



# United States Department of the Interior



## BUREAU OF LAND MANAGEMENT

Salem District Office  
1717 Fabry Road S.E.  
Salem, Oregon 97306  
<http://www.or.blm.gov/salem/>

In Reply To:

1790 (OR-084)  
Cascades Resource Area Soil Rehabilitation

Date: December 19, 2006

Dear Interested Public:

The Bureau of Land Management, Salem District, invites you to review an Environmental Assessment (EA) and Finding of No Significant Impact (FONSI) for the Cascades Resource Area Soil Rehabilitation project. The project will be located throughout the Cascades Resource Area on BLM-administered land within Townships 1 North through 13 South, Ranges 1 West through 7 East, Willamette Meridian.

The proposed action is to rehabilitate unauthorized trails that are experiencing soil erosion and resource damage within the Cascades Resource Area. The proposed project will be designed to break up compacted soils, promote infiltration of precipitation, and provide suitable soil structure for reestablishing native vegetation and proper functioning drainage patterns on degraded trails. Written comments on the EA will be accepted until January 19, 2007.

Enclosed is a copy of the EA. For more information, please contact Patrick Hawe at (503) 375-5974. Send written comments to Cascades Resource Area, Attn. Cindy Enstrom, Field Manager, Salem District, Bureau of Land Management, 1717 Fabry Road SE, Salem, Oregon 97306.

Sincerely,

Cindy Enstrom  
Cascades Resource Field Manager

Enclosure (1): Cascades Resource Area Soil Rehabilitation Environmental Assessment

**BLM**

**Salem District**



This environmental assessment discloses the predicted environmental effects of a proposal to rehabilitate damaged lands by decompacting and revegetating undesignated trails on federal land located within the Cascades Resource Area (Townships 1 North through 13 South, Ranges 1 West through 7 East, Willamette Meridian) and within the Willamette and Sandy River Watersheds.

As the Nation's principal conservation agency, the Department of Interior has responsibility for most of our nationally owned public lands and natural resources. This includes fostering economic use of our land and water resources, protecting our fish and wildlife, preserving the environmental and cultural values of our national parks and historical places, and providing for the enjoyment of life through outdoor recreation. The Department assesses our energy and mineral resources and works to assure that their development is in the best interest of all people. The Department also has a major responsibility for American Indian reservation communities and for people who live in Island Territories under U.S. administration.

**BLM/OR/WA/EA-06/051-1792**

# **FINDING OF NO SIGNIFICANT IMPACT**

## **Introduction**

The Bureau of Land Management (**BLM**) has conducted an environmental analysis (Environmental Assessment Number OR080-06-08) for the Cascades Resource Area Soil Rehabilitation project.

This project is a proposal to break up compacted soils, promote infiltration of precipitation, and provide suitable soil structure for reestablishing native vegetation and proper functioning drainage patterns on undesignated degraded trails.

The project is located on BLM lands within Townships 1 North through 13 South, Ranges 1 West through 7 East, Willamette Meridian (*EA Section 1.1*) from approximately 20-60 miles East of Salem, Oregon.

The Cascades Resource Area Soil Rehabilitation Environmental Assessment (**EA**) documents the environmental analysis of the proposed project. The EA is attached to and incorporated by reference in this Finding of No Significant Impact determination (**FONSI**). The analysis in this EA supplements analyses found in the *Salem District Proposed Resource Management Plan/Final Environmental Impact Statement*, September 1994 (**RMP/FEIS**). This project has been designed to conform to the *Salem District Record of Decision and Resource Management Plan*, May 1995 (**RMP**) and related documents which direct and provide the legal framework for these projects (*EA Section 1.4*).

The EA is a programmatic document, which identifies priorities for, and methods of rehabilitating the undesignated, damaged trails and the associated effects of the proposed actions. The specific project sites will be identified at a future date as funding becomes available using the criteria described in *EA Section 2.2 – Table 1*. For each project site, a NEPA compliance form will be completed (Appendix 2: NEPA Compliance form for the Individual Project Site). This form will show compliance with this programmatic EA. Effects analysis specific to each project site will be documented on this form.

The EA and FONSI will be made available for public review December 20, 2006 to January 19, 2007. The notice for public comment will be published in a legal notice by the *Molalla Pioneer*, *Stayton Mail*, and *Albany Democrat Herald* newspapers. Comments received by the Cascades Resource Area of the Salem District Office, 1717 Fabry Road SE, Salem, Oregon 97306, on or before January 19, 2007 will be considered in making the final decisions for this project.

## **Finding of No Significant Impact**

Based upon review of the Cascades Resource Area Soil Rehabilitation EA and supporting documents, I have determined that the proposed project is not a major federal action and would not significantly affect the quality of the human environment, individually or cumulatively with other actions in the general area. No environmental effects meet the definition of significance in context or intensity as defined in 40 CFR 1508.27. There are no significant impacts not already adequately analyzed, or no significant impacts beyond those already analyzed, in the *Salem District Proposed Resource Management Plan/Final Environmental Impact Statement*, September 1994 (RMP/FEIS) to which this environmental assessment is tiered.

Therefore, supplemental or additional information to the analysis in the RMP/FEIS in the form of a new environmental impact statement (**EIS**) is not needed. This finding is based on the following discussion:

**Context:** Potential effects resulting from the implementation of the proposed projects have been analyzed within the context of the project area boundaries. The proposed project would occur on up to 50 miles of undesignated trails (approximately 120 acres of Cascades Resource Area's 173,000 acres) [40 CFR 1508.27(a)] (*EA section 3.0*).

**Intensity:**

1. The proposed project is unlikely to have significant adverse impacts on the affected elements of the environment (soils, wetlands and riparian zones, and water quality) [40 CFR 1508.27(b)(1)] for the following reasons:

- Project design features described in *EA section 2.0* would reduce the risk of effects to affected resources to be within RMP standards and guidelines and to be within the effects described in the RMP/EIS. As a result of implementing these design features, any potential effects to the affected resources are anticipated to be site-specific and/or not measurable (i.e. undetectable over the watershed, downstream, and/or outside of the project area).
- *Soils:* Eroded slopes would be set on a trajectory towards revegetation as the ground is decompacted and organic material is added. The spreading network of damaged sites would be reduced.
- *Invasive/Nonnative Species:* Although suitable habitat (i.e. seedbeds) for invasive/non-native species would be created as a result of rehabilitation efforts associated with this project, impact if any would be small and short lived due to mitigation measures that will be implemented at each project site.
- *Wetlands and Riparian Zones:* The treatment would rehabilitate more natural flow and hydrologic patterns. Sediment delivery to streams and wetlands would be curtailed. Native riparian vegetation would be promoted.
- *Water Quality:* Although soil surfaces and adjacent vegetation would be disturbed, runoff and sedimentation would be reduced over the long term by rehabilitation of soil structure. Over the short term (< 1 year) some additional turbidity may result at sites which intersect stream channels and running water. Turbidity is not likely to be visible more than 1,000 feet downstream from activity. Project design features would reduce the risk of effects to water quality. Widespread or repeated soil rehabilitation treatments would not be occurring.

2. The proposed project would not affect:

- Public health or safety [40 CFR 1508.27(b)(2)];

- Unique characteristics of the geographic area [40 CFR 1508.27(b)(3)] - Known historic or cultural resource sites, parklands, prime farmlands, wild and scenic rivers (designated or eligible), wilderness, or ecologically critical areas located within the project area will not be treated under this proposal (*EA section 3.1*);
  - Districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places, nor would the proposed projects cause loss or destruction of significant scientific, cultural, or historical resources [40 CFR 1508.27(b)(8)] (*EA section 3.1*).
  - Roads identified in the Salem District Transportation Management Objectives (TMO) would not be treated under this proposal.
3. The proposed project is not unique or unusual. The BLM has experience implementing soil rehabilitation projects without highly controversial effects [40 CFR 1508.27(b) (4)], highly uncertain, or unique or unknown risks [40 CFR 1508.27(b) (5)] (*EA section 3.0*).
  4. The proposed project does not set a precedent for future actions that may have significant effects, nor does it represent a decision in principle about a future consideration [40 CFR 1508.27(b)(6)]. No hazardous materials or solid waste would be created in the project area. There would be no reduction in the amount of late-successional forest habitat on federal forestlands (RMP p. 22) (*EA section 3.0*). The proposed project would not retard or prevent the attainment of the ACS objectives (*EA section 4.0*).
  5. The interdisciplinary team evaluated the proposed project in context of past, present and reasonably foreseeable actions [40 CFR 1508.27(b) (7)]. The proposed project does not contribute to cumulative effects to the resources evaluated (*EA section 3.0*).
  6. The proposed project is not expected to have significant effects to Endangered or Threatened Species or habitat under the Endangered Species Act (ESA) of 1973 [40 CFR 1508.27(b) (9)].
    - *Northern spotted owl*: Due to the nature of the proposed projects, there would be no effects on ESA listed wildlife species or habitat. No trees greater than 16 inches dbh would be disturbed and therefore no suitable habitat would be modified as a result of the project and disturbance levels would be low. Where disturbance is an issue, a seasonal restriction from March 1 to July 15 would be applied to minimize the risk of disturbance to northern spotted owls. The seasonal restriction could be waived if surveys indicate no presence of nesting spotted owls within a disturbance range (0.25 to 0.5 miles) of the units.
    - *Fish*: A determination has been made that due to the timing of the proposed projects, and project design features that would minimize impacts to aquatic habitat, there would be no effects on ESA listed fish species or Critical Habitat that may be found in the project watersheds. ESA listed fish species that may be found in the project watersheds are Lower Columbia River (LCR) steelhead trout, LCR chinook salmon, LCR coho salmon, Upper Willamette River (UWR) chinook salmon and UWR steelhead trout. Consequently, no consultation with NOAA Fisheries is required (*EA section 5.1*).

7. The proposed project does not violate any known Federal, State, or local law or requirement imposed for the protection of the environment [40 CFR 1508.27(b) (10)]. The alternatives are consistent with other Federal agency and State of Oregon land use plans and with County land use plans and zoning ordinances. Any permit requirements associated with the implementation of this project would be obtained and complied with. Project design features would assure that potential impacts to water quality would be in compliance with the State of Oregon In-stream Water Quality Standards and thus the Clean Water Act (*EA section 2.0*). Additionally, the proposed projects are consistent with applicable land management plans, policies, and programs (*EA section 1.4*).

Prepared by: Patrick Hawe  
Patrick Hawe, Hydrologist

12/19/06  
Date

Reviewed by: Carolyn Sands  
Carolyn Sands, NEPA Coordinator

12/19/06  
Date

Approved by: Cindy Enstrom  
Cindy Enstrom, Field Manager  
Cascades Resource Area

12/19/06  
Date

# ENVIRONMENTAL ASSESSMENT

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## **1.0 INTRODUCTION**

### **1.1 Summary of the Proposed Project**

This is a proposal to rehabilitate undesignated trails that are experiencing soil erosion and resource damage within the Cascades Resource Area. The proposed project will be designed to break up compacted soils, promote infiltration of precipitation, and provide suitable soil structure for reestablishing native vegetation and proper functioning drainage patterns on degraded trails.

- The EA is a programmatic document, which identifies priorities for, and methods of rehabilitating the undesignated, damaged trails and the associated effects of the proposed actions.
- The specific project sites will be identified at a future date as funding becomes available using the criteria described in *EA Section 2.2 – Table 1*.
- For each project site, a NEPA compliance form will be completed (Appendix 2: NEPA Compliance form for the Individual Project Site). This form will show compliance with this programmatic EA. Effects analysis specific to each project site will be documented on this form.

#### **1.1.1 Project Area Location:**

The project is located on BLM lands within Cascades Resource Area (Townships 1 North through 13 South, Ranges 1 West through 7 East, Willamette Meridian) and within the Willamette and Sandy River Watersheds approximately 20-60 miles from Salem, Oregon (See Map 1). This project will be further divided into geographic areas based on the criteria identified in Table 1.

The EA will describe the actions, affected environment and environmental effects common to all project areas. For each project area, actions, affected environment and environmental effects unique to that area will be documented in the attached NEPA Review form (Appendix 2).

### **1.2 Purpose of and Need for Action**

There is a continuing need to rehabilitate sites that are experiencing soil erosion and resource damage in the Cascade Resource Area.

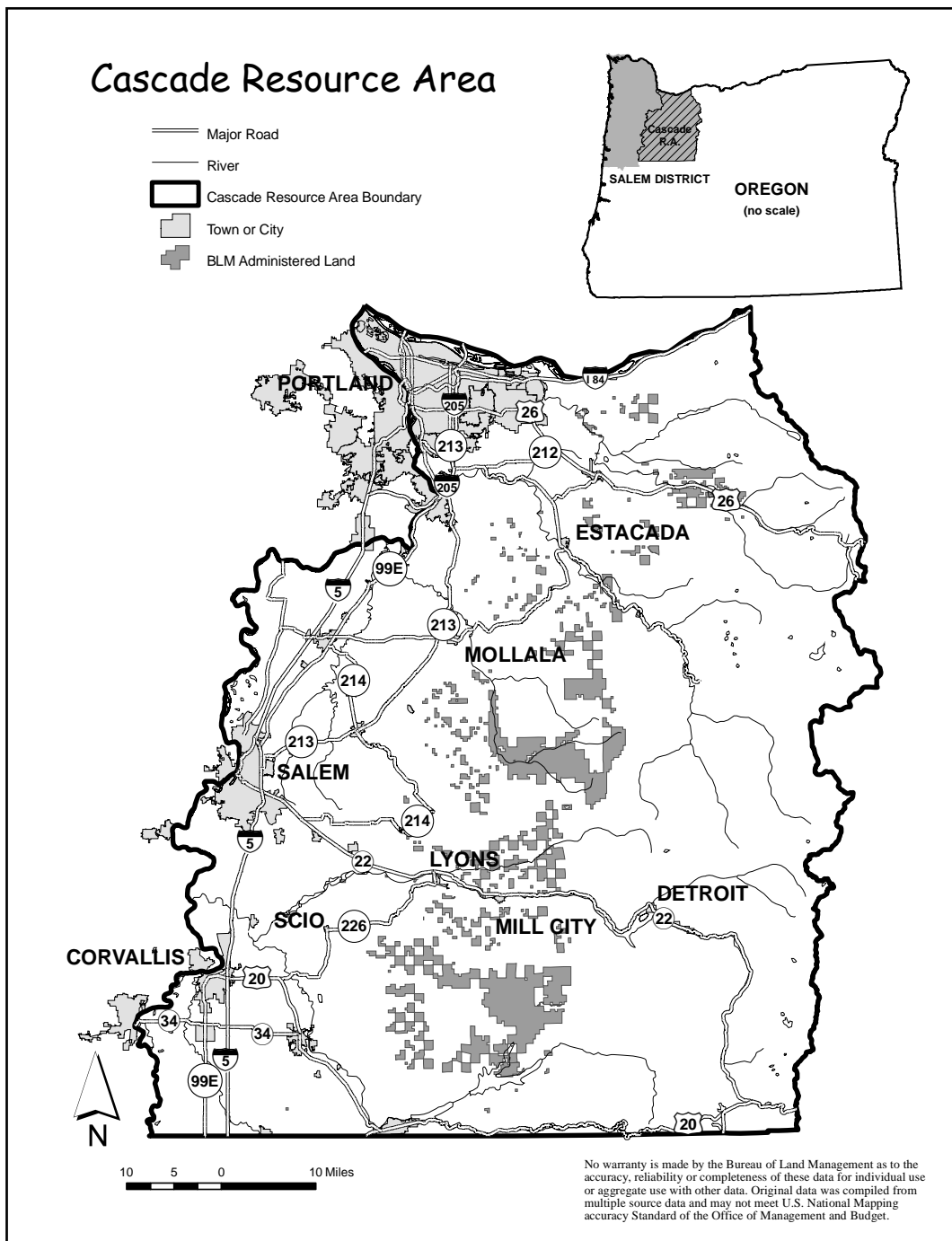
Many undesignated trails have been pioneered across public lands. In some cases soil surfaces disturbed during logging (e.g., logging skid trails and fire lines) are being accessed and used as off highway vehicle (OHV) trails. In addition, relatively undisturbed ground is being adversely impacted by unauthorized trail use. Resource damage from these activities includes increasing surface erosion and gullies, loss of soil productivity, and compaction. There is also a concern about the spread of invasive weeds along these trails. There have been incursions into wetlands and riparian areas creating stream bank erosion and water quality degradation.

A public safety hazard is created by undesignated trails because they have not been designed for recreational use. They are often steep, heavily eroded trails that are unfortunately seen as a challenge to many users, resulting in accidents and liability to the land owner.

Undesignated trails have been observed as a conduit for access related crime including illegal dumping, abandoned vehicles, arson, vandalism, dumping of hazardous materials and drug growing and manufacturing.

Private land owners have complained that users cut across public land to illegally enter and often damage private land.

**Map 1: Vicinity Map**



### **1.2.1 RMP Objective:**

*To restore watershed function and contribute to meeting Aquatic Conservation Strategy (ACS) Objectives by: repairing erosion damage and compaction on affected soils, modifying drainage patterns to minimize or prevent sediment from entering streams, and preventing reoccurrence of the activities that caused the damage.*

### **1.2.2 Desired Future Condition:**

*Decompacting soils and ameliorating erosion damage would restore more natural biological and hydrological processes to degraded sites, as well as lower environmental and human risks. Restoring organic matter to the damaged surfaces would set the sites on a trajectory to soil and vegetation recovery.*

Based on the current condition of the trails and the RMP objective and Desired Future Condition stated above, the purpose of this project is to:

- repair erosion damage and compaction on these trails;
- modify drainage patterns to repair existing erosion and compaction and to minimize or prevent sediment from entering streams; and
- prevent reoccurrence of the activities that caused the damage.

## **1.3 Decision to be Made**

The decision to be made by the Cascades Field Manager is:

- Which alternative best meets the purpose and need of the project.
- Whether to implement the proposed soil rehabilitation as proposed, not at all, or to some other extent.
- Whether site specific impacts would require supplementation of the analysis found in the RMP/FEIS through a new EIS.

## **1.4 Conformance with Land Use Plan, Statutes, Regulations, and other Plans**

The following documents direct and provide the legal framework for *Cascades RA Soil Rehabilitation* project: **1/ Salem District Record of Decision and Resource Management Plan (RMP)**, May 1995 (**Appendix C: Best Management Practices: Watershed Rehabilitation #2** “*Use corrective measures to repair degraded watershed conditions. Restore to predisturbance conditions with a vegetative cover that will maintain or improve soil stability, reduce surface runoff, increase infiltration, and reduce flood occurrence and flood damage*”, p. C-9). The RMP has been reviewed and it has been determined that the proposed project conforms to the land use plan terms and conditions (e.g. complies with management goals, objectives, direction, standards and guidelines) as required by 43 CFR 1610.5 (BLM Handbook H1790-1). Implementing the RMP is the reason for doing this project (RMP p.1-6). The proposed project is within the Matrix, Riparian Reserve, and Late Successional Reserve (LSR) Land Use Allocations (LUA) as described in the RMP, pp. 8 and 20-21. Recreation sites, Areas of Critical Environmental Concern (ACEC), designated recreational trails, Wild and Scenic Rivers, and wilderness areas are outside of the scope of this analysis.

2/ *Record of Decision for Amendments to Forest Service and Bureau of Land Management Planning Documents within the Range of the Northern Spotted Owl and Standards and Guidelines for Management of Habitat for Late-Successional and Old-Growth Forest Related Species within the Range of the Northern Spotted Owl*, April 1994 (the Northwest Forest Plan, or **NWFP**); 3/ *Record of Decision for Amendments to the Survey and Manage, Protection Buffer, and Other Mitigation Measures Standards and Guidelines* January, 2001(**SM/ROD**); and *Implementation of 2003 Survey and Manage Annual Species Review*, December 2003; 4/ *Record of Decision Amending Resource Management Plans for Seven Bureau of Land Management Districts and Land and Resource Management Plans for Nineteen National Forests within the Range of the Northern Spotted Owl, Decision to Clarify Provisions Relating to the Aquatic Conservation Strategy*, March 2004 (**ACSROD**).

The analysis in the *Cascades RA Soil Rehabilitation EA* is site-specific and supplements analyses found in the *Salem District Proposed Resource Management Plan/Final Environmental Impact Statement*, September 1994 (RMP/FEIS). The RMP/FEIS includes the analysis from the *Final Supplemental Environmental Impact Statement on Management of Habitat for Late-Successional and Old-Growth Forest Related Species within the Range of the Northern Spotted Owl*, February 1994 (**NWFP/FSEIS**).

The RMP/FEIS is amended by the *Final Supplemental Environmental Impact Statement for Survey and Manage, Protection Buffers, and Other Mitigation Measures in the Northwest Forest Plan*, November 2000 (**SM/FSEIS**); *Final Supplemental Environmental Impact Statement to Remove or Modify the Survey and Manage Mitigation Measure Standards and Guidelines*, January 2004 (**SSSP/FSEIS**); and the *Final Supplemental Environmental Impact Statement, Clarification of Language in the 1994 Record of Decision for the Northwest Forest Plan National Forests and Bureau of Land Management Districts Within the Range of the Northern Spotted Owl*, October 2003 (**ACS/FSEIS**).

The following documents provided additional direction in the development of the proposed project:

<i>Abiqua Butte</i>	1995	<i>Molalla River</i>	1999
<i>Blowout</i>	1994	<i>North Fork Clackamas</i>	1996
<i>Breitenbush</i>	1996	<i>North Santiam River</i>	2002
<i>Bull Run</i>	1997	<i>Pudding River</i>	2006
<i>Clear Creek/Foster Creek</i>	2002	<i>Quartzville Creek</i>	2002
<i>Collawash River</i>	1995	<i>Salmon</i>	1995
<i>Crabtree Creek</i>	2001	<i>South Fork Clackamas</i>	1997
<i>Eagle Creek</i>	1995	<i>South Santiam</i>	1995
<i>Fish Creek</i>	1994	<i>Thomas Creek</i>	1997
<i>Gordon Creek</i>	2006	<i>Upper Clear Creek</i>	1995
<i>Hamilton Creek</i>	1995	<i>Upper Clackamas</i>	1995

<i>Watershed Analysis</i>	<i>Completion Year</i>	<i>Watershed Analysis</i>	<i>Completion Year</i>
<i>Little North Santiam</i>	1998	<i>Upper McKenzie</i>	1995
<i>Lower Clackamas River</i>	1996	<i>Upper North Santiam</i>	1995
<i>Middle Santiam</i>	1996	<i>Upper Sandy</i>	1996
<i>Milk Creek</i>	2004	<i>Zig Zag River</i>	1995

The above documents are incorporated by reference in this environmental analysis and are available for review in the Salem District Office.

## 1.5 Results of Scoping

The scoping process for this project is described in *Section 5.3*. Five letters and two phone calls with scoping comments were received from May 5 to June 12, 2006. Most of the scoping comments voiced general support for the project. Some comments addressed broader travel management issues. One concern was raised on the trend towards excluding OHV recreation. Scoping did not lead to development of an action alternative.

## 2.0 ALTERNATIVES

### 2.1 Alternative Development

Pursuant to Section 102 (2) (E) of the National Environmental Policy Act (NEPA) of 1969, as amended, Federal agencies shall "...study, develop, and describe appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources."

No unresolved conflicts concerning alternative uses of available resources (section 102(2) (E) of NEPA) were identified. No alternatives were identified that would meet the purpose and need of the project and have meaningful differences in environmental effects from the Proposed Action. Therefore, this EA will analyze the effects of the "Proposed Action" and the "No Action Alternative" in these project areas.

### 2.2 Proposed Action

The BLM proposes to:

- Treat compacted soils to break up compaction, promote infiltration of precipitation, and to provide a seedbed for native plants on up to 50 miles of trail (total covered under this EA) (see Figure 1).
- Modify drainage patterns (e.g. filling in ruts and shaping slopes, building waterbars) to divert potential runoff onto stable, vegetated slopes.
- Reshape the existing profiles of trails to prevent any unauthorized use.
- Place woody debris on the site to provide organic matter and to further discourage unauthorized trail use. Adjacent trees (up to 16 inches DBH) may be felled or pulled over onto the site as well as root wads or downed wood (see Figure 2).
- Restore stream crossings to "Proper Functioning Condition." Stream crossing materials would be removed, banks stabilized/vegetated, channel dimensions (width/depth ratio, grade, etc.) restored to pre-disturbance range.

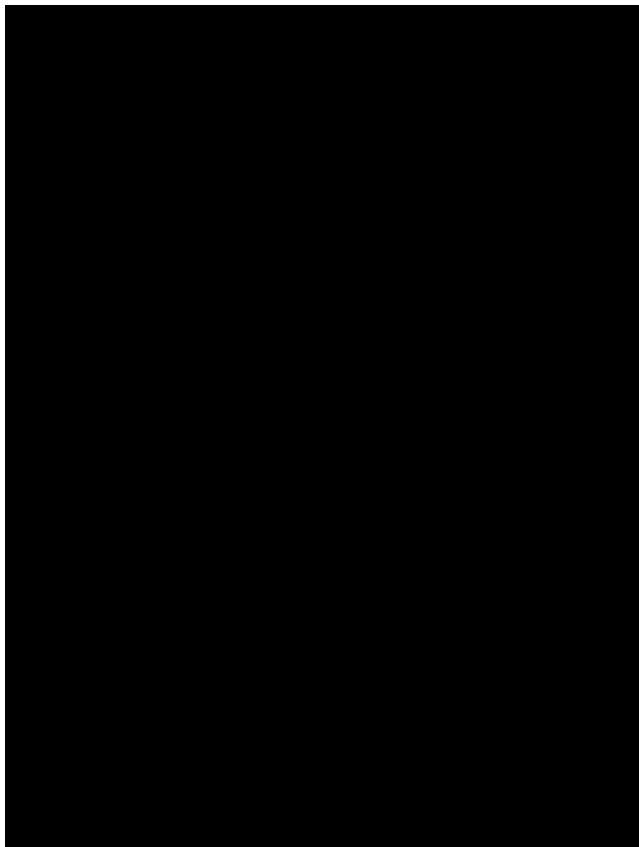
The specific project sites will be identified at a future date as funding becomes available using the criteria in *Table 1*.

**Table 1: Criteria for Treatment of Undesignated Trails**

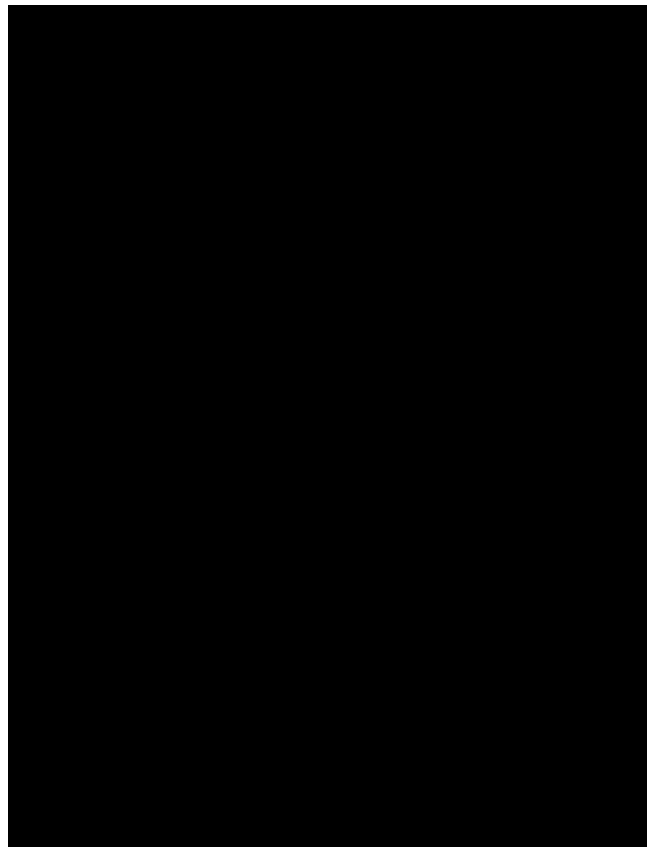
The following criteria would be considered before determining the need to treat a specific undesignated trail. However, not all the criteria would have to be occurring for action to be taken.

Causing Soil Erosion
At a Stream Crossing
In close proximity to protected species
Within a Land use allocation/special area designation where there are conflicts
Within a Wetland
Posing Public hazard/risk
Showing Signs of expanding network (e.g. multiple trails)
Providing access for illegal uses (e.g. vandalism, dumping, tree cutting)
In close Proximity to adjacent landowners

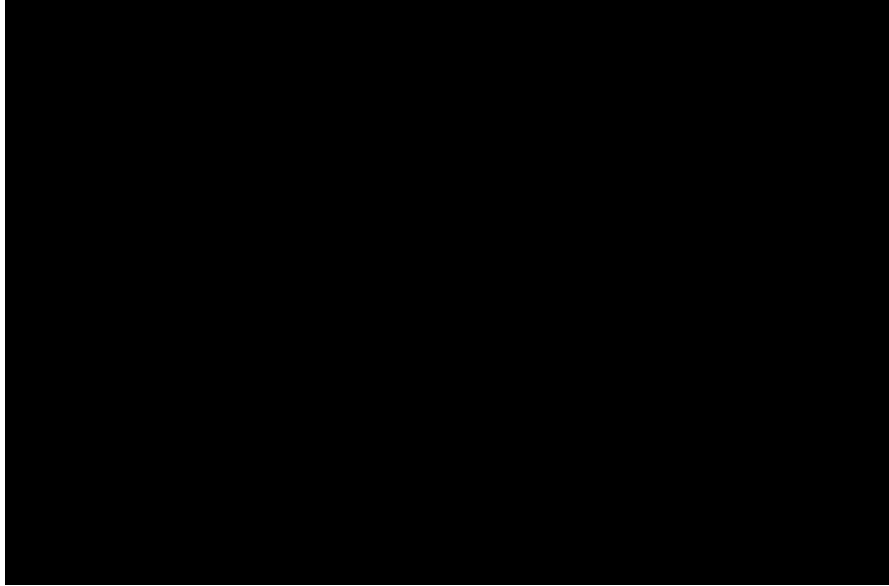
The following photos are representative samples of past soil rehabilitation projects.



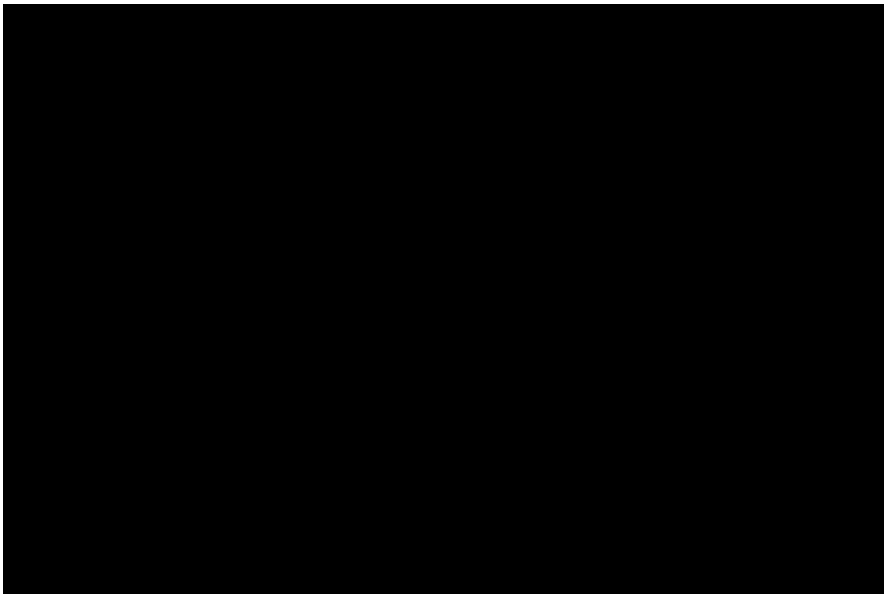
**Photo 1:** Severe compaction and erosion on an undesignated trail.



**Photo 2:** Rehabilitation site following treatment with an excavator.



**Photo 3:** Soil rehabilitation utilizing an excavator.



**Photo 4:** Utilizing boulders, trenching and debris to block access to site.

### 2.2.1 Project Design Features

The following is a summary of the design features that reduce the risk of effects to the affected elements of the environment described in *Section 3.1*.

- On narrow sites that are unsuitable for mechanized equipment (typically less than six feet), work would be accomplished by manual labor. Types of equipment that could be used include: shovels, hoes, hand saws, chain saws, and winches.
- Where appropriate (typically wider than six feet), work would be accomplished with machinery such as a track hoe or “Spyder” with appropriate attachments (see Figure 3).
- All operations would be done during periods of unsaturated soil conditions, typically between May 1 and October 31.
- Machinery would be cleaned free of weed seeds, soil, and plant parts prior to entering BLM lands.
- Bare soil would be seeded with native species. Some plants may be transplanted from adjacent areas. Weed free mulch may be used as appropriate for expected weather and other factors at the time of seeding.

### 2.3 No Action Alternative

Soil erosion and compaction, sediment delivery to streams, dumping, trespassing on private lands and the other activities described under the Purpose and Need would continue unabated and likely would expand to areas currently not impacted.

## 3.0 AFFECTED ENVIRONMENT AND ENVIRONMENTAL EFFECTS

### 3.1 Identification of Affected Elements of the Environment

The interdisciplinary team reviewed the elements of the human environment, required by law, regulation, Executive Order and policy, to determine if they would be affected by the Proposed Action. *Table 2* (Critical Elements of the Environment) and *Table 3* (Other Elements of the Environment) summarize the results of that review. Affected elements are **bold**. All entries apply to the action alternatives, unless otherwise noted.

**Table 2: Review of Critical Elements of the Environment (BLM H-1790-1, Appendix 5)**

Air Quality (Clean Air Act)	Not Affected	No	No burning or site preparation is proposed.
Areas of Critical Environmental Concern	Not Affected	No	Project would be outside of all ACECs.



<b>Table 2: Critical Elements Of The Environment</b>		<b>Status: (i.e., Not Present, Not Affected, or Affected)</b>	<b>Does this project contribute to cumulative effects? Yes/No</b>	<b>Remarks</b>
Cultural Resources		Not Affected	No	Project areas include previously disturbed ground. Inventories would be completed on each project area prior to ground disturbance. If cultural material is found, this material will be evaluated by the District cultural resource specialist and appropriate mitigation measures developed as needed to achieve No Effect.
Adverse Impacts on the National Energy Policy (Executive Order 13212)		Not Present	No	There are no known energy resources located in the project area. The Proposed Action would have no effect on energy development, production, supply and/or distribution.
Environmental Justice (Executive Order 12898)		Not Present	No	The Proposed Action is not anticipated to have disproportionately high and adverse human health or environmental effects on minority populations and low-income populations.
Prime or Unique Farm Lands		Not Present	No	
Flood Plains (Executive Order 11988)		Not Affected	No	The project is small in scale and would not change the character of the river floodplain, change floodplain elevations, or affect overbank flooding.
Hazardous or Solid Wastes		Not Present	No	There are no known hazardous or solid wastes on project sites. This project would not generate or transport hazardous or solid wastes.  If hazardous or solid wastes are encountered during site surveys or project implementation, these will be reported to appropriate personnel for treatment.
<b>Invasive, Nonnative Species (plants) (Executive Order 13112)</b>		<b>Affected</b>	<b>No</b>	<b>Effects are addressed in section 3.3.</b>
Native American Religious Concerns		Not Present	No	No Native American religious concerns were identified during the public scoping period.
Threatened or Endangered (T/E) Species or Habitat	Fish	Not Affected	No	Due to the timing of the proposed projects and project design features that would minimize impacts to aquatic habitat, there would be no effects on ESA listed fish species or Critical Habitat that may be found in the project watersheds.
	Plant	Not Affected	No	No T&E species or habitats exist in project areas.
	Wildlife (including designated Critical Habitat)	Not Affected	No	Due to the timing, locations and nature of the projects, there would be no effects on T/E wildlife species or habitat, including critical habitat. No suitable habitat would be modified and seasonal restrictions to reduce disturbance would be in place.
<b>Water Quality (Surface and Ground)</b>		<b>Affected</b>	<b>No</b>	<b>Effects are addressed in section 3.7.</b>

<b>Table 2: Critical Elements Of The Environment</b>	<b>Status: (i.e., Not Present, Not Affected, or Affected)</b>	<b>Does this project contribute to cumulative effects? Yes/No</b>	<b>Remarks</b>
<b>Wetlands/Riparian Zones (Executive Order 11990)</b>	<b>Affected</b>	<b>No</b>	<b>Effects are addressed in section 3.6.</b>
Wild and Scenic Rivers	Not Affected	No	No outstandingly remarkable values or key river values would be affected for either designated or eligible rivers because areas within ¼ would not be treated.
Wilderness	Not Present	No	Project would be outside of all wilderness areas.

**Table 3: Review of Other Elements of the Environment**

Coastal zone	Not Present	No		
<b>Fire Hazard/Risk</b>	<b>Affected (Beneficial Effect)</b>	<b>No</b>	<b>The proposed action reduces off-road vehicle use which could be sources of human caused ignition.</b>	
Other Fish Species with Bureau Status and Essential Fish Habitat (RMP p. 29)	Not Present/ Not Affected	No	No non-ESA listed special status fish species are found within the project watersheds. Essential Fish Habitat, as designated under the Magnuson-Stevens Act would not be affected due to mitigation measures that would be included in project design and implementation.	
Land Uses (right-of-ways, permits, etc)	Not Affected	No	Treatments would be consistent with Land Use guidance.	
Late Successional and Old Growth Habitat	Not Affected	No	Treatments would not modify Late Successional or Old Growth Habitat.	
Mineral Resources	Not Present	No		
<b>Recreation</b>	<b>Affected</b>	<b>Yes</b>	<b>Effects are addressed in section 3.8</b>	
<b>Rural Interface Areas</b>	<b>Affected</b>	<b>Yes</b>	<b>Effects are addressed in section 3.8</b>	
<b>Soils</b>	<b>Affected</b>	<b>No</b>	<b>Effects are addressed in section 3.5</b>	
Special Areas outside ACECs (Within or Adjacent) (RMP p. 33-35)	Not Affected	No	Project would be outside of all ACECs.	
Other Special Status Species / Habitat (Including Survey and Manage)	Plants	Not Affected	No	Due to the nature of the proposed project(s) and the habitat that may exist within or adjacent to a project area, each project area would be evaluated individually for the presence of Special Status species and/or habitat prior to any habitat disturbance.
	Wildlife	Not Affected	No	No known impacts to wildlife species or habitat as part of the proposal.
<b>Visual Resources</b>	<b>Affected (Beneficial Effects)</b>	<b>Yes</b>	<b>Effects are addressed in section 3.8</b>	

<i>Table 3: Other Elements of the Environment</i>	<i>Status: (i.e., Not Present, Not Affected, or Affected)</i>	<i>Does this project contribute to cumulative effects? Yes/No</i>	<i>Remarks If not affected, why?</i>
<b>Water Resources – Other (303d listed streams, DEQ 319 assessment, Downstream Beneficial Uses; water quantity, Key watershed, Municipal and Domestic)</b>	<b>Affected</b>	<b>No</b>	<b>Effects are addressed in section 3.7</b>
Wildlife Structural or Habitat Components - Snags/CWD/ Special Habitats, road densities	Not Affected	No	The proposed project as planned would not alter any wildlife habitat components.

Those elements of the human environment that were determined to be affected are general vegetation, special status plant, invasive/nonnative plants, wetlands/riparian zones, water quality, soils, recreation, rural interface areas, and visual resources. Sections 3.2-3.8 describe the current condition and trend of those affected elements, and the environmental effects of the alternatives on those elements.

### **3.2 General Vegetation**

#### *Environmental Effects:*

##### **3.2.1 Proposed Action**

Some vegetation, coarse woody debris, young trees and snags immediately adjacent to the undesignated trails would likely be disturbed while shaping the trails to make them unusable for unauthorized trail use and to direct drainage to stable slopes. The ground cover vegetation would be expected to re-grow quickly and would establish in new fill on the recovered trail surfaces. Some plants may be transplanted into the recovered trail surfaces from the adjacent soil. The woody debris used to litter the surface of the old trails would become incorporated into the site over time. Native species seeded on part or all of the trail system would establish quickly to stabilize soil. The species most suited to the site would dominate over time.

##### **3.2.2 No Action**

Human activity would keep vegetation from becoming re-established on the trails and would likely expand the impacted area, by extending the undesignated trails system.

### **3.3 Invasive/Nonnative plants**

#### *Affected Environment*

Soil disturbance in open areas provides optimal habitat for invasive/nonnative species. Design features incorporated in this EA would mitigate the opportunity for the establishment of these species.

## *Environmental Effects*

### **3.3.1 Proposed Action**

The project will attempt to restore a more natural distribution of native ground cover and shrubs. Because seeds of invasive/non-native species may already exist on site, or are located adjacent to a project area, the project may result in a temporary increase in invasive/non-native plant populations due to soil disturbance. Grass seeding areas of exposed soil will help reduce invasive/non-native plant establishment through competition. Native grass seed and/or native plants would be planted at all project sites where exposed soils exist. Over time, with competition from native species and a reduction in available sun light as native species become established, invasive/nonnative species populations will be greatly reduced or eliminated from the project areas.

#### **3.3.1.1 Cumulative Effects**

The restoration of project sites with native vegetation would reduce or eliminate the invasive/nonnative species populations that currently exist at project sites and would greatly reduce the opportunity for spread of invasive/nonnative species beyond their current location.

### **3.3.2 No Action Alternative**

If the proposed action is not implemented areas identified for treatment would continue to receive unauthorized use, would continue to be occupied by invasive/nonnative species and would continue to serve as a conduit from which invasive/nonnative species are spread.

## **3.4 Special Status Plants (e.g. T/E, other special status, and Survey and Manage)**

### *Affected Environment*

Treatment sites are sites of previous or current disturbance. Habitat at these sites is not adequate to support T&E, Special Status or Survey & Manage Species. Areas that may be impacted by the proposed project adjacent to project sites however may contain suitable habitat.

## *Environmental Effects*

### **3.4.1 Proposed Action**

Due to the nature of the project and the habitat that may exist adjacent to a project area, and because suitable habitat (i.e. substrate) adjacent to a project area may be transferred to the project area in an effort to discourage continued/future use of these sites, each project area will be evaluated individually for the presence of T&E, Special Status and Survey & Manage species and/or habitat prior to any habitat disturbance. If listed species are identified adjacent to project sites, the species, its substrate and the micro-climate surrounding it will be protected from disturbances and/or negative impacts related to the project.

#### **3.4.1.1 Cumulative Effects**

The restoration of project sites will improve habitat within and adjacent to project sites by discouraging future unauthorized use and by reestablishing the native vegetation and conditions that previously existed.

### **3.4.2 No Action Alternative**

If the proposed action is not implemented areas identified for treatment would continue to receive unauthorized use and habitat destruction. Over time, continued use may spread to areas not currently impacted by unauthorized use consequently destroying additional habitat and potential Special Status Species that may exist there.

## **3.5 Soils**

### *Affected Environment*

Treatment sites are previously disturbed ground, such as old skid routes where unauthorized trail use has contributed to gully erosion. Project soils include a variety of Cascades foothills soil series with textures ranging from silty clay loams to cobbly loams. Organic soil material (upper horizons) has been displaced from these sites, eliminating vegetation cover and reducing the surrounding vegetation. Erosion and compaction have reduced porosity and the ability to support soil biota. In some sites, deep rutting continues.

### *Environmental Effects*

#### **3.5.1 Proposed Action**

Compacted soils would be aerated. Adjacent organic material and biota would be added to the disturbed ground. Excessive rutting would be eliminated. Excessive sheet and gully erosion would be curtailed. Neighboring vegetation would colonize over the previously impacted areas and stabilize the soil.

#### **3.5.2 Cumulative Effects**

Incidental and localized soil rehabilitation would not contribute to cumulative soil effects. Eroded slopes would be set on a trajectory towards revegetation as the ground is decompacted and organic material is added. The spreading network of damaged sites would be reduced.

#### **3.5.3 No Action Alternative**

The accelerated erosion and soil degradation would continue and expand if not treated.

## **3.6 Wetlands & Riparian Zones**

### *Affected Environment*

Some undesignated trails are crossing streams and wetlands. This damages stream banks and wetland surfaces with impacts to water quality, drainage, aquatic and plant communities at these locations.

## *Environmental Effects*

### **3.6.1 Proposed Action**

Where wetlands are disturbed, this action would help to recover function at these sites. The treatment would rehabilitate more natural flow and hydrologic patterns. Sediment delivery to streams and wetlands would be curtailed. Native riparian vegetation would be promoted. No new or additional disturbance would occur as a result of this project.

#### **3.6.1.1 Cumulative Effects**

Incidental and localized soil rehabilitation would not contribute to cumulative wetlands and riparian effects. Over the long term, rehabilitation of disturbed sites would result in a cumulative benefit to stream channel and wetland functioning in affected watersheds.

### **3.6.2 No Action Alternative**

Current trends and conditions will continue at wetland and stream sites affected by trails. See Affected Environment in the next section.

## **3.7 Water Quality**

### *Affected Environment*

Where undesignated trails cross streams, physical damage to stream banks and the channel bed increases erosion and sedimentation. The increased fine sediment supply disturbs aquatic communities and contributes to turbidity during winter storm events. In some cases, water quality standards for turbidity may be exceeded. The removal of riparian vegetation in the vicinity of trails reduces shade and may result in increased heat loads and stream temperature warming during the summer low flows. Motorized vehicles present a risk for the introduction of gasoline and oil byproducts to streams at trail crossings.

### *Environmental Effects*

#### **3.7.1 Proposed Action**

Although soil surfaces and adjacent vegetation would be disturbed, runoff and sedimentation would be reduced over the long term by rehabilitation of soil structure. Over the short term (< 1 year) some additional turbidity may result at sites which intersect stream channels and running water. Turbidity is not likely to be visible more than 1,000 feet downstream from activity. Project design features would reduce the risk of effects to water quality.

Treatments would be designed to rehabilitate stream channels and wetlands where trails intersect them. Over the long-term, this would help protect beneficial uses by restoring proper functioning condition to wetland and stream sites.

##### **3.7.1.1 Cumulative Effects**

Widespread or repeated soil rehabilitation treatments would not be occurring. The incidental, localized, and short term turbidity increases would be unlikely to contribute to cumulative water quality effects. Over the long term, rehabilitation of disturbed sites would result in a cumulative benefit to water quality in affected watersheds.

### **3.7.2 No Action Alternative**

Current water quality trends and conditions will continue at wetland and stream sites affected by trails.

## **3.8 Recreation**

### ***Affected Environment***

Treatment sites are undesignated trails. The unauthorized use of these trails has contributed to resource damage, private property trespass, illegal dumping and vandalism.

### ***Environmental Effects***

#### **3.8.1 Proposed Action**

##### ***Recreation***

Recreational use within proposed project areas would slightly decrease through the closing of undesignated trails. Recreationists would still be able to access open roads and designated routes within a proposed project area.

##### ***Visual Resources***

Visual Resources within proposed project areas would not be adversely impacted. Restoration projects would provide an improvement in visual appeal by repairing damaged routes and revegetating bare soils to gain a more natural appearance.

##### ***Rural Interface Areas***

Illegal trash dumping, private property trespass, and vandalism would likely decrease as a result of closing undesignated trails.

#### **3.8.1.1 Cumulative Effects**

##### ***Recreation***

Recreational use on undesignated trails has caused excessive resource damage, soil erosion, and is not in compliance with OHV designations for BLM-administered lands. The OHV designations that govern use for this area are "Limited to Designated Roads," and "Limited to existing roads and designated Trails." No trails in this area have been designated as open for off-road use.

The cumulative effect to recreation would be a decrease in recreational use on undesignated trails. Access to designated BLM administered trails would not be affected.

Restrictions to recreational use are increasing within the proposed project boundaries due to problems with vandalism, resource damage and public health and safety. Trail closures and rehabilitation would contribute to this trend. However, there are still opportunities for appropriate recreational use on public lands in the area.

### ***Visual Resources***

Restoration projects would provide an improvement in visual appeal by repairing damaged routes and revegetating bare soils to gain a more natural appearance. No change to large scale visual resource is anticipated as part of this proposed project.

### ***Rural Interface Areas***

Illegal trash dumping, private property trespass, and vandalism would likely decrease as a result of closing undesignated trails.

### **3.8.2 No Action Alternative**

Unauthorized recreational use has the potential to cause continuing resource damage including vandalism and illegal trash dumping if not addressed. Continuing to allow unauthorized use would lead to an expansion of undesignated trail networks, as well as widening of damaged areas. Steep, heavily eroded trails are seen as challenging and have an increased potential for accidents. Public hazards associated with illegal trash dumping and vandalism would likely decrease as a result of closing undesignated trails.

## **3.9 Comparison of Alternatives**

**Table 4: Comparison of Alternatives by Affected Resource**

<b><i>Soils</i></b>	Erosion curtailed, soil structure restored, and soil biogeochemical processes rehabilitated.	Erosion continues and increases, impacting other resources.
<b><i>Wetlands &amp; Riparian Zones</i></b>	More natural surface drainage, stream bank stability restored; native riparian vegetation restored.	Some sediment delivery to water bodies; loss of riparian vegetation and functions.
<b><i>Water Quality</i></b>	Potential short term (< 1 year) turbidity increase; long term water quality degradation curtailed.	Turbidity, temperature, and potential for chemical pollution increases.
<b><i>Recreation/Visual Resources/Rural Interface Areas</i></b>	Closure of undesignated trails. Reduction of recreational opportunities in area.	Expansion of undesignated trail networks, widening of existing undesignated trails, public safety concerns. Conduit for access related crimes: (illegal dumping, vehicle abandonment, vandalism, drug growing and manufacturing).
<b><i>Invasive/Nonnative Plants</i></b>	Invasive non-native species would be eliminated from the project areas or would have their numbers greatly reduced due to a lack of suitable habitat as native vegetation returns and reoccupies project sites.	Current distribution of invasive non-native species would increase as plants and seeds are transported by recreational use along with the introduction of new species that are transported from off-site.



<i>Purpose and Need (EA section)</i>		
Prevent reoccurrence of damaging activities.	Does not fulfill.	Largely fulfills. Isolates and restricts camping and vehicle access, the two most damaging activities, to small part of the site.
Repair erosion damage and compaction, modify drainage.	Does not fulfill.	Fulfills.
Minimize or prevent sediment from entering streams.	Does not fulfill.	Fulfills. Minimizes sediment in short run, essentially prevents it in the long run.
Prevent reoccurrence of damage causing activities.	Does not fulfill.	Fulfills. Prevents continued use and expansion of existing undesignated trails.

### 3.10 Compliance with the Aquatic Conservation Strategy

Table 5 shows compliance with the four components of the Aquatic Conservation Strategy for the Proposed Action (1/ Riparian Reserves, 2/ Key Watersheds, 3/ Watershed Analysis and 4/ Watershed Restoration).

**Table 5: Compliance of Components of the Aquatic Conservation Strategy**

<b><i>Component 1 - Riparian Reserves</i></b>	The proposed action may occur within riparian reserves. Activities are predicted to restore riparian resources through soil rehabilitation. Potential short term disturbances would be mitigated with project design features such as seasonal restrictions and erosion control measures.
<b><i>Component 2 - Key Watershed</i></b>	Key watersheds will be identified prior to rehabilitation.
<b><i>Component 3 - Watershed Analysis</i></b>	Various watersheds are affected and appropriate WSA documents will be identified prior to implementation.
<b><i>Component 4 - Watershed Restoration</i></b>	The proposed action is a component of the resource area's watershed restoration program and will promote restoration efforts.

Neither the Proposed Action nor the no Action Alternatives would prevent the attainment of any of the nine Aquatic Conservation Strategy Objectives (*Section 7.0*). However, under The No Action Alternative, undesignated trails within riparian reserves would remain degraded and the conditions to which they contribute (e.g., soil erosion, sedimentation, bank erosion, compaction of riparian surface soils, conduit for the spread of noxious species, etc.) would continue unabated. Under the Proposed Action, small steps would be accomplished for the restoration of some riparian areas and riparian functional condition.

### 4.0 LIST OF PREPARERS

Botany/Vegetation	Terry Fennell	<b><i>TGF</i></b>	7/19/06
Cultural Resources	Frances Philipek	<b><i>FMP</i></b>	8/9/06
Fire Hazard/Risk	Barb Raible	<b><i>BHR</i></b>	9/13/06
Fisheries	Dave Roberts	<b><i>DAR</i></b>	7/18/06

<i>Resource</i>	<i>Specialist</i>	<i>Initials</i>	<i>Date</i>
Hydrology, Water Quality	Patrick Hawe	<b>WPH</b>	7/20/06
Natural Resources Supervisor	Belle Smith	<b>BAS</b>	12/18/06
Other Resources/ NEPA	Carolyn Sands	<b>CDS</b>	12/14/06
Recreation, Visual and Rural Interface Resources	Zach Jarrett	<b>ZSJ</b>	8/28/06
Silviculture	Dan Schlottmann	<b>DCS</b>	8/14/06
Soils	Wes Wong	<b>WRW</b>	7/20/06
Wildlife	Jim England	<b>JSE</b>	7/14/06

## 5.0 CONTACTS AND CONSULTATION

### 5.1 Consultation (ESA Section 7 and Section 106 with SHPO)

#### 5.1.1 ESA Section 7 Consultation

##### 5.1.1.1 US Fish and Wildlife Service

Due to the nature of the proposed projects, there would be no effects on ESA listed wildlife species or habitat. No suitable habitat would be modified as a result of the project and disturbance levels would be low. Where disturbance is an issue, a seasonal restriction from March 1 to July 15 would be applied to minimize the risk of disturbance to northern spotted owls. The seasonal restriction could be waived if surveys indicate no presence of nesting spotted owls within a disturbance range (0.25 to 0.5 miles) of the units.

##### 5.1.1.2 NOAA Fisheries (NMFS)

Consultation with the NMFS on the potential effects on ESA listed fish species is required for projects that “may affect” the listed species. ESA listed fish species that may be found in watersheds within the Cascades Resource Area are: Lower Columbia River (LCR) steelhead trout, LCR chinook salmon, LCR coho salmon, Upper Willamette River (UWR) chinook salmon and UWR steelhead trout.

A determination has been made that these projects would have “no effect” on ESA listed fish species or Critical Habitat due to project timing, and project design features that would minimize impacts to aquatic habitat. Therefore, no consultation with the NMFS is required for these projects.

#### 5.1.2 Cultural Resources - Consultation with State Historical Preservation Office:

Inventories would be completed on each project area prior to ground disturbance. If cultural materials are found, these materials will be evaluated by the District cultural resources specialist and appropriate mitigation measures developed as needed in accordance with the Protocol agreement between the Oregon State Historic Preservation Office and BLM. Project areas include previously disturbed ground.

## 5.2 Public Scoping and Notification

A scoping letter was sent on May 1, 2006 to federal, state and municipal government agencies, nearby landowners, tribal authorities, and interested parties on the Cascades Resource Area mailing list. The letter briefly described the current version of the Soil Rehabilitation project and included photos.

### 5.2.1 EA public comment period

The EA and FONSI will be made available for public review December 20, 2006 to January, 2007. The notice for public comment will be published in a legal notice by the *Molalla Pioneer*, *Stayton Mail*, and *Albany Democrat Herald* newspapers. Comments received by the Cascades Resource Area of the Salem District Office, 1717 Fabry Road SE, Salem, Oregon 97306, on or before January 19, 2007 will be considered in making the final decisions for this project.

## 5.3 Response to Scoping Comments

Five letters and two phone calls with scoping comments were received from May 5 to June 12, 2006. Most of the scoping comments voiced general support for the project. One commenter expressed particular support for rehabilitating lands east of Colton (adjoining BLM and Port Blakely lands). One commenter called upon BLM to address broader travel management issues, user education, designations, enforcement, and signs.

Another commenter asked BLM to emphasize blocking access to rehabilitation sites, legal enforcement, designations, and wanted to remove OHVs from public forested lands due to associated resource damage. One concern was raised on the trend towards excluding OHV recreation.

### 5.3.1 Summary of Comments and BLM Responses:

Concern: What steps will be taken to provide OHV recreation to citizens? There is a trend towards removing OHV access from public and private lands.

Response: OHV is a valid recreation use that is appropriate on existing, authorized road and trail systems. Unfortunately we have experienced increased resource damage, safety concerns, trespass on neighboring private land, and pollution associated with motorized access in undesignated areas. Our policy is not to close all areas to OHV use. We will soon be developing a District-wide Transportation Management Plan in conjunction with the revised Resource Management Plan currently being prepared, that will address appropriate OHV use within the Cascades Resource Area.

## 6.0 MAJOR SOURCES

### 6.1 Major Sources

**Specialists' reports can be found in the Cascades Resource Area Soil Rehabilitation project file and are available for review at the Salem District Office.**

USDA. Forest Service, USDI. Bureau of Land Management. 1994. *Record of Decision for Amendments to Forest Service and Bureau of Land Management Planning Documents within the Range of the Northern Spotted Owl and Standards and Guidelines for Management of Habitat for Late Successional and Old-Growth Forest Related Species Within the Range of the Northern Spotted Owl*. Portland, Oregon

USDA. Forest Service, USDI. Bureau of Land Management. 1994. *Final Supplemental Environmental Impact Statement Management of Habitat for Late Successional and Old-Growth Forest Related Species Within the Range of the Northern Spotted Owl*. Portland, Oregon

USDA Forest Service; USDOJ Bureau of Land Management. 2004. *The Healthy Forest Initiative and Healthy Forests Restoration Act Interim Field Guide*. FS-799. Washington, DC: USDA, Forest Service. 58 p. <http://www.fs.fed.us/projects/hfi/field-guide/documents/interim-field-guide.pdf>

USDI, U.S. Fish and Wildlife Service, Oregon Fish and Wildlife Office. March, 2005. *Biological Opinion and Letter of Concurrence for Effects to Bald Eagles, Northern Spotted Owls and Northern Spotted Owl Critical Habitat from the U.S. Department of the Interior; Bureau of Land Management, Eugene District and Salem District, the U.S. Department of Agriculture; Mt. Hood National Forest and Willamette National Forest and the Columbia River Gorge National Scenic Area Calendar Years 2005-2006. Habitat Modification Activities within the Willamette Province.*(FWS Reference Number 1-7-05-F-0228). Portland, Oregon

USDA Natural Resources Conservation Service. 2005. *Soil Data Mart*. Accessed <http://soildatamart.nrcs.usda.gov/> January - February, 2006.

USDI. Bureau of Land Management. 2003. *Environmental Assessment and Finding of No Significant Impact, Cascades Resource Area Invasive Non-Native Plant Management*. Salem, Oregon

USDI. Bureau of Land Management. 1995. *Salem District Record of Decision and Resource Management Plan*. Salem, Oregon.

USDI. Bureau of Land Management. 1994. *Salem District Proposed Resource Management Plan/Final Environmental Impact Statement*. Salem, Oregon.

USDI. Bureau of Land Management. 1992. *Final Record of Decision for Western Oregon Program Management of Competing Vegetation*. Portland, Oregon.

USDI, Bureau of Land Management; USDA, Forest Service. 1999. *Molalla River Watershed Analysis*. Salem District, Cascades Resource Area, Salem, OR.

USDI, Bureau of Land Management, 2003. *Environmental Assessment No. OR-080-02-02, Cascades Resource Area Invasive Non-Native Plant Management*.

USDI, Bureau of Land Management. 2003. Oregon and Washington Bureau of Land Management Special Status Species Policy. BLM Instruction Memorandum No. OR-2003-054. Oregon State Office, Portland, OR.

## 7.0 Appendix 1 - Aquatic Conservation Strategy Objectives

### 7.1 Documentation of Consistency with the Nine Aquatic Conservation Strategy Objectives for all Action Alternatives

Table 6 describes the project's consistency with the Aquatic Conservation Strategy Objectives.

**Table 6:** Consistency with the Nine Aquatic Conservation Strategy Objectives

<p><b>Maintain and restore the distribution, diversity, and complexity of watershed and landscape-scale features to ensure protection of the aquatic systems to which species, populations and communities are uniquely adapted.</b></p> <p><i>Both the Action and No Action Alternatives do not retard or prevent the attainment of ACS objective 1</i></p>	<p><b>No Action Alternative:</b> The No Action alternative would maintain the development of the existing vegetation and associated stand structure at its present rate on a landscape scale. The current distribution, diversity and complexity of watershed and landscape-scale features would be maintained.</p> <p><b>Action Alternatives:</b> Soil rehabilitation will reduce surface erosion, fill failures, slides, and other disturbances which can alter landscape features and complexity.</p>
<p><b>Maintain and restore spatial and temporal connectivity within and between watersheds.</b></p> <p><i>Both the Action and the No Action Alternatives do not retard or prevent the attainment of ACS objective 2</i></p>	<p><b>No Action Alternative:</b> Current connectivity within and between watersheds would be maintained.</p> <p><b>Action Alternatives:</b> Rehabilitated slopes will improve drainage and assist with maintaining connectivity between watersheds.</p>
<p><b>Maintain and restore the physical integrity of the aquatic system, including shorelines, banks, and bottom configurations.</b></p> <p><i>Both the Action and No Action Alternatives do not retard or prevent the attainment of ACS objective 3</i></p>	<p><b>No Action Alternative:</b> The existing condition and trends in the physical integrity of the aquatic system would be maintained.</p> <p><b>Action Alternatives:</b> Rehabilitation is intended to prevent ongoing damage to stream banks caused by unauthorized use.</p>
<p><b>Maintain and restore water quality necessary to support healthy riparian, aquatic, and wetland ecosystems.</b></p> <p><i>Both the Action and No Action Alternatives do not retard or prevent the attainment of ACS objective 4.</i></p>	<p><b>No Action Alternative:</b> The existing condition and trends in water quality would be maintained.</p> <p><b>Action Alternatives:</b> Rehabilitation is intended to reduce sediment delivery from trails to streams thus improving water quality.</p>
<p><b>Maintain and restore the sediment regime under which aquatic ecosystems evolved.</b></p> <p><i>Both the Action and No Action Alternatives do not retard or prevent the attainment of ACS objective 5.</i></p>	<p><b>No Action Alternative:</b> The existing condition and trends in the supply and transport of sediment would be maintained.</p> <p><b>Action Alternatives:</b> Rehabilitation will reduce the amount of sediment movement from trails into streams.</p>

<b>Consistency with ACS Objectives</b>	<b>Reasoning</b>
<p><b>Maintain and restore in-stream flows sufficient to create and sustain riparian, aquatic, and wetland habitats and to retain patterns of sediment, nutrient, and wood routing.</b></p> <p><i>Both the Action and No Action Alternatives do not retard or prevent the attainment of ACS objective 6.</i></p>	<p><b>No Action Alternative:</b> No change in in-streams flows would be anticipated.</p> <p><b>Action Alternatives:</b> Rehabilitation will restore watershed drainage and reduce existing effects in-stream flows.</p>
<p><b>Maintain and restore the timing, variability, and duration of floodplain inundation and water table elevation in meadows and wetlands.</b></p> <p><i>Both the Action and No Action Alternatives do not retard or prevent the attainment of ACS objective 7.</i></p>	<p><b>No Action Alternative:</b> The current condition of flood plains and their ability to sustain inundation and the water table elevations in meadows and wetlands is expected to be maintained.</p> <p><b>Action Alternatives:</b> Proper drainage of hillslopes will maintain water tables and floodplain functions.</p>
<p><b>Maintain and restore the species composition and structural diversity of plant communities in riparian areas and wetlands to provide adequate summer and winter thermal regulation, nutrient filtering, appropriate rates of surface erosion, bank erosion, and channel migration and to supply amounts and distributions of coarse woody debris sufficient to sustain physical complexity and stability.</b></p> <p><i>Both the Action and No Action Alternatives do not retard or prevent the attainment of ACS objective 8.</i></p>	<p><b>No Action Alternative:</b> The current species composition and structural diversity of plant communities will continue along the current trajectory. Species composition and diversity will remain degraded along disturbed trail surfaces.</p> <p><b>Action Alternatives:</b> Rehabilitation will require removal of small amounts of vegetation. Overall diversity of riparian vegetation will not be affected but riparian communities will be restored on disturbed surfaces.</p>
<p><b>Maintain and restore habitat to support well-distributed populations of native plant, invertebrate and vertebrate riparian-dependent species.</b></p> <p><i>Both the Action and No Action Alternatives do not retard or prevent the attainment of ACS objective 9.</i></p>	<p><b>No Action Alternative:</b> Habitats will be maintained over the short-term and continue to develop over the long-term with no known impacts on species currently present.</p> <p><b>Action Alternatives:</b> Hillslope and soil rehabilitation will improve water and soil quality which will benefit riparian dependent species.</p>

**7.2 Appendix 2: NEPA Compliance for Individual Project Site**  
**NEPA Review Documentation for the xx Project Site**  
**Cascades Resource Area**

**To:** Cascades RA Soils Rehabilitation EA EA# OR080-06-08

**Date:**

**Location:**

**Land Use Allocation:**

**Description of Work:**

**Treatment Criteria:** Does this project site meet the following criteria as described in the *EA Section 2.2 – Table 1?*

Causing Soil Erosion	
At a Stream Crossing	
In close proximity to protected species	
Within a Land use allocation/special area designation where there are conflicts	
Within a Wetland	
Posing Public hazard/risk	
Showing Signs of expanding network (e.g. multiple trails)	
Providing access for illegal uses (e.g. vandalism, dumping, tree cutting)	
In close Proximity to adjacent landowners	

**Timing of Work:**



**Environmental Review:**

Hydrology/ Water Quality				
Wildlife				
Botany				
Fisheries				
Cultural Resources				
Recreation/Visuals				
Fire Hazard/Risk				
Soils				
Natural Resource Staff Supervisor				

**Other Comments:**

Submitted by: \_\_\_\_\_ Date \_\_\_\_\_  
 Patrick Hawe, Project leader

Reviewed by: \_\_\_\_\_ Date \_\_\_\_\_  
 Carolyn Sands, NEPA Coordinator

Approved by: \_\_\_\_\_ Date \_\_\_\_\_  
 Cindy Enstrom, Cascades Field Manager