS VRM II	70	30	0	UT and, (UB or HP)	15		35	8	280		Douglas-fir/ Black Oak
115006	36S 07W 25 003	40	Matrix	RTR	mid	mid	SFP, CT/MGS VRM II, pole and firewood, timber	0	0	0	UT and, (UB or HP) Bald Eagle site	0		0	0	0		Douglas-fir/ Black Oak
114804	36S 07W 27	7	Matrix	RTR	mature	mature	CT/MGS VRM II	0	0	0	UT and, (UB or HP)	0		0	0	0		Douglas-fir/ Black

Appendix B: Proposed Unit Treatments in the Pickett Charge Area

Key #	T-R-SEC OI	Acres	Land Alloc. (NFP)	TPCC	Seral Stage		Silv. / Harvest Prescription VRM Class	Logging Systems (estimated %)			Slash Treatment -- Understory Treatment	Vol. (Est) (MBF / ac)	Harv./ Treat (Acres)		Harvest Volume		Tree Plant- ing Acres	Plant Association
					Current	Post Harvest		tractor	cable	heli- copter			SR	CT/ MGS	Vol / Ac (est)	Total MBF (est)		
	002																	Oak
114806	36S 07W 27 004	50	Matrix	RMR	mature	mature	CT/MGS VRM II	0	100	0	UT and, (UB or HP)	15		12	8	96		Douglas-fir/ Black Oak
114807	36S 07W 27 005	18	Matrix	RTR	mature	early	SR VRM II	0	0	0	UT and, (UB or HP)	12		0	0	0		Douglas-fir/ Black Oak
114808	36S 07W 27 006	137	Matrix	RTR	mature	early	SR VRM II	50	50	0	UT and, (UB or HP)	12	58	0	8	464	60	Douglas-fir/ Black Oak
114809	36S 07W 27 018	10	Matrix	RTR	mature	early	SR VRM II	20	80	0	UT and, (UB or HP)	5	2	0	5	10	2	Douglas-fir/ Black Oak
114810	36S 07W 27 019	14	Matrix	RMR	mature	early	SR VRM II	0	100	0	UT and, (UB or HP)	5	0	0	0	0	0	Douglas-fir/ Black Oak
114811	36S 07W 27 020	32	Matrix	RMR	mature	early	SR VRM II	0	50	50	UT and, (UB or HP)	10	20	0	8	160	20	Douglas-fir/ Black Oak
114812	36S 07W 27 021	78	Matrix	RTR	mature	mature	SR VRM II	10	10	80	UT and, (UB or HP)	12	49	0	8	392	50	Douglas-fir/ Black Oak
114813	36S 07W 27 022	7	Matrix	RMR	mature	mature	SR VRM II	0	0	0	UT and, (UB or HP)	15	0	0	0	0	0	Douglas-fir/ Black Oak
Total OI acres		1724					Acres of each Logging System	124	70	158	Total Harvest Acres=352 Total additional fuels acres=485			223		2478	132	

Note: Special Forest Products would be available from all harvest units. The Silviculture prescription, all project design features that apply to harvest treatments and all constraints described in the EA and addendums would be required mitigation.

Appendix C: Proposed Road Treatments in the Pickett Charge Area

Road Number/ Road Segment	Road Control	Total Length (miles)	Current Condition Surface type	Proposed Treatment (miles)				Comments
				Maintenance	Construction	Renovation	Decommission	
T36S, R7W Section 3 temp spurs	BLM	0.45	Natural	0	0.45	0	0.45	Proposed operator spurs. Decommission following use.
T36S, R7W Section 3 existing road (no number)	BLM	0.4	Natural	0	0	0.4	0.4	Low Standard Existing Road. Brush and align for operator spur during logging. Decommission following use.
36-7-3A	BLM	0.26	Natural	0.26	0	0.26	0	Outslope, repair ditches, grade, spot rock as needed. Maintain existing gate.
36-7-3B	BLM	0.61	Natural	0.61	0	0.61	0	Outslope, repair ditches, grade, spot rock as needed
36-7-11	BLM	0.50	Rocked	0.50	0	0.50	0	Needs easement: 1 st .20 miles on private prop., grade and spot rock
36-7-22A	BLM	0.89	Natural	0.89	0	0.89	0	Grade road, spot rock as needed in drainage dips
36-7-22B	BLM	0.80	Natural	0.80	0	0.80	0	Grade road, spot rock as needed in drainage dips
36-7-22C	BLM	1.10	Natural	1.10	0	1.10	0	Grade road, spot rock as needed in drainage dips
36-7-22D	BLM	1.81	Natural	1.81	0	1.81	0	Grade roads, spot rock as needed in drainage dips
T36S, R7W, Section 23 existing road (no number)	BLM	.30	Natural	0	0	.30	.30	Low Standard Existing Road. Brush and align for operator spur during logging. Decommission following use.
36-7-23	BLM	0.92	Natural	0.92	0	0.92	0	Brush and grade road
36-7-25	BLM	0.84	Natural	0.84	0	0.84	0	Brush and grade road
T36S, R7W, Section 27 temp spurs	BLM	0.47	Natural	0	0.47	0	0.47	Proposed operator spurs. Decommission following use.
T36S, R7W, Section 27 existing road (no number)	BLM	0.06	Natural	0	0	0.06	0.06	Low standard existing road. Brush and align for operator spur during logging. Decommission following use.
36-7-27	BLM	2.59	Natural	2.59	0	2.59	0	Brush and grade road
36-7-27.1	BLM	0.18	Natural	0.18	0	0.18	0	Brush and grade road
36-7-27.2	BLM	0.93	Natural	0.93	0	0.93	0	Brush and grade road
36-7-27.3	BLM	0.07	Natural	0.07	0	0.07	0	Brush and grade road
Totals				11.5	0.92	12.26	1.68	

Appendix D: References

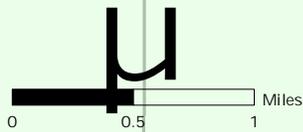
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**Pickett Charge Area of the Pickett Snake Landscape Management Project
Pickett Snake Landscape Management EA, Addendum Two**

Northern Portion of the Pickett Snake Project Area

Legend

-  Harvest
-  Fuel Hazard Reduction Work
-  No Treatment
-  Rogue River Pilot Project Area-Treatments Are No Longer Prescribed Within This Project
-  Young Stand Treatment Area
-  Helicopter Landing
-  Temporary Operator Spur
-  Existing Road
-  Low Standard Road



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Bureau of Land Management
Medford District Office
Grants Pass Resource Area
3040 Biddle Road
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